

**Learner-Centred Pedagogy and its Implications for Pupils’
Schooling Experiences and Learning Outcomes:
A Mixed-Methods Case Study in Tanzania**

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Author's Declaration

I, Nozomi Sakata, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

Despite its global appeal and spread, the applicability and effectiveness of learner-centred pedagogy (LCP) in developing countries remains uncertain due to its incompatibility with national sociocultural and political contexts. Tanzania's *ujamaa* philosophy and related historical context may offer a rare compatibility with LCP foundations. This thesis examines how and to what extent Tanzania appropriates LCP. Existing literature has primarily focused on teachers, exploring their understanding of LCP and teaching practices. Teachers and pupils co-construct classroom reality, and LCP is argued to improve pupil learning, but pupils' experiences with LCP and its contribution to learning outcomes have attracted little scholarly attention. This thesis investigates how LCP implementation might affect the schooling experiences and learning outcomes of primary-aged pupils.

The transversal–vertical–horizontal case study provides a methodological and analytical framework. LCP policies, vertically negotiated between international, national and local policy levels, exclusively centre on teachers and teaching. Interviewed teachers understood the meanings and importance of the recommended LCP, but they barely employed LCP-related classroom activities. Transversal examination – situating current LCP implementation historically – shows that people in Tanzania have traditionally viewed knowledge as unquestionable. This has produced a child–adult power imbalance, which manifests itself in classrooms between teachers and pupils. Horizontal exploration with mixed methods found inconsistency with LCP tenets: despite the expectation that LCP would yield learning improvement, the observed level of LCP implementation was not associated with any better learning outcomes. Conversely, pupils' subjective perceptions of learner-centredness demonstrated positive associations with both academic performance and learning attitudes. Pupil–teacher relationships in schools and child–adult relationships at home imply influences on perceived learner-centredness. The sociocultural settings, transversally formed through history, obstruct the uptake of LCP as a pedagogical theory, vertically adopted within the global policy architecture. The multidimensionality of pedagogy bespeaks multiple viewpoints from teachers and pupils as well as the consideration of the historical and sociocultural milieu.

Impact Statement

The insights discussed in this thesis could be beneficial for educational policymaking nationally and internationally as well as for future scholarship on pedagogical research. The key findings include that: 1) observable practices of learner-centred pedagogy (LCP) were scarcely implemented by teachers; 2) pupils' subjective perceptions of learner-centredness in classrooms, but not observed practices, implied positive relations with their learning outcomes; and 3) pupils' perceptions of LCP were seemingly formed not by the observable act of teaching alone but by their holistic schooling and social practices.

Pertaining to findings 1) and 3), international policy initiatives could acknowledge more historical, epistemological and sociocultural contingencies when formulating pedagogical policies. By attending exclusively to the act of teaching, the current norm within the policy discourse would not result in the expected improvement in teaching and learning in low-income nations. What seems crucial, this research suggests, are factors surrounding the observable classroom practices – such as people's views of knowledge formed through history, child–adult relationships in the home, and pupil–teacher relationships inside and outside the classroom. Rather than considering LCP as a universally applicable teaching method, an educational policy design that appreciates the uniqueness of local practices would lead to more viable improvements in pedagogical practices in developing countries.

In attempting particularly to improve pupil learning in the context of finding 2), an integration of learner viewpoints into policymaking processes could prove instrumental for enhancing their learning outcomes. Policies designed largely by government officials and based on the empirical literature focusing predominantly on teacher beliefs and practices will have only limited effect on pupil learning. This study uncovered the significance of pupils' subjective views of classroom activities and schooling experiences in determining their learning outcomes. An informed approach toward drafting policies based on this analysis would require gathering empirical evidence from children's perspectives. Future research could examine what matters to their day-to-day lives inside and outside schools, as well as how they form their classroom and schooling experiences. Such a focus on pupils' perceptions and experiences would help elucidate how schools and communities can nurture learner-centred experiences for pupils. This, in turn, could foster better academic performance and/or more positive attitudes toward learning than merely implementing observable LCP-related activities.

This research has expanded a conventional methodology in two respects. Attending to the disproportionate dependency on qualitative findings in investigating

LCP in developing nations, the study has accumulated empirical evidence through mixed methods. This could contribute to methodological triangulation within the literature, possibly enhancing the validity and reliability of previous overall findings. Mixed methods have also been under-utilised within the transversal–vertical–horizontal case study framework. Although this methodological framework is useful in examining policy implementation in a historical and sociocultural context, there is little guidance in the literature as to how it could be employed alongside mixed methods. This thesis provides an example of how to introduce mixed methods into a transversal–vertical–horizontal case study. Synthesising this framework with the strengths of mixed methods could further enhance the methodological rigour of case-based research.

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Glossary

ANOVA:	Analysis of variance
CFS:	Child-friendly school
COSTECH:	Tanzania Commission for Science and Technology
DEO:	District Education Officer
DV:	Dependent variable
EFA:	Education for All
ESR:	Education for Self-Reliance
ESRF:	Economic and Social Research Foundation
FGD:	Focus group discussion
IRF:	Initiation, response and feedback
IV:	Independent variable
LCP:	Learner-centred pedagogy
MDGs:	Millennium Development Goals
MoEST:	The Ministry of Education, Science and Technology
NGO:	Non-governmental organisation
OECD:	Organization for Economic Co-operation and Development
OLS:	Ordinary least squares
PIRLS:	Progress for International Reading and Literacy Study
PISA:	Program for International Student Assessment
PMO-RALG:	Prime Minister's Office-Regional Administration and Local Government
Q&A:	Questions and answers
SES:	Socioeconomic status
SD:	Standard deviation
SDGs:	Sustainable Development Goals
TANU:	Tanganyika African National Union
TCP:	Teacher-centred pedagogy
TIMSS:	Trends in International Mathematics and Science Study
TVH:	Transversal–horizontal–vertical
UNICEF:	The United Nations Children's Fund
UNESCO:	The United Nations Educational, Scientific and Cultural Organization
USSR:	Union of Soviet Socialist Republics

Chapter 1 Introduction

*1961 Kambarage became a hero
Without bloodshed, he made December shine
Yes R.I.P. Maria is crying for you
In soul you are with us, but in body you are lost already
You resigned when we still needed you
You didn't want to be in power for long
(Mkatoliki, 2010)*

To a strong rap beat, Roma Mkatoliki, one of the popular hip hop singers in Tanzania, begins his song '*Tanzania*' with the above lyrics. The song embraces Tanzania's first post-independence president, Julius Kambarage Nyerere, by comparing him with other politicians who served after Nyerere. In Tanzania hip hop and rap music are often used to convey political messages, both to promote certain ideas and to criticise the government. Many sing of the legacy of Nyerere and his political idea, *ujamaa*, brought into being soon after Tanzania's independence (Lemelle, 2006; Stroeken, 2005). Translated as 'familyhood', *ujamaa* promoted a socialist ideology comprising the cooperation of villagers, equality and self-reliance during the postcolonial era (Ibhawoh & Dibua, 2003; Stoger-Eising, 2000). In developing Tanzania socially and economically, Nyerere advocated reviving the traditional African way of living through a bottom-up approach, encouraging citizens to participate in nation building (Saul, 2012).

Not only in the music scene but also in many aspects of people's daily lives, Nyerere's social and political spirit remains alive. As an intern at the United Nations Children's Fund (UNICEF) Tanzania country office, and as a volunteer teacher at a nursery school in Dar es Salaam, I stayed in Tanzania for several months before embarking on my PhD study. 'Dala dala', the most widely used public transport, displays Nyerere's posters on windows. Local shops sell his pictures and postcards. Many TV programmes feature him and run commercials using his image. During the 2015 presidential election, while I was conducting doctoral fieldwork, two major political parties, Chama Chama Mopinduzi and a union of three independent parties popularly called UKAWA, fought with respect to how to interpret and actualise *ujamaa* policies in modern day Tanzania. Fouéré (2014) claims that 'Nyerere and Ujamaa are employed as a language and repertoire of ideas, values, images and metaphors to define, mediate, and construct conceptions of morality today and the meaning of Tanzanian-ness' (pp. 17-18).

Nyerere's political philosophy of *ujamaa* accompanied educational policies espousing transformative pedagogy. The *ujamaa* framework is said to have contributed to the dismantling of barriers between schools, as places for elite formation, and society. Nyerere encouraged horizontal engagement between teachers and learners, between learners and knowledge, and between schools and society. Ideas of

democratic pupil–teacher relationships, curriculum relevance to local conditions, practical learning and peer collaboration constituted the core of his educational policies (Mbilinyi, 2004).

These aspects of *ujamaa* closely mirror learner-centred pedagogy (LCP), as currently disseminated throughout Tanzania and other developing countries. LCP carries an eclectic educational idea, recommending: individualised learning; learner independence; equalised learner–teacher relationships; learning through activities; and social interactions (e.g. Rousseau, 2007; Vygotsky, 1978; Dewey, 1916; McCombs & Whisler, 1997; Brandes & Ginnis, 1986). Labelled as a traveling policy (Dimmock, 2000; Schweisfurth, 2013), LCP has spread across developing countries with international donor organisations as the mediator. Empirical research nonetheless has largely presented challenges and ambiguities questioning the efficacy of LCP (Schweisfurth, 2011; Tabulawa, 2013). While the Tanzanian education system has embraced some features of LCP and has continued to espouse its arguably compatible social and political base with LCP, the country has observed similar results of LCP implementation as other developing nations (Vavrus, 2009; Barrett, 2007). My personal experience in Tanzania aligns closely with the literature. During my time as an intern at UNICEF, I conducted a dissertation project on LCP implementation in Tanzania for an MA degree in Anthropology and Education at a US university. I observed classes and interviewed teachers while I helped to evaluate the implementation of UNICEF’s child-friendly school (CFS) underpinned by LCP principles. The teachers explained their understanding of the pedagogy as suggested by UNICEF, but their teaching practice did not follow its tenets. When I taught at the nursery school a few years later, teachers there spoke in a commanding tone and shouted at the children sitting in rows and staring at the teachers.

Although the literature consistently suggests the incompatibility and ambiguities which plague LCP implementation in low-income nations, there are understudied areas which could advance our understanding of the challenges of successfully using LCP in a ‘developing country’ context. In spite of the similarities between learner-centred ideas and educational philosophy and policies historically developed in Tanzania, little research conducted in the country has conceptualised findings in terms of the historical/ideological setting of the country. Additionally, not only in Tanzania but also in other developing nations, the studies on LCP implementation have focused predominantly on teachers, exploring their thoughts and attitudes towards LCP as well as their teaching practices. Student perspectives on LCP implementation have attracted much less scholarly attention than teacher viewpoints (Schweisfurth, 2011; Tabulawa, 2013). Furthermore, hardly any research has considered the processes and likely improvements that can emerge from LCP implementation, despite the belief that

LCP can lead to better learner outcomes (McCombs & Miller, 2007; Wagner, 2008; APA, 1997). A narrow conceptualisation of the term 'pedagogy' to refer only to teaching techniques may partly account for the lack of a scholarly focus on learner views and learning outcomes in relation to LCP implementation. This conceptualisation might have led researchers to investigate LCP implementation primarily from a teacher's standpoint, despite the fact that classroom ambience is negotiated by both teachers and pupils (Alexander, 2004; Tabulawa, 2013). Studies about LCP therefore need to investigate how learners view and experience LCP and what learning improvements, if any, LCP might bring for them.

Given the dearth of thorough investigations of the historical and cultural influences on current pedagogical reform in Tanzania, as well as of attention to children's perspectives and experiences with LCP implementation, this thesis aims to investigate how primary schools in Tanzania have conceptualised and implemented LCP. It examines the extent to which LCP is implemented, how and why Tanzania's historical and ideological background has positively and/or negatively affected the implementation, and what specific contributions LCP might (or might not) offer for pupil learning. The research attempts to address two overarching questions, each of which is followed by subsidiary questions.

- A. How is Tanzania implementing LCP in primary schools given the historical/ideological context of the country's education system and provision?
 1. How are the international and national policies of LCP being actualised in schools?
 2. How does the implementation of LCP vary between schools, considering the school, teacher and/or pupil characteristics unique to the schools?
 3. How and why might the ideological and historical background of Tanzania facilitate or impede the implementation of LCP?
- B. Is LCP implementation associated with pupils' perceptions of classroom experiences and/or their learning outcomes? If so, which specific pupil perspectives relate to LCP implementation?
 1. Do pupils undergo the intended learning experience that LCP envisages?
 2. How do pupils perceive their experience in their classrooms and schools in relation to learner-centredness?
 3. Are pupils' views of their learning experiences related to the levels and consistency of LCP implementation in their classrooms?
 4. Do pupils' academic performance and learning attitudes vary between schools? If so, is this variation associated with the levels and consistency of LCP implementation in their classrooms?

In answering these research questions, the thesis takes the following path. Chapter 2 sets the scene, illustrating the social and educational context of Tanzania. Given the prominence of Julius Nyerere in Tanzania's past and present education settings, the chapter pursues his life journey and personality in detail. This information shows how the family and educational background of Nyerere shaped his political and social ideas. A brief survey of Nyerere's educational convictions, which I argue share similar principles with LCP, will lead to Chapter 3. Through defining pedagogy broadly and LCP specifically, Chapter 3 lays out the epistemological and theoretical grounding of the study. This grounding includes a review of the literature on LCP implementation in developing nations. A thorough examination of existing research into LCP identifies gaps in knowledge, which this study aims to tackle.

Clarifying what to investigate prompts a discussion on how to do so. Chapter 4 on methodology and methods introduces a methodological framework, the transversal–vertical–horizontal (TVH) case study (Bartlett & Vavrus, 2017). The TVH case study employs three methodological axes: the horizontal axis to compare multi-sited cases; the vertical axis to interrogate international and national policymaking; and the transversal axis to explore historical influences on current policy reform. I explain how I embed mixed methods and case study designs within the TVH framework to investigate LCP implementation in Tanzania historically, spatially and empirically. My reflexive account of the research process is also discussed. Chapter 5 provides details of my approach to data analysis. It follows the TVH axes, starting with the transversal and vertical examinations. Given the mixed methods design, the chapter explicates the analytical process I undertook with the qualitative, quantitative and mixed methods data. It also addresses data quality issues.

The subsequent four chapters engage with findings and analysis. Chapter 6 presents the transversal and vertical axes relating to the historical and political implications of LCP implementation in Tanzania. The transversal inquiry considers how Nyerere's legacy may or may not be conducive to LCP implementation. After this historical tracing of the international spread of LCP, the vertical axis focuses on policy transmission from international and national to local levels. This chapter hence provides historical, social and cultural contexts for the investigation of empirical data carried out in the next two chapters. Chapter 7 on results on teachers and teaching introduces how teacher participants understand LCP and how they act it out in the classroom. The transversal inquiry pursued in Chapter 6 offers historical and epistemological explanations for the observed teaching practices. The analytical focus of Chapter 8 shifts to the various pedagogical dimensions beyond teachers and teaching, paying particular attention instead to students and learning. A horizontal comparison of schools unveils how different sociocultural factors interplay to produce

various extents and forms of LCP implementation, observed levels of LCP and perceived learner-centredness reported by pupils. The chapter also discusses the statistical implications of LCP for pupil learning outcomes. Chapter 9 brings together the findings presented in the previous three chapters. By integrating the conceptual and methodological frameworks the thesis has applied, this chapter offers my analytical interpretation of the results along the transversal, vertical and horizontal axes. This leads to Chapter 10 on the contributions to pedagogical knowledge that the thesis may make. The chapter concludes the research by detailing its limitations, offering suggestions for the further investigation of LCP implementation in developing countries. The thesis draws on theories and methodologies used in different and interdisciplinary fields; but it ultimately aims to contribute to the study of pedagogy in order to strive for a better means to educate children in a low-resource context.

Chapter 2 Tanzania: Context of the Study

This chapter seeks to situate the research study across time and space. It first maps the social and educational landscapes of contemporary Tanzania. I provide information about the division of labour established by different government departments, as well as a description of the education system that children progress through. The second part of the chapter centres on Tanzania's founding father, Julius Nyerere. Given that a lot of the literature on Tanzania's education refers to him, and given the significance of his social and educational legacy in my study, I trace Nyerere's personal history and also consider how he formulated his political and social philosophy of *ujamaa*. Lastly, a brief discussion on Nyerere's educational approach, which is continued in later chapters, discusses the emancipatory aspect of his claim.

2.1 Demographic and Educational Organisation in Tanzania

The United Republic of Tanzania was a British colony (1919–1961), and before that a German colony (1885–1919). The country has a vast land area in East Africa which is home to a population of approximately 53 million, 70% of whom live in rural areas (World Bank, 2017). Since its independence from Britain in 1961, Tanzania has remained one of the poorest countries in the world, with the majority subsisting on less than one dollar a day. Education has become an urgent matter for poverty reduction, obliging Tanzania to educate its youth because 45% of the population is aged under fourteen. The population comprises more than 130 ethnic groups loosely connected by customs and traditions (Castle, 1966). Each of these groups possesses its own language, but Swahili functions as the lingua franca and English acts as the official language (World Bank, 2009; Qorro, 2013).

With regard to the structure of the education system, education in Tanzania is primarily managed by two government ministries. The Ministry of Education, Science and Technology (MoEST), as a centralised government agency, formulates policies, oversees progress and ensures the quality of the national education system (Lillis, 1990; Carr-Hill & Ndalichako, 2005). The Prime Minister's Office-Regional Administration and Local Government (PMO-RALG) monitors the implementation of policies developed by MoEST. By liaising with district education officers (DEOs) and ward education co-ordinators, it allocates resources and funds, appoints staff, and supervises the performance and quality of individual schools (Barrett, 2005). Other semi-governmental institutions work in a specialised domain under the leadership of MoEST. The Tanzania Institute of Education develops curricula, while the National

Examinations Council of Tanzania designs and delivers national exams at all education levels.

Compulsory education in Tanzania begins with primary education at the age of seven and lasts for seven years. Public schools, which 96.5% of the children attend (World Bank, 2017), use Swahili as the medium of instruction, whereas private schools teach in English. Although children may enter primary school with little knowledge of Swahili in some regions, they acquire near fluency in the language in higher classes (Wedin, 2010). For the first two years, class teachers at public schools teach every subject except for English; the remaining five years are taught by subject-specific teachers. According to Barrett (2007), teachers take more or less than 40 minutes allocated for the lesson depending on their needs. After primary education, four years of ordinary secondary education (Form I-IV) and two years of advanced secondary education (Form V-VI) follow. The language of instruction switches from Swahili to English at the beginning of secondary education. While the gross enrolment ratio of primary level achieves 81.7%, only 32.3% of students transition to secondary school (World Bank, 2017).

Julius Nyerere (1922–1999), the first president of Tanzania after independence, has been prominent in discussions on educational development and policies in Tanzania. Even two decades after his death, Tanzanians still pay esteem to their first president (Fouéré, 2014). Political parties compete over the legacy of Nyerere as an icon of morality and *ujamaa*, Nyerere's political philosophy. Hip hop and rap singers have sung of the tenets of *ujamaa* to protest corruption in the post-socialist government (Lemelle, 2006; Stroeken, 2005). The sections below introduce Nyerere's biography and his personality, which formed the basis of his social and educational philosophy. Chapter 6 will provide more details about his education policies.

2.2 Julius Nyerere: His Personal and Political Journey

Understanding Julius Nyerere's philosophy calls for an appreciation of his personal history. I will demonstrate how Nyerere's early years in the Butiama village and his educational journey up to obtaining a Master's degree at the University of Edinburgh led to the vast influence of his political and educational values. He formed an ideal image of 'traditional Africa' – to which he frequently referred when spreading his political propositions – based on his personal experience in Butiama (Molony, 2014). This section first reviews Nyerere's early years and educational path to his Master's study. This is followed by the period of his becoming a politician, leading to the next section on his philosophy and related educational policies.

Julius Kambarage Nyerere was born in 1922, the son of a chief in the Zanaki tribe of Tanganyika. Nyerere described his birthplace as 'a perfectly democratic and egalitarian society' (Stoger-Eising, 2000, p. 119). Although his father happened to be a chief, it was an arbitrary position given by the Germans; the Zanaki tribe did not have 'chiefs', but the German colonisers appointed eight chiefs in order to govern the village (Ranger, 1993). It was 'nonsense' to be a son of the chief, Nyerere observed. 'I grew up like all the other boys here, in a surrounding of basic rural equality. There were no special privileges because of the office of my father' (Stoger-Eising, 2000, pp. 123-124). The Zanaki lived in a non-hierarchical society like other tribes in the region. It adopted the generation class system, where individuals' social status and duties develop socially along with their generosity and reciprocal contribution to the tribe (Bischofberger, 1972). Every 25 to 30 years the village considered and adjusted one's power in an egalitarian and flexible way, thereby presenting power as something contingent and temporary.

At the same time, his status as the chief's son provided the young Nyerere with a privileged environment. He often sat and listened to discussions held by village elders (Hatch, 1976). The phrase 'they talk till they agree', which Nyerere used several times in his later speeches, reflects the effects of his early participation in these village meetings. Through residing closely with his father's 22 wives, Nyerere fostered a cooperative and communal way of living (Molony, 2014). He also had the outstanding advantage of going to primary school, one to which most boys in the Butiama village were not entitled.

When Nyerere reached 12 years old in 1934, he left Butiama to attend Native Authority School Mwisenge, a missionary boarding school in the Musoma region (Molony, 2014; Stoger-Eising, 2000). There Nyerere encountered a new language in Swahili and a new religion in Christianity, transitioning from traditional beliefs to Christianity. His classmates and teachers witnessed Nyerere as the most accelerated and capable pupil with his exceptional eagerness to learn (Molony, 2014). Nyerere skipped Standard 2 and graduated with the highest grade then in the Lake and Western Provinces.

Fifteen-year-old Nyerere's academic excellence and thirst for education enabled him to achieve not only a government scholarship but also entrance to the exclusive Tabora Government School. He carried on his love for reading and learning. At the same time, Tabora School embodied educational elitism and colonial influences within a qualification-based examination system (Molony, 2014). Nyerere questioned the curriculum's representation of European values as superior and those of African heritage as inferior (Hatch, 1976; Stoger-Eising, 2000). Looking at the surrounding areas of his school, he saw that the Tabora region was a trading station, which

exhibited material inequality among the people; this was dissimilar to the relatively equal nature of the Butiama village. The contact with wider society shocked Nyerere and continued to influence his political thoughts and activities later on.

November 1942 marked Nyerere's next step of educational progress. He won a scholarship to enrol in a teacher training course at Makerere College in Uganda, then one of the most esteemed higher education institutions on the African continent (Molony, 2014). There Nyerere met a wide variety of East and South African peers. He also experienced racial discrimination against Africans. The writings of John Stuart Mill on government as representative of its people and on the emancipation of subjugated women inspired the 22-year-old Nyerere (Stoger-Eising, 2000). This led him to write his first political publication at the college. A series of letters written by Nyerere, JUKANYE, introduced the concept of African socialism. He claimed that Africans had lived with socialism but not communism, while critiquing European capitalism for its individualistic tendency (Molony, 2014). Nyerere's future as a political leader also emerged at Makerere. He organised and led associations, including the Tanganyika African Welfare Association, which he later combined with the Tanganyika African Association that already existed in Tanganyika.

Upon his return to Tabora, Nyerere taught at a secondary school for three years, and then proceeded to obtain a Master of Arts degree at the University of Edinburgh in Britain. He chose an Arts over a Sciences degree in order to become more useful to his nation following his years of study (Molony, 2014). The flexible MA at Edinburgh allowed Nyerere to take a broad range of courses from English Literature and Economic History to Moral Philosophy. This wide variety of courses broadened Nyerere's viewpoint, making him 'more than just a political person, but also deeply philosophical [person]' (Molony, 2014, p. 114). Moreover, being exposed to Fabian socialist philosophy, Nyerere became firmly determined to dedicate himself to the independence of Tanganyika and to build a socialist nation (Mulenga, 2001; Stoger-Eising, 2000).

Julius Kambarage Nyerere was 30 years old when he returned from the United Kingdom to Tanganyika. After a few years of teaching in Pugu, Dar es Salaam, Nyerere fully entered the political sphere, where the rise of African power had been evident for several years (Molony, 2014). In 1954, Nyerere reorganised the 25-year-old Tanganyika African Association into the Tanganyika African National Union (TANU) (Cameron & Dodd, 1970). It set up a mission to fight against the multi-racial policy of the White government. Under the leadership of Nyerere, TANU grew to be the dominant party in Tanzania, eventually securing the country's independence.

2.3 Economic and Social Development under *Ujamaa*

Upon independence, the newly created Tanzania inherited various colonial legacies, ranging from an underdeveloped infrastructure, a racially segregated political system, social inequalities, ignorance and illiteracy, to the prevalence of poverty and disease (Cameron & Dodd, 1970). To tackle these problems Nyerere advocated for African socialism in collective villages, which he called *ujamaa*, and an education policy known as Education for Self-Reliance (ESR). This section centres on the former topic, though it also briefly introduces the latter; Chapter 6 continues the discussion on ESR in more depth.

Ujamaa, translated as ‘familyhood’, expresses Nyerere’s version of socialism. It is a political philosophy, but also a social and economic policy, which stresses the spirit of community-belonging and mutual respect. Humanitarian concepts such as egalitarianism and human rights constitute the tenets of *ujamaa* (Stoger-Eising, 2000). With an aim to build a self-reliant, socialist state, *ujamaa* forms the conceptual basis of Nyerere’s social and educational policies. His intention was to regain Africa’s traditional way of living in a twentieth-century, postcolonial setting (Ibhawoh & Dibua, 2003). In his political writing and speeches, Nyerere referred to how people lived and were educated in indigenous society (e.g. Nyerere, 1967; 2004a; 2004b). He (Nyerere, 1987) posits:

We, in Africa, have no more need of being ‘converted’ to socialism than we have of being ‘taught’ democracy. Both are rooted in our own past – in the traditional society which produced us. (p. 10)

As president, Nyerere maintained that Africans used to work cooperatively in a unified society, and that the communal members distributed the products from their collaborative labour equally.

For Nyerere the term ‘development’ cannot be reduced to just ‘economic increase’. He asserted that ‘human dignity and social equality’ should be prioritised over ‘the amassing of riches’ (Nyerere, 1968, p. 316). Development must include a wide array of human lives, from health and housing to education in addition to economic prosperity (Kassam, 1983). Another aspect Nyerere emphasised was people-centred development, whereby the citizens at the bottom actively participate in nation building (Saul, 2012). Democratic empowerment was the key for development under Nyerere’s leadership. Such ideologies constitute the philosophy of *ujamaa*, as stipulated in the Arusha Declaration in 1967 and ESR in 1968.

The Arusha Declaration stated that national development policies must centre on rural areas, where approximately 90% of the population resided (Stoger-Eising, 2000; Otunnu, 2014). This should remedy inequalities between urban and rural areas in order to encourage an egalitarian society. Such rural development was to be attained through living and working together. Collaboration in village communities was

thought to enable the peasants to increase their production of cash crops and hence to overcome poverty (Mushi, 2009). As such, Nyerere's political philosophy lies in a kind of 'bottom-up' development, with an emphasis on equality and mutual respect and with rural regions the primary concern.

Subsequent to the Arusha Declaration, Nyerere issued ESR to specify the concept of *ujamaa* in educational settings. Although Chapter 6 will explicate the policy, it is worth mentioning here a few points ESR stressed in order to contextualise the thesis historically. In the interest of reviving traditional African socialism, ESR set up the purposes of education as enhancing the cooperation of villagers, achieving the common good and structuring an egalitarian society (Nyerere, 1967). Nyerere valued the links between the educational curriculum and the local lives of the people. ESR emphasised productive activity in rural life, aiming at producing efficient workers in agriculture. The curriculum also stressed the skills needed in the sector through 'learning by doing', and it intended to foster cooperative attitudes among the students (Nyerere, 1967; Wedgwood, 2007). It was agreed that the importance of exams should therefore be downgraded (Nyerere, 1967; Kassam, 1994). Only *ujamaa*-based education could produce self-reliant workers following the completion of primary school, Nyerere argued.

In line with the *ujamaa* philosophy, the process of educating pupils should be democratic in ESR. Nyerere asserted that 'It [education in Tanzania] must produce good farmers; it has also to prepare people for their responsibilities as free workers and citizens in a free and democratic society, albeit a largely rural society' (1967, p. 388). Pupils therefore should be entitled to make decisions on, for example, how to spend school money and how to work on the school farm. This was because 'only then can the participants practice – and learn to value – direct democracy' (Nyerere, 1967, p. 398). Nyerere aimed to democratise the pupils who would 'question what the leaders in Government or TANU are doing and saying', and to become 'a free and equal member of the society' (1967, p. 388). These accounts demonstrate that democratisation of learning constituted the major theme in Nyerere's policies, and ESR was meant to produce self-reliant and democratic citizens.

Another educational aspect Nyerere was devoted to concerns about language. He established Swahili as the country's lingua franca to unify over 100 ethnic groups. Swahili in Tanzania is more socially accepted than English and is used by politicians and business leaders in an official capacity (Brock-Utne, 2003). This acceptance of Swahili becomes more pronounced when compared to other countries proclaiming it as the national language but using it only moderately, such as Kenya. When the use of the 'mother tongue' was advocated all over the developing world (UNESCO, 2005, 2007a), Tanzania had already decided that Swahili, the country's 'mother tongue', was

the medium of instruction (Tibategeza & Du Plessis, 2012). This school language policy, albeit implemented only during primary schooling, would reduce elitism and the power associated with teachers, who know English, and learners, who do not. Research shows that education in the mother tongue furthers learner–teacher interactions while the use of the colonial language in school silences both teachers and students (Hovens, 2002; Brock-Utne, 2007). The medium of instruction in the mother tongue should also facilitate student understanding of learning content as well as narrowing performance gaps amongst them, thereby producing a more egalitarian society (Klaus, 2003). Nyerere’s language policy continues today, and primary-age children in government schools learn subjects in Swahili.

Although Nyerere underscored bottom-up development, the way he applied his *ujamaa* in practice depicted an authoritative character. The kind of development and how it was to be achieved were predetermined. There was little space for individuals to intervene due to the priority put on collective communities (Cameron, 1980). In the case of rural development, Nyerere insisted that turning the scattered rural population into village communities was necessary. Despite strong resistance, peasants were forced to live in one of the 7,000 *ujamaa* villages (Schneider, 2004). This villagisation process attempted to encourage people to work diligently for the public benefit and to share the gains of their labour with others (Buchert, 1994; Mushi, 2009). In addition, any other political activities – from a labour movement to a political campaign – were under the surveillance of Nyerere (Saul, 2012; Schneider, 2004). Nyerere therefore attempted to create an egalitarian and democratic society but by means of forceful implementation.

2.4 Conclusion

Starting with an overview of the country and of the educational system in Tanzania, this chapter has provided contextual information as to where this study took place. The life of Julius Nyerere, who historically and ideologically exhibits prominence in this research, was illustrated through his early education and his political journey. Though criticised as hindering Tanzania’s economic development, Nyerere’s *ujamaa* remains influential among the people of Tanzania today. His educational approach, ESR which was formulated on the basis of the *ujamaa* philosophy, manifests a democratic and transformative nature. It arguably demonstrates similarities with what is known today as learner-centred pedagogy (LCP). Tanzania’s unique compatibility with LCP philosophy, nurtured through Nyerere’s educational approach, might facilitate LCP implementation in contemporary society. A historical contextualisation of social phenomena is required when examining policy trajectories, because how a country

reacts to policy implementation efforts has historical roots (Bartlett & Vavrus, 2017). By inquiring into how and why the ideological and historical background of Tanzania might facilitate or impede the implementation of LCP, this research seeks to situate the LCP implementation of today historically. Even if the study shows the failure, on a large and small scale, in applying LCP in Tanzania, historical understanding could unpack what complicates LCP implementation in Tanzania. This will potentially offer new insights with respect to obstacles of LCP implementation in a 'developing country' context. To elaborate on the tenets of LCP, the next chapter will first define pedagogy broadly and then focus more closely on the theories of one kind of pedagogy, LCP.

Chapter 3 Learner-Centred Pedagogy: Theoretical and Historical Background

The previous chapter examined the educational landscape of Tanzania today, focusing on Julius Nyerere's social and political influence. It ended with a brief introduction to his leading educational policy, Education for Self-Reliance (ESR). To provide a theoretical grounding to the pedagogical aspects of ESR, this chapter first contemplates the term 'pedagogy' while emphasising its discursive aspect. This will lead to defining one type of pedagogy, learner-centred pedagogy (LCP). This pedagogy apparently shares some common ground with Nyerere's educational approach, embracing peer-to-peer cooperation, curriculum relevancy, egalitarian pupil–teacher relationships and practical learning (Nyerere, 1967). Several educational philosophers and theorists – including Socrates, Rousseau, Dewey, Piaget and Vygotsky – will be introduced. After highlighting how LCP has travelled across developing nations, the chapter reviews existing literature on LCP implementation in low-income countries. This will allow me to orient the direction of the thesis and to elaborate on how it seeks to contribute to current knowledge.

3.1 Framing Pedagogy Holistically

The term 'pedagogy' is an evasive concept, with scholars defining it in a multitude of ways. Brian Simon (1981) regarded pedagogy simply as the 'science of teaching' (p.124). Basil Bernstein (1990), in contrast, considered it to be socially and culturally dependent. To differentiate content knowledge from pedagogical content knowledge, Shulman (1986) stressed the presence of learners in the latter definition. It is 'the particular form of content knowledge that embodies the aspects of content most germane to its teachability [and] the ways of representing and formulating the subject that make it comprehensible to others' (Shulman, 1986, p. 9). Alexander (2004, 2008) defines pedagogy most comprehensively by including all the dimensions of teaching described in the above definitions. He posits: 'pedagogy is the observable act of teaching together with its attendant discourse of educational theories, values, evidence and justifications' (Alexander, 2008, p. 29). Deconstructing this definition, pedagogy contains two complementary and necessary aspects: 'the observable act of teaching' and 'its attendant discourse'. It is the latter – the discourse concerning knowledge and values relating to what is to be taught – that must *precede* the act of teaching (Alexander, 2004; Tabulawa, 2013). Beliefs and expectations existent in society inform and legitimise teaching practice.

In explaining what constitutes the attendant discourse, Alexander identifies three distinct but inextricable domains (2004, 2008). These will form a critical part of the conceptual framework of my study (Figure 3.1), as they suggest various pedagogical dimensions to be examined in a study on pedagogy. The first and most immediate category exists at the classroom level. It denotes pedagogy as ideas that enable teaching, such as:

- Children and students: their characteristics, development, motivation, needs and differences;
- Learning: nature, facilitation, achievement and assessment;
- Teaching: nature, scope, planning, execution and evaluation; and
- Curriculum: ways of knowing, doing, creating, investigating and making sense.

For these to take place in the classroom, the first domain necessitates policies and context. The second domain of the system/policy level justifies teaching happening in the classroom. The subcomponent of pedagogy in the policy/system layer includes:

- School: infrastructure, staffing and training;
- Curriculum: aims and content;
- Assessment: formal tests, qualifications and entry requirements; and
- Other policies: national and local policies, teacher requirements and training, equity and inclusion.

The third, larger domain of culture and history influences the above four elements. At the cultural and social level, which supports teaching and learning, there exists:

- Culture: the collective values, ideas, customs, and relationships which shape society's view of itself, of the world and of education;
- Community: familial and local attitudes and expectations;
- Self: what it is to be a person and how identity is acquired; and
- History: the indispensable tool for making sense of both education's present state and its future possibilities and potential.

The attendant discourse is composed of these three domains, which manifest themselves in a complexity of pedagogy beyond the observable act of teaching. The conceptual framework (Figure 3.1) delineates what the term 'pedagogy' encompasses. It is socially, culturally and historically embedded, within which policies legitimate the curriculum and assessment at school. In the classroom, learning and teaching happen through interaction between teachers and learners. Any study of pedagogy thus should consider the social embeddedness and context-dependency of pedagogy.

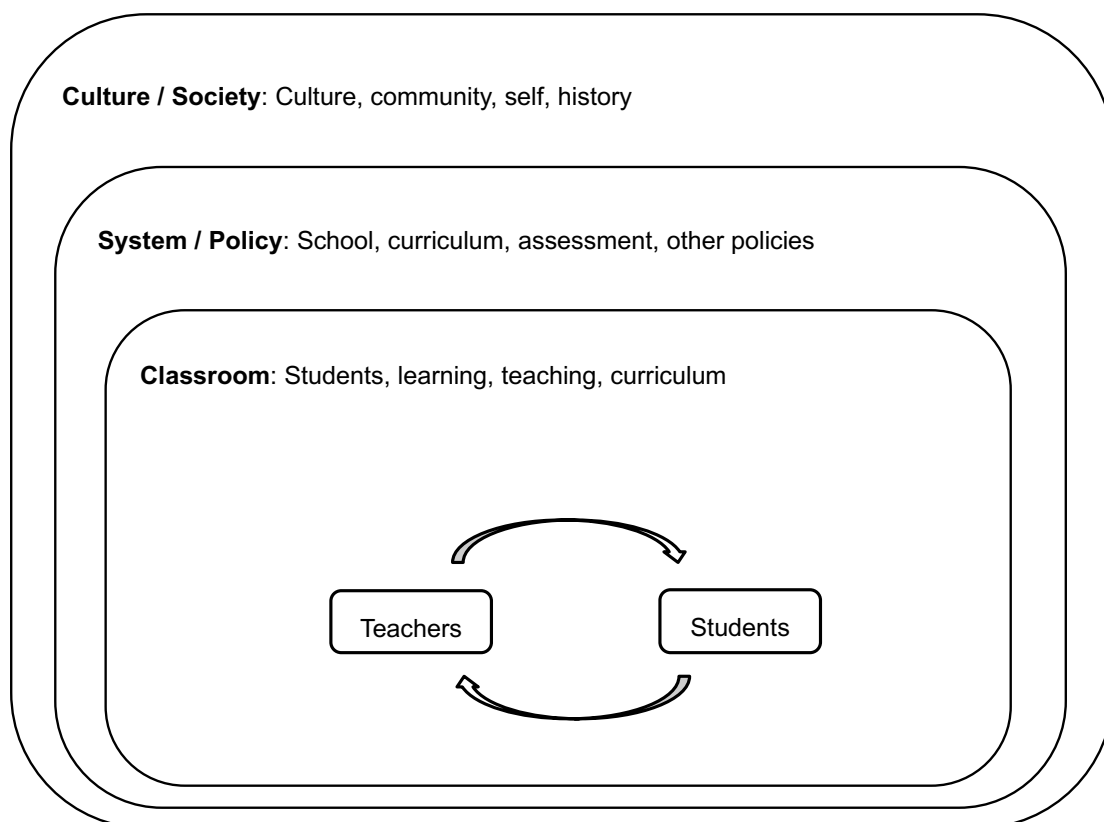


Figure 3.1: Conceptual framework of pedagogy
(developed based on Alexander's (2004, 2008) definition of pedagogy).

Despite the significance of the discourse attached to pedagogy, much research on pedagogy tends to reduce it to mere teaching methods or techniques (Alexander, 2004). Studies on LCP are no exception: although much scholarly attention has been given to teaching practices, as will be examined later in this chapter, most elements of the attendant discourse have been overlooked (Tabulawa, 2013). But before analysing the literature on LCP implementation in low-resource contexts, I now discuss constructivism to provide a theoretical background to LCP and then to define the term LCP.

3.2 Constructivism: Theoretical and Epistemological Perspectives

To investigate the multi-dimensional nature of pedagogy, this thesis employs a constructivist perspective paradigmatically, theoretically and methodologically. The constructivist paradigm provides epistemological and ontological lenses to investigate the implementation of LCP, underpinned by the constructivist learning theory. Constructivism also frames the methodological approach of the study (to be discussed in Chapter 4).

The conceptual framework (Figure 3.1) depicts that pedagogy is culturally and socially constructed through its attendant discourse. Additionally, the framework shows

that knowledge generated within classrooms is a product of negotiation between teachers and students, and between teaching and learning. Constructivism asserts that the reality is formed culturally and socially, and that no singular reality exists (Crotty, 1998; Patton, 2015). Pedagogy has its own spatial and temporal nature. To acknowledge this feature requires epistemology that recognises the roles played by culture, social structure and human agency in constructing reality. Ontologically, constructivism regards different groups of people as those who construct realities in their own way (Patton, 2015). In the context of pedagogical research, students, teachers, schools and policymakers may perceive and interpret the same phenomenon distinctively. Teachers' perceptions of how they act and interact with their students may conceivably differ from students' perspectives on the same problem or situation. The constructivist view provides an epistemological and ontological tool to appreciate how different groups of people understand and practice LCP differently.

Through the constructivist paradigm, I investigate the implementation of LCP, also called 'constructivist pedagogy', in Tanzania. Although constructivism as a paradigm and constructivism as an educational theory share the term 'constructivism', the two can stand alone, and one should not confuse epistemological and educational constructivism (Matthews, 2002). Constructivism as a paradigm emerged from the philosophical debate between realists and antirealists on how scientific knowledge is constructed (Nola, 1997). Thomas Kuhn (2012) made a seminal contribution to the development of the constructivist paradigm, advocating for cultural relativism when constructing knowledge. On the other hand, constructivism as an educational theory contrasts with didacticism. Nola (1997) traces its origin back to Socrates, whereas Matthews (1997) associates the birth of educational constructivism with Piaget's cognitive development theory in psychology. Both authors agree with the view that constructivism in the educational sphere denotes a model of teaching and learning. It is 'how beliefs are developed, not what makes beliefs true or what counts as scientific knowledge' (Matthews, 1997, p. 6).

Holding a constructivist view of knowledge does not equate with believing in the constructivist pedagogy, and vice versa. Matthews (2002) provides the example of how Thomas Kuhn, who developed and held the constructivist view of scientific knowledge, supported an anti-constructivist pedagogy. Similarly, Socrates, the father of constructivist pedagogy, held an anti-constructivist theory of scientific knowledge. Due to its equivocating nature, one needs to clarify what form of theory is to be appraised when examining the theory of 'constructivism' (Matthews, 2002). In this research, I explore the constructivist theory of pedagogy, LCP, while holding the constructivist worldview of scientific knowledge.

3.3 Theoretical Grounding of LCP

Having explained that epistemological constructivism and educational constructivism exist within separate knowledge structures, I now elucidate constructivism as an educational theory which has come to be known as 'learner-centred pedagogy'. I first explore the historical development of constructivist learning theory in relation to its epistemology and then discuss the learning processes embodied within LCP. Because LCP is described using a variety of terms – from child-centred pedagogy and problem-based learning to progressive methods, all of which will be delved into later – Tabulawa (2013) and Connell (1987) point to the difficulty of categorising historical characters with these interchangeably used terms. Here I illustrate the historical path of the concept of LCP, wherein certain educative features that can be traced back to constructivism have been adopted. Through this historical overview of educational constructivism and related pedagogies, I aim to lay out the theoretical grounding of LCP – the basis that gives rationales for its pedagogical traits and expected outcomes.

LCP evolved through the understanding that knowledge is a product of social construction (Nola, 1997). The origin of constructivism dates to the ancient Greek philosopher Socrates. Often considered to be one of the founders of Western philosophy, Socrates had many students or followers, to whom he became an affable and influential interlocutor. Socrates questioned his students in the pursuit of truth. Taking the view that the acquisition of knowledge happens when learners retrieve knowledge from within themselves, Socrates's teaching always started from the students (Swardson, 2005). Socrates constantly asked them questions in order to bring out their existing knowledge (Plato, 2005; Swardson, 2005). In addition, prior knowledge and experiences vary from individual to individual. Because Socrates paid particular attention to the nature and characteristics of individual students, Plato described Socrates's educational methods as being tailored to students' interests and beliefs (McPherran, 2013).

A philosopher who lived through the Enlightenment era (1715–1789), Jean-Jacques Rousseau (1712–1778), first contextualised the philosophical notion of constructivism within an educational framework (Tabulawa, 2013), specifically that of child-centred pedagogy. The rise of empirical science during the era stimulated Rousseau to endorse discovery learning, where a child draws their own conclusions based on their observations and experiences (Darling, 1994). Rousseau's (2007) influential book, *Emile*, introduced the idea of child-centredness for the first time. It associated children's nature and ability with certain developmental stages and with individual variation. Every child has unique characteristics and differs depending on their stage and rate of growth. This legitimates their learning and the curriculum to be individualised (Rousseau, 2007). *Emile* was also the first theoretical proposal to urge

teachers and parents to allow children more freedom for learning and to refrain from exercising power over them (Schweisfurth, 2013). Thus, Rousseau emphasised individual experiences in learning processes, and he brought children into the core of curriculum development (Tabulawa, 2013).

John Dewey (1859–1952) then situated learner-centredness in the practical context of education. He coined the term ‘progressive education’. Pedagogical expressions often mentioned in LCP – such as reflexive thinking, hands-on experience and authentic assessment – were derived from Dewey’s progressivism (Stone, 1996). Dewey contended that learning should be individualised and that a curriculum needs to be adjusted to the learning aspirations of each child. Additionally, what he aimed to achieve through progressive education was to foster the concept of democracy among children (Schweisfurth, 2013). School for Dewey is a miniature version of society, where children are educated to become democratic citizens. He convinced educators of the importance of freedom for children, critical thinking abilities and problem-solving skills. Not only did he promote progressive and democratic education, but Dewey also ran his own school. Experimentally actualising his ideal of education, he designed curricula based on children’s interests, stressed collaborative learning, and encouraged democratic relationships between teachers and students (Cuban, 1993). Through progressive education, Dewey attempted to disseminate individual and democratic forms of teaching and learning.

Dewey’s notion of progressive education had little basis in science, but developmental psychologists such as Jean Piaget (1896–1980) and Lev Vygotsky (1896–1934) soon provided empirical evidence to back up Dewey’s educational theory (Stone, 1996). Piaget’s experimental observation of children’s growth revealed that they exhibit different behaviours, abilities and interests at certain developmental stages, regardless of differences in culture or environment (Ginsburg & Oppen, 1988). While going through the age-determined stages, children actively make sense of meanings rather than merely receiving meanings from others (Moore, 2012). Darling (1994) observes that Piaget scientifically corroborated Rousseau’s account that every child has unique views, thoughts and feelings. Vygotsky’s theory builds on Piaget’s work, in that Vygotsky considered learning to be a knowledge construction process undergone as children move through developmental stages. However, as the father of the social constructivist theory of learning, Vygotsky suggested the significant role of social and cultural factors when establishing one’s behavioural and cognitive knowledge (Stone, 1996). Children actively engage with their social environment instead of learning in manipulatively isolated contexts (Moore, 2012). Vygotsky stated that learning requires a teacher, or a more knowledgeable other, who communicates with and guides the child. This led him to emphasise dialogue between teacher and

student as well as between student and student in teaching and learning. As such, Piaget and Vygotsky demonstrated that knowledge does not exist intrinsically but is acquired through experiences and observations at certain developmental stages. Applying their scientific schemes to the educational domain, it was suggested that the child is an active agent of knowledge construction.

In the course of the evolution of education, the ideas of constructivism and progressivism have adopted a variety of terms. These terms have been used interchangeably, with different pedagogical implications. 'Child-centred pedagogy' originates in Rousseau's work and came out of the child development theory introduced by Piaget and Vygotsky. It stresses children's developmental stages (Tzuo, 2007). 'Student-centred pedagogy' is preferred when referring to young learners in classrooms (McCombs & Whisler, 1997). There are also terms that accentuate different instructional approaches. While 'problem-based learning' underlines learning through research as well as its application to real life (Schweisfurth, 2013), 'progressive education' highlights equal relationships between learners and teachers, as claimed by Dewey. Some researchers, such as Botha (2002) and Jansen (1998), also use the term 'outcome-based education' to focus on the problems arising from the passive role of students and from rote memorisation; researchers also use this term to espouse learner-centred beliefs. Others refer to 'active teaching' to specifically stress student-teacher interaction and the teaching activities where the students are expected to take active roles (Ngware, Mutisya, & Oketch, 2012). Although these terms – including child-centred pedagogy, student-centred pedagogy, problem-based learning, progressive education, outcome-based education and active teaching – do not share exactly the same meanings, Brandes and Ginnis (1986) affirm that they express common principles and refer to philosophical traditions of constructivism and Dewey's progressive education.

For the sake of ease and consistency, this thesis uses the term 'learner-centred pedagogy' (LCP). It reflects a broader perspective in terms of subjects of learning and teaching processes. Compared to child-centred or student-centred pedagogy, which targets pupils or students in school, LCP covers learners of all ages regardless of context (McCombs & Whisler, 1997). Besides, instead of focusing on a specific teaching process, LCP embraces multiple pedagogical features that each aforementioned term pays attention to. I now turn to several pedagogical aspects that characterise LCP.

3.3.1 Essential Features of LCP

Building upon the concept of constructivism, the characteristics of LCP can be categorised into five features: emphasis on individuals (e.g. Rousseau, 2007;

McCombs & Whisler, 1997); independence of learners (e.g. Brandes & Ginnis, 1986; Ginnis, 2002); democratic relationships between learners and teachers (e.g. Dewey, 1916; Schweisfurth, 2013; Biesta, 2006); attention to activities and learners' active roles in them (e.g. Ginnis, 2002; Schweisfurth, 2013); and the importance of interactions (e.g. Vygotsky, 1978, 1986; McCombs & Whisler, 1997).

Firstly, LCP assumes that knowledge construction is unique for each individual and is gained only through one's own experience. Plato's portrayal of Socrates stated that he acknowledged individual differences in how learners construct knowledge (McPherran, 2013). Rousseau in his *Emile* repeatedly underscored the need to individualise learning (Rousseau, 2007; Darling, 1994). His premise was that interpretation of the world depends on what individuals sense, believe and experience. This shapes learners' interests and capabilities (McCombs & Whisler, 1997). Each learner has distinctive potentials, needs and learning styles, through which they constantly construct and reconstruct their knowledge.

The idea of knowledge construction leads to a second feature of learners' independence in LCP. Piaget and Vygotsky scientifically verified that there is no already-made knowledge sitting in one's head. Although Vygotsky illuminated the essential role of teachers in guiding learners (Vygotsky, 1978), teachers are neither conceived to be the knowers nor expected to transmit knowledge to learners (Tabulawa, 2013). By the same token, textbooks are not considered capable of delivering fixed facts. Learners build knowledge within their own contexts in relation to their previous knowledge and experience. In this learning environment, it is the learners who have the ownership over learning, and they sometimes participate in curriculum development (Bennett, 1976; Brandes & Ginnis, 1986). They are encouraged to exercise their autonomy over what and how to learn. In the process, teachers act as facilitators and not instructors, and they only assist learners' knowledge construction (Ginnis, 2002).

Complementing learners' independence is the third aspect of LCP, or democratic relationships in learner-centred classrooms. Here the influence of Dewey's progressive education is prominent. LCP supposes that there is equal power shared between teachers and learners (Schweisfurth, 2013). In addition to learner independence and autonomy, learners are encouraged to challenge and question teachers' knowledge. Through this democratic education, LCP aims to prepare children to become democratic citizens who are able to create a democratic society (Biesta, 2006).

Fourth, LCP also features 'learning by doing', wherein learners are expected to take on active roles. Adhering to the empiricist view, Rousseau expounded the supremacy of experience in learning processes (Darling, 1994). Autonomous children

should freely move around by exploring and investigating things relating to their own interests. Rousseau's attention to experience leads to focusing on human senses; that is, people understand better when learning with multiple sensory systems (Ginnis, 2002; Schweisfurth, 2013). Activities that involve physical movement in addition to using visual and audio perceptions are more effective than merely listening to a lecture, for example.

The fifth, and final, characteristic of LCP involves social interactions. For Vygotsky, sociocultural experiences and interactions with others play an integral role in any process of learning (Stone, 1996; McCombs & Whisler, 1997). Learners discover knowledge by interacting and communicating with others. This is why LCP stresses group work and peer collaboration, as promoted by Dewey (1938). Additionally, the environment in which they are situated needs to be safe and respectful; their personality and capability should be appreciated by teachers and other learners in order to maximise the individual's learning (UNICEF, 2009a). In summary, LCP values the active and interactive involvement of learners, underscoring learner autonomy and equal relationships with teachers.

3.3.2 Reasons to Promote LCP

By virtue of these attributes of LCP, scholars (Schweisfurth, 2013; Vavrus, Thomas, & Bartlett, 2011) have identified three learning intentions that LCP aims to address. They include cognitive, political and economic aspects. Pertaining to the first intention, LCP proponents have argued that effective learning occurs when LCP is employed. Active processes of knowledge construction through cooperation and learner-driven learning help learners overcome Piaget's concept of disequilibrium, or a disparity between what is understood and what is not (Gallagher, 2003). Vygotsky argues that discussions with teachers and peers enhance children's cognitive development (Moore, 2012). Based on these early cognitive psychologists, the American Psychological Association (APA, 1997) maintains that LCP facilitates learners' creativity and ability to make associations between different information. Learning in an individualised way through each person's experience and belief enhances their understanding of content and its applicability to their own contexts. Furthermore, knowledge construction occurs through collaboration or co-creation (Watkins, Carnell, & Lodge, 2007). A learner-centred classroom entails interactions among peers and between teachers and students. Collaboration and communication produce 'something new' that may not be reached otherwise.

The second learning intention, the political dimension, involves claims that education incorporating LCP can prepare students to participate in democratic processes in society. As Dewey (1916) stressed, an equal power balance between teachers and learners will train the latter to express and negotiate their viewpoints in

society. On a more radical note, LCP liberates learners from rigid and oppressive patterns of teaching. Paulo Freire, the leading advocate of critical pedagogy, which shares emancipatory and cognitive elements with LCP (Schweisfurth, 2013), promoted emancipation of the oppressed through education. His influential book *Pedagogy of the Oppressed* (Freire, 2000) urges the oppressed to:

practice *co-intentional* education. Teachers and students (leadership and people), co-intent on reality, are both Subjects, not only in the task of unveiling that reality, and thereby coming to know it critically, but in the task of re-creating that knowledge. [...] [T]he presence of the oppressed in the struggle for their liberation will be what it should be: not pseudo-participation, but committed involvement. (p. 69, emphasis in the original)

Nyerere's education policies mirror the educational theories of Dewey and Freire, to be detailed in Chapter 6. Democratisation through education was a major theme throughout his political career, calling for liberation of the people from mental slavery (Mbilinyi, 2004). Students will grow to become democratic citizens through the learner-centred approach according to LCP supporters.

Finally, LCP can be beneficial in economic terms. In the present global economy with rapidly changing environments, skills in memorising facts or meekly following others' commands become less important (Brandes & Ginnis, 1986; Vavrus et al., 2011). An increasing number of industries value abilities developed through LCP, such as problem-solving, creativity and collaboration with others. LCP can also train one to efficiently select from and utilise the overwhelming amounts of information available in today's age of technological innovation (Wagner, 2008). These higher-order thinking skills are necessary for successful living in today's complex and unpredictable world. In conclusion, cognitive, political and economic rationales justify and motivate the use of LCP.

3.3.3 Teacher-Centred Pedagogy as the Opposite of LCP

One pedagogy that is often contrasted to LCP is teacher-centred pedagogy (TCP), which is sometimes referred to as didactic, objectivist or 'chalk-and-talk' teaching. The philosophical tradition of teacher-centredness saw its rise in the rationalist epistemology advanced by Plato, Descartes, Kant and Hegel (Kelly, 2009). These philosophers doubted the trustworthiness of evidence based on human senses, calling for a rational mind that can obtain facts independent of human subjectivity. Proposing the idea of *a priori*, Descartes regarded knowledge as existing before humans came to know it. There is a fixed, unchanging truth regardless of individual perceptions or experiences (Davis, Jo McCarty, Shaw, & Sidani-Tabbaa, 1993; Thomson, 2012). In the rationalist view, *a priori* knowledge can be retained and transferred from one person to another.

This view of knowledge gives epistemological underpinnings to teacher-centredness in classroom contexts. Kelly (2009) argues that how we conceive human knowledge determines how we design teaching and learning processes to some extent. With the conviction that knowledge exists independent of the knower, rationalist epistemology legitimises the 'right' form of knowledge. This in turn defines the role of teachers as knowledge experts and that of learners as passive receivers of knowledge (Davis et al., 1993). Innate knowledge supposedly sits in teachers' heads and textbooks; the aim of education is to pass on the correct facts from teachers to students. Furthermore, the separation of knowledge experts from knowledge beginners produces a power imbalance between the two (Pignatelli, 1993). Teachers who have the right answers gain fundamental authority, in relation to learners who pour the answers into their 'empty vessels'. Teachers with authority always decide the content and methods of knowledge transmission. In evaluating education quality, the reproduction of correct knowledge becomes key (Davis et al., 1993). Thus, teaching and learning processes often take the form of rote memorisation and repetition rather than open-ended questions or collaborative work. Therefore, in teacher-centred classrooms, one is more likely to observe teachers who direct learners by deciding what to learn and by passing on ready-made knowledge.

Notwithstanding the opposing features of LCP and TCP, the two should not be dichotomised. Classroom practices in reality involve a mixture of both techniques and ideas, and these practices cannot be categorised into one or the other; it is a matter of 'more or less' LCP or TCP (Schweisfurth, 2013). The two approaches sit at the extremes of a continuum, such as the one delineated in Figure 3.2. If a lesson is to be evaluated as either LCP or TCP, it will fall somewhere on the continuum.

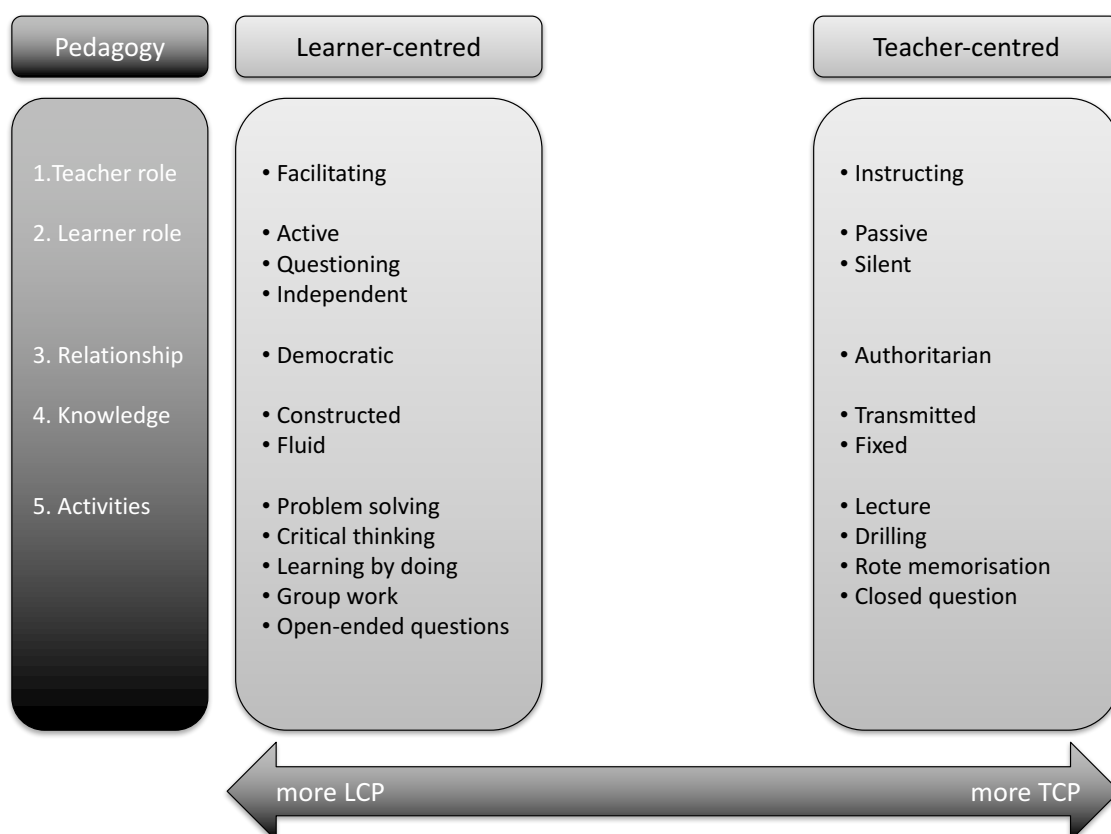


Figure 3.2: Continuum of learner-centred and teacher-centred pedagogy (adapted from Schweisfurth, 2013, pp. 11-13).

Despite the inappropriateness of polarising LCP and TCP, policy discourse on teaching and learning tends to dichotomise the two (Barrett, 2007; Hardman, Abd-kadir, & Tibuhinda, 2012). It is LCP that has been diffused worldwide. Global aid agencies have worked as mediators in exporting and importing LCP beyond national borders, exemplifying a policy borrowing phenomenon (Steiner-Khamsi, 2012; Mundy, Green, Lingard, & Verger, 2016).

3.4 Existing Studies on LCP Implementation in Developing Countries

With the agreement on Education for All (EFA) in 1990 as a starting point, the late 1990s saw a number of educational reforms throughout sub-Saharan Africa. Led by multilateral organisations, such reforms emphasised pedagogical remodelling from the 'chalk and talk' to the learner-centred approach, in addition to the expansion of the primary enrolment ratio and the distribution of adequate resources (Chisholm & Leyendecker, 2008). Donor organisations have played an overpowering, almost absolute, role in shaping the educational policies of individual developing countries (Mundy et al., 2016; Tabulawa, 2003). Following the international recommendation of LCP, the governments of sub-Saharan Africa have moved towards adopting the

concepts and practices of LCP in their educational programs. Examples include popular movements toward curriculum changes in Botswana, Uganda and Senegal around 1990, all of which noted the importance of active learning (World Bank, 2008). South Africa has chosen the learner-centred and participatory approach for its post-Apartheid curriculum reform (Stoffels, 2005). In addition, Namibia, supported by Danish development aid in 1990, has adopted this pedagogy in its Life Science curriculum (Chisholm & Leyendecker, 2008). Tanzania is not an exception from these neighbouring countries in embracing LCP. Chapter 6 analyses the policy transfer of LCP across time and space, and traces how Tanzania has followed international recommendations. The following section of this chapter looks at the empirical literature that has examined LCP implementation in the context of various developing countries. It aims to position my research within current debates on LCP.

With the ever-growing diffusion of LCP as an international educational agenda, many researchers have examined its implementation in developing nations, and they have predominately revealed uncertainties and inconsistencies in this implementation (Schweisfurth, 2011; Tabulawa, 2013; Guthrie, 2017). One of the most cited studies on LCP implementation, O'Sullivan's (2004) action research in Namibia, explored teachers' classroom practice and their conceptualisation of LCP. Interviews, lesson observation, assessment of learner skill and document analysis revealed several difficulties in implementing the pedagogy. The LCP concepts recommended in the policy documents exceeded the capacity of unqualified and underqualified teachers. Different views of knowledge made it hard for the teachers to understand the LCP languages. These findings led O'Sullivan to propose the concept of the *learning-centred* approach, instead of merely using the learner-centred approach, to raise the quality of teaching in Namibia and beyond. A qualitative case study conducted by Mtika and Gates (2010) found inconsistencies in LCP implementation in Malawi. Four student teachers in a teacher training programme showed a theoretical understanding of LCP. They nevertheless lacked the opportunity to practice LCP, resulting in their inadequate application of the pedagogy. Even if they had engaged with LCP, the trainee teachers revealed that they would have imitated how senior teachers teach – which was more teacher-centred – in order to maintain favourable relationships with their colleagues. Unfamiliarity with LCP by pupils also prohibited its appropriation. The pupils faced difficulty in participating in activities or group work, as they were not used to these types of activities. This exemplifies the co-construction of classroom ambience between teachers and students depicted in the conceptual framework (Figure 3.1). Mtika and Gates (2010) concluded that the structure and culture of the teacher's college, the school and the classroom altogether contributed to hindering the LCP implementation advocated by policymakers. A number of other researchers (e.g. Frost

& Little, 2014; Altinyelken, 2010a; Hardman et al., 2012) have also questioned the effectiveness and validity of LCP implementation in the context of developing countries. Schweisfurth (2011), who undertook an extensive review of research on this topic, notes that the recent academic discourse on LCP in developing countries leans toward criticism.

Studies that took place in Tanzania have also revealed implementation ambiguities. Ethnography carried out by Vavrus (2009) explored student teachers' practice and their views of constructivist pedagogy. Participant observation and in-depth interviews uncovered the struggles these student teachers had to overcome even if they understood the need to implement LCP. Vavrus emphasises the incompatibility of LCP with certain social and cultural expectations as well as with the teaching environment, calling for a *contingent pedagogy*. Barrett (2007) observed and interviewed primary school teachers. Her study also found that resource shortages and oversized classes compelled teachers to blend teaching methods from different traditions. In line with Vavrus's notion of contingent pedagogy, Barrett criticises the polarisation of TCP and LCP to propose a mixed pedagogy sensitive to the local environment and culture.

Explicit and implicit barriers to LCP implementation exist between LCP desirability – which is recommended at the system/policy level of the conceptual framework (Figure 3.1) – and the implementation conflicts at the classroom level. Explicitly, material and human resource scarcity are widespread in developing nations. Schools can lack basic educational materials such as books, poster boards and desks (Pontefract & Hardman, 2005; Altinyelken, 2010b). Due to shortages of teachers, overcrowded classrooms are common (Sifuna & Kaime, 2007; Abd-Kadir & Hardman, 2007). A learner-centred approach requires more teaching aids for drawing and creating. Group discussions and one-to-one interactions with students also require a low teacher–student ratio. Thus, the severe material shortages and the large class sizes challenge the successful implementation of LCP.

There are also several implicit barriers to LCP implementation. LCP-importing countries lack qualified teachers. Student teachers are not trained in a learner-centred manner at teacher training colleges, either because of a lack of trainers or because of the short program duration (Vavrus, 2009; Lewin & Stuart, 2003; Altinyelken, 2010b). Teachers in developing countries are generally unmotivated due to multiple factors, including poor payment, heavy workload and low social status (Bennell & Akyeampong, 2007). They might also lack basic content knowledge (O'Sullivan, 2004). These aspects hinder newly recruited teachers in starting to work within an LCP framework that requires a heavier workload than TCP.

Furthermore, some have argued that the education system in developing countries is incompatible with the theory and methods of LCP. English is set as the medium of instruction in many parts of Africa, even though both students and teachers speak different languages at home. This makes it difficult for the students, not only to communicate with their teachers but also to comprehend learning content (Prophet & Rowell, 1993; Sifuna & Kaime, 2007). Besides this, national exams in developing countries generally do not assess critical thinking or problem-solving skills (Frost & Little, 2014; World Bank, 2008). They measure how much knowledge students have acquired. Such an exam system forces teachers to transmit knowledge relevant only to exam questions.

Finally, a barrier exists between the concept of LCP and the cultures of developing countries. In South Africa teachers adhered to 'personal value systems, local cultures, and contexts' (Harley, Barasa, Bertram, Mattson, & Pillay, 2000, p. 299). The teachers assumed their appropriate role as a respected figure, keeping social control over student behaviours, albeit not overtly. The researchers pointed out that such an 'unspoken culture' resulted in discrepancies between policy objectives and teachers' practice. In their Kenyan study, Hardman, Abd-Kadir and Smith (2008) attributed the absence of learner-centred activities to the culture of subordinate obedience prevalent in Africa. These cultural practices make the implementation of LCP problematic, because the pedagogy requires democratic relationships between students and teachers, encouraging the former to freely challenge the latter. To summarise, the lack of teacher capacity, the prevailing education systems and cultural differences seem to produce covert but influential conflicts between LCP desirability and its actualisation.

While substantial empirical evidence illustrates the discrepancies between policy ideals and local appropriation of LCP, existing literature has overlooked critical elements of pedagogy. The research has predominantly centred on the act of *teaching* and *teachers* in the innermost sphere of the conceptual framework (Figure 3.1). Although *learning* and *students* make up equally important constituents, learners' perspectives and experiences have received much less attention (Schweisfurth, 2011; Tabulawa, 2013). The research interests of existing studies range from teaching practice (e.g. Nakabugo & Siebörger, 2001; Harley et al., 2000), teachers' beliefs and values (e.g. Dyer et al., 2004), and their conceptualisation of LCP (e.g. Barrett, 2007; Sikoyo, 2010) to possible effects of teacher training on teachers' classroom practices (e.g. Hardman et al., 2009; Thompson, 2013). Even when some researchers have included students in their studies, their analytical focus has been on teachers. O'Sullivan (2004) analysed students' work, but only to evaluate teachers' practices and their perspectives on their own teaching. Hardman et al. (2009) included pupils among

their interviewed subjects but only to assess the effectiveness of a teacher-training programme and not to inquire as to what the pupils themselves experienced. Why, then, has the research community dismissed *students* and *learning* from its foci of investigation? Fuller and Snyder (1991) attribute this to our assumption that students are 'invariant, textureless creatures' (p. 275). Sorin (2005) articulates this aspect from a sociological viewpoint. The image of the child as innocent, incapable and powerless – the child who needs adult protection – has traditionally dominated understandings of childhood construction since the late Middle Ages. When such an image of the child meets educational policymaking, interventionists have left out children by setting their exclusive focus on teachers as important change makers (Tabulawa, 2013). Student voices have therefore been 'silenced, suppressed, or ignored' (James, 2007, p. 261) both in terms of research foci and in policy discourse surrounding LCP implementation in low-income countries.

The problem with attempting to understand LCP only through the lens of teachers misses an important component of pedagogy in general, as well as that of LCP specifically. What are students experiencing in classrooms and at school under the ongoing LCP implementation? Do they favour learner-centred activities over 'chalk and talk' teaching? To what extent do those who live in hierarchical societies wish to build democratic relationships with their teachers? Does LCP benefit learning or impair pupils' achievement? Due to the literature concentrating only on classroom practices and the perceptions of teachers, many of these questions have remained unanswered. Such a research practice presents a problem from the social constructivist perspective, within which LCP has a theoretical grounding and from which this study borrows its epistemological lenses. Social constructivism stresses the situatedness of knowledge within a social realm, in that knowledge is a social product of construction and reconstruction. In any classroom, both teacher and students participate in this joint project, negotiating knowledge, values, beliefs and human relationships by means of interaction (Tabulawa, 2013; Fleming, 2015). This signifies that pedagogy involves a co-construction of the classroom ambience by both agents. It is not only the teacher who dominates and controls the classroom processes; the students also influence the teacher. Besides, research on pedagogy needs to acknowledge the distinctive views of teachers and students as indicated by the conceptual framework (Figure 3.1). This position renders a constructivist ontology that sheds lights on the multiple realities of the same phenomenon, depending on what groups a person belongs to (Patton, 2015). Consequently, as Tabulawa (2013) asserts, any effort to examine and alter pedagogy in developing countries must consider both teachers and students.

Furthermore, LCP policies ignoring learners' views is ironic given the fundamentals of learner-centredness. The fathers of social constructivism and LCP,

Socrates (Plato, 2005) and Rousseau (2007), espoused learning that is individualised for the learner's own interests, prior knowledge and experience. Dewey (1916) advocated democracy in education where children possess autonomy and have a say in their learning. Multilateral agencies inherit these beliefs, campaigning that students are the active agents who have a voice (UNICEF, 2009a; UNESCO, 2017). The scant research has focused on learners; hence, the lack of empirical evidence on their views, which could help improve policies, runs contrary to these tenets of LCP. Without understanding learners' perspectives with regards to their needs and wants, LCP policies cannot be learner-centred; they remain a forced implementation from policymakers. Only after empirical evidence on learners' views is accumulated can policies truly centre on students.

In addition to narrative accounts of students' views and experiences, learning outcomes can demonstrate learners' perspectives. LCP proponents advocate that their pedagogy will bring effective learning to students (Schweisfurth, 2013; Vavrus et al., 2011). However, only a handful of studies have investigated the effects of LCP-related activities on learning outcomes in developing countries (Ngware, Oketch, & Mutisya, 2014; Westbrook et al., 2013). Given the dearth of scientific evidence in this regard, Ngware et al. (2014) conducted systematic observation analysis of classroom activities in high-, middle- and low-performing schools in Kenya. Their study revealed significant differences between the three groups with respect to the time spent on particular activities, with high-performing schools providing more interactive lessons associated with LCP. In Barbados and Trinidad, Layne, Jules, Kutnick and Layne (2008) evaluated before and after teacher training which emphasised interactive activities and students' ownership, both of which are associated with LCP. The researchers gathered data on pupil scores and surveyed the pupils and teachers about learning and teaching attitudes. Their findings indicated an improvement of most pupils' performance as well as their positive attitudes toward working with others.

Although some studies suggested the positive impacts of LCP on student performance, the results from the Programme for International Student Assessment (PISA) imply lower achievement among the countries with more LCP practices than their Asian counterparts. In the latest PISA taken in 2015, the regions that marked the top ten in all mathematics, reading and science tests included Singapore, Japan, Estonia, Chinese Taipei and Finland (OECD, 2016). The highest ranks were dominated by Asian countries, which generally use less critical thinking, creative learning or problem-solving activities in classrooms (Deng & Gopinathan, 2016). In Finland, pedagogical conservatism is rife among Finnish teachers, who tend to employ more didactic and whole-class teaching than learner-centred teaching (Simola, 2005). Some researchers (e.g. Kim, Lavonen, & Ogawa, 2009; Malinen, Vaisanen, & Savolainen,

2012) attribute the success of Finnish schools in PISA to highly competent teachers with a Master's degree, quality teacher education and the autonomy given to schools. Besides, many other Western nations such as the US, the UK, New Zealand and Australia appear below the top ten, with the US achieving close to the average score of the member countries in the Organization for Economic Co-operation and Development (OECD). Other international examinations such as the Trends in International Mathematics and Science Study (TIMSS) and the Progress for International Reading and Literacy Study (PIRLS) have also shown mixed results in terms of the relationship between student performance and the degree of LCP implementation (Schweisfurth, 2013). Although there are instrument design and measurement issues with these international tests which may throw doubt upon their validity (see for example Forestier & Adamson, 2017; Berliner, 2015; Ercikan, Roth, & Asil, 2015), the correlation between the use of LCP and learning achievement seems to remain puzzling. As a result, some scholars, such as Nguyen, Elliott, Terlouw and Pilot (2009) and Guthrie (2017), caution us about the academic ineffectiveness of LCP. They criticise the fact that multilateral donors spread LCP without enough empirical evidence substantiating effective learning. Therefore, whether LCP can translate into an improvement of student learning requires further investigation. Chapter 6 elaborates the historical trajectory of LCP in the West, indicating both the positive and negative consequences of LCP.

Moreover, academic achievement is not the only component of learning outcomes; LCP also proclaims better learning attitudes – such as motivation, interests and confidence – as well as better social well-being (Weimer, 2013; Ginnis, 2002). Nonetheless, to my knowledge from conducting this literature review, almost no research on LCP implementation has considered this dimension in a developing country context. The current research therefore aims at exploring students' learning attitudes in relation to LCP implementation.

The viewpoints of learners can make valuable contributions not only to LCP policies but also to education policies in general. Children are one of the main beneficiaries of education. Their experiences and feelings at school influence how they learn and what they gain from their education. Fielding, Fuller and Loose (2000) state that school improvements, let alone the improvement of student outcomes, cannot happen without understanding students' points of view. Fielding (2004) claims the importance of 'student voice' in informing education for civic society and social justice. Hajisoteriou and Angelides (2015) further argue that education policy research should investigate children's voices to fully appreciate the policy trajectory and its implementation. Following these debates, in recent years – especially after the inception of the United Nations Convention on the Rights of the Child in 1989 – there

has been increasing scholastic interest in the student voices inside and outside school (Tangen, 2008; Woodhead, 1999). Much of this research has taken place in Europe and the US (e.g. Fleming, 2015; Southworth & Lincoln, 2000; Hajisoteriou & Angelides, 2015; Mitra & Serriere, 2012), but an increasing number of studies have been carried out in developing countries. An example of this is a research study by Posti-Ahokas and Lehtomäki (2014) conducted in Tanzania, investigating factors affecting examination failure from the perspective of female secondary students. Open-ended questionnaires and in-depth interviews identified a number of familial and sociocultural factors, leading the researchers to compare them with the national policy. Their analysis uncovered a discrepancy between the students' concerns and policy objectives. In Uganda, Jones (2011) conducted a longitudinal ethnographic case study to explore the relevance of a national policy in girls' secondary education. Qualitative and quantitative data from female students revealed that the policy did not address the barriers they were facing. The research demonstrates the needs for considering girls' viewpoints if policymaking is to be successful in improving their education.

In these studies, children are perceived as social agents who have their own interests and who make decisions (Tangen, 2008). This notion recognises that children possess their own experiences and interpretations that are conceivably different from adults' perspectives; thereby teachers cannot fully understand what and how students perceive their learning experiences (James, 2007). Moreover, students may reveal their opinions and experiences to researchers that teachers and schools might not disclose (Mitra, 2003), and hence, the research focusing only on teachers' accounts may diminish the validity and integrity of the findings (Bragg, 2001). As Ellsworth (1989) insists, policy research needs to scrutinise student voices to investigate the differences between their experiences and the distinctive social positions of the adults. To conclude, the significance of children's viewpoints and the nature of pedagogy, especially that of LCP, necessitates the gathering of learners' perspectives on LCP implementation. Research from children's perspective can clarify what works and what does not work for the key beneficiaries of education, possibly leading to better policymaking, inclusive of both students and teachers (Chamberlain, Golden, & Bergeron, 2011).

In addition to the learners' views in the classroom domain of the conceptual framework (Figure 3.1), another spectrum of pedagogy that lacks attention from the literature entails the history in the culture/society domain. Existing arguments as to why LCP is not suitable in the researched countries tend to underline 'tradition'; but too few studies have investigated likely influences of tradition and history on the current pedagogical remodelling. In explaining why teachers in Nigeria continued to use memorisation-based teaching, Hardman et al. (2008) attribute its reason to 'African

respect for tradition and authority' (p. 65) while referring to Cleghorn, Merritt and Abagi (1989) and Prophet and Rowell (1993); Hardman et al. (2008) make this argument without explaining in detail which aspect of their tradition contradicts the LCP tenets and how the tradition may affect LCP implementation. A qualitative investigation by Harley et al. (2000) similarly ascribe the absence of LCP activities to local cultural mores in South Africa. However, they present little consideration of local cultures and traditions. Research conducted in Tanzania is no exception. Ethnographic studies by Barrett (2007) and Vavrus (2009) provide justification as to how sociocultural expectation hampers LCP implementation. The larger-scale research led by Vavrus and Bartlett (2013; Bartlett & Vavrus, 2014a; 2014b) unveils how assessment and curriculum run counter to LCP policies. However, none of these researchers undertook a thorough investigation of Tanzania's history. As Chapter 2 notes, Nyerere argued for placing ordinary citizens at the core of national development over mere economic development, which may benefit only the rich (Saul, 2012). Under the *ujamaa* model sits his educational philosophy, which is seemingly aligned with learner-centred ideas. Nyerere's ESR aspires to democratise children, to make teaching and learning relevant to people's lives, and to train pupils' cooperative attitudes (Nyerere, 1967). Chapters 1 and 2 delineate how this past president remains prominent and respected in social and political spheres. To fully understand the influence of 'tradition' on the present pedagogical change in Tanzania, the current status of LCP implementation in the country needs to be situated within the historical/ideological context of the country. I thus intend to examine the historical dimension of LCP implementation in Tanzania.

Another aspect indicating the knowledge gap with respect to LCP in existing literature concerns methodology. Among the studies I reviewed, the majority (40 out of 65) used mainly qualitative methods, compared to 17 and 8 applying quantitative and mixed methods respectively. It should be noted that the review was not a systematic review but was conducted narratively with an aim to identify the empirical evidence the literature had accumulated, with what methodologies, and relating to what samples or cases (Davies, 2000). Despite the limitation of the narrative review in its inability to generalise the overall findings, my claim about the paucity of certain methodology mirrors the views of Schweisfurth (2011) and Frost and Little (2014), who argue that large-scale, quantitative studies on pedagogy are lacking in low-income countries.

In general, qualitative and quantitative studies have contrasting theoretical bases and pursue different goals by gathering particular kinds of information. Based on the constructivist paradigm, qualitative research explores and describes people's acts in depth for the purpose of understanding social events from their own viewpoints (Firestone, 1987; Mahoney & Goertz, 2006; Bryman, 2006). By contrast, quantitative researchers follow a positivist paradigm. They usually test a theory by means of

experimental or correlational studies in order to explain the causes of social change and to generalise their findings to a wider population. Methodological differences may lead to contrasting findings. Whereas studies using different methods can corroborate each other if they come to similar results (for example, qualitative research by Barrett (2007) and quantitative research by Hardman et al. (2012) both found scarce implementation of LCP in Tanzania), contradictory findings may indicate a need for more research (Firestone, 1987). Given the relative lack of mixed methods studies, I considered it more fruitful to conduct research on the effectiveness of LCP implementation in Tanzania using mixed methods.

3.5 Conclusion

Learner-centred concepts and principles build on the work of Socrates (Plato, 2005), Rousseau (2007; Darling, 1994), Dewey (1916; Stone, 1996; Cuban, 1993), Piaget (Ginsburg & Oppen, 1988; Moore, 2012) and Vygotsky (Stone, 1996; Moore, 2012). These early philosophers and psychologists have contributed to the forming of the five characteristics of LCP, including: attention to individuals (e.g. Rousseau, 2007; McCombs & Whisler, 1997); learner independence (e.g. Brandes & Ginnis, 1986; Ginnis, 2002); democratic pupil–teacher relationships (e.g. Dewey, 1916; Schweisfurth, 2013); active roles played by learners (e.g. Ginnis, 2002; Schweisfurth, 2013); and collaborations and interactions (e.g. Vygotsky, 1978, 1986; McCombs & Whisler, 1997). Such principles of LCP arguably form a common ground with the educational agenda historically fostered by Julius Nyerere in Tanzania, with his hope for the democratisation of pupils, breaking school–community boundaries and educating future cooperative farmers (Nyerere, 1967). Exploring how the unique historical and social context of Tanzania might facilitate or hinder LCP implementation would make a knowledge contribution to the current research literature, particularly regarding schools in sub-Saharan Africa. Another domain that has lacked scholarly focus points to the co-constructedness of classroom reality. Existing research on LCP implementation has predominately paid attention to the act of teaching and teachers. Appreciating varied realities formed by different social groups, the constructivist epistemology and ontology employed in this thesis may help uncover the realities experienced by different groups. The thesis addresses these issues through the application of mixed methods, which have scarcely been employed in research on LCP implementation in developing nations. The next chapter discusses in detail how and why I utilise a mixed methods approach while employing the transversal–vertical–horizontal (TVH) framework.

Chapter 4 Methodology and Research Design

The previous chapter identified understudied areas in earlier research on LCP implementation in developing countries. There seems to be a dearth of consideration of pupil perspectives and learning outcomes in relation to LCP implementation, historical contextualisation of learner-centred ideas and practices in a country's 'traditions', and methodological unevenness among the literature examining LCP implementation. The research questions for this thesis were conceived in order to address these research gaps. The first overarching inquiry attends to the historical and social milieu and its implication for LCP implementation in Tanzania today. The overarching question asks how Tanzania is implementing LCP in primary schools, given the historical/ideological context of the country's education system and pedagogical provisions, with three subsidiary questions: 1. How are the international and national policies of LCP being actualised in schools?; 2. How does the implementation of LCP vary between schools, considering the school, teacher and/or pupil characteristics unique to the schools?; and 3. How and why might the ideological and historical background of Tanzania facilitate or impede the implementation of LCP? The second main research question probes children's viewpoints. Is LCP implementation associated with pupils' perceptions of classroom experiences and/or their learning outcomes? If so, what specific pupil perspectives relate to LCP implementation? This question is accompanied by four ancillary inquiries, including: 1. Do pupils undergo the intended learning experiences that LCP envisages?; 2. How do pupils perceive their experiences in their classrooms and schools in relation to learner-centredness?; 3. Are pupils' views of their learning experiences related to the levels and consistency of LCP implementation in their classrooms?; and 4. Do pupils' academic performance and learning attitudes vary between schools? If so, is this variation associated with the levels and consistency of LCP implementation in their classrooms?

This chapter examines the methodology and methods I applied to generate data to answer these questions. After setting out my philosophical stance I explain my methodological framework, the transversal–vertical–horizontal (TVH) case study (Bartlett & Vavrus, 2017). This is followed by a discussion of research design, incorporating mixed-methods and an embedded multiple-case design. I then present the methods, after which the data collection procedure will be described. The chapter ends with my engagement with ethical considerations and a reflection on my identity and positionality.

4.1 Philosophical Assumptions

As Chapter 3 elucidated, this thesis bases its paradigmatic view primarily on constructivism. Notwithstanding the primary application of constructivism, the relative lack of mixed methods in existing literature motivates the present study to explicitly use quantitative methods derived from positivism. Employing qualitative and quantitative approaches in a single study requires justification as to how to mix paradigms from contrasting traditions.

Greene, Benjamin and Goodyear (2001) and Greene and Caracelli (1997) state that the two most notable stances to mix paradigms while mixing methods include the pragmatic and dialectical perspectives. The former deems that paradigms carry little weight in making inquiry decisions (Greene & Caracelli, 2003). Pragmatism privileges the nature of research questions and practicality, claiming that researchers should use the methods – whether the research is observational, experimental or experiential – that best answer the research questions (Feilzer, 2010; Johnson & Onwuegbuzie, 2004). It hence regards paradigms as ‘descriptions of, not prescriptions for, research practice’ (Greene & Caracelli, 1997, p. 8). In contrast, the dialectical stance esteems the value of different paradigms. Greene and Caracelli (2003) illustrate this approach as follows:

[P]aradigms do matter significantly when making inquiry decisions [...] and all paradigms are valuable and have something to contribute to understanding; use of multiple paradigms leads to better understandings. (p. 96)

The underlying justification for this view denotes that communication between contrasting paradigms, which encourages incorporating different methods, contributes to a more comprehensive and valid understanding of a phenomenon. In my study, I held a dialectical, rather than pragmatic, stance while I employed mixed methods. Instead of relying solely on practical responsiveness to the research context, my study places significant value on paradigms from both the constructivist and positivist perspectives.

The conceptual framework (Figure 3.1) embodies the social and cultural nestedness of pedagogy, as well as the need for multifaceted views to be investigated in any research in this area. This study chiefly employs the constructivist worldview and values its importance. To expound on the relevance of constructivism in the research briefly discussed in Chapter 3, this view proposes that reality is formed culturally and socially and that no singular reality exists (Crotty, 1998; Patton, 2015). Pedagogy has a spatial and temporal nature. Classroom reality is constructed, negotiated and shared between teachers and students through interaction in a particular social context at a particular time. Acknowledging this understanding of pedagogy requires an

epistemology that recognises the roles played by culture, social structure and human agency in constructing students' knowledge.

With epistemological subjectivity, furthermore, I as a researcher also participated in constructing meaning throughout the research process. I acknowledge my subjectivity – deriving from my gender, cultural and social background, identity, assumptions and beliefs – to have affected every stage of the research. This required me to disclose my personal bias as well as to explicate how it may have influenced the knowledge generated (Norum, 2008), to be addressed in Section 4.8 on reflexivity and throughout Chapters 6 to 9 on findings and analysis.

Ontological relativism in constructivism values the multiple realities experienced by different groups who make sense of their own reality relative to others (Patton, 2015). Constructivists accept the diverse conceptions of realities built up by different groups of people. Teachers and students participate in the co-construction of knowledge, reality, meanings and relationships; but each party may perceive and understand the co-constructed truth differently.

Although constructivism acts as the primary paradigm in my research, I also integrated the quantitative approach associated with positivism. During the same research stage of gathering qualitative data, I gathered questionnaires and exam scores without much interaction with the respondents in order to collect the data as objectively as possible. The statistical analyses looked for singular realities possibly existent within the relationships between LCP and pupil learning. Quantitative examination aimed to draw an inference as to whether LCP yields better learning outcomes. Following the dialectical manner of mixing paradigms, I valued both ways of knowing – constructivism and positivism – throughout the research.

In line with the leading paradigm of constructivism, the research primarily used a qualitative approach with a subsidiary role played by quantitative inquiry, labelled as 'qualitative dominant mixed methods research' (Johnson, Onwuegbuzie, & Turner, 2007, p. 124). The application of quantitative methods aims at strengthening the traditional qualitative design, where the former acts in service to the latter (Creswell & Plano Clark, 2011). Specifically, statistical relationships between the data from structured observation, questionnaires and pupil exams were intended to reflect pupil views and experiences, which was also explored through interviews and focus group discussions (FGDs). The constructivist paradigm encompasses the overall research process, while I concurrently appreciate the value of quantitative data (Johnson, Onwuegbuzie, & Turner, 2007).

Other possible paradigms for mixed methods include: the transformative-emancipatory approach; the feminist approach; and the use of multiple paradigms at different research stages. This study aims neither to transform the lives of the research

participants to realise a more just and democratic world (Mertens, 2003), nor to understand how gender intertwines with ethnicity, race, social class, nationality and other social identities (Hesse-Biber, 2010). My research also does not entail multiple phases of data collection (Creswell & Plano Clark, 2011) but instead deploys both quantitative and qualitative methods within one stage. To conclude, because of my utilisation of multiple stances as well as congruent theoretical and epistemological stances, I approach multiple paradigmatic views dialectically, with the primary role played by constructivism. The constructivist paradigm provides the epistemological and ontological lenses to explore how different groups of people understand and practice LCP; but the positivist paradigm also plays a role in supporting the qualitative findings.

4.2 Methodological Framework: The Transversal–Vertical–Horizontal Case Study

This study explores the implementation of LCP historically and contemporarily at international, national and local levels, using the transversal–vertical–horizontal (TVH) case study. Originally developed by Vavrus and Bartlett in the comparative education field (Vavrus & Bartlett, 2006, 2009; Bartlett & Vavrus, 2014a, 2014b, 2017), this methodological framework enquires into how historical development, social and political structures, as well as national and international policies, shape policy implementation in a given setting. Although Bartlett and Vavrus (2017) named the approach ‘the comparative case study’, this thesis uses the modified term, ‘the TVH case study’. I will elaborate the rationale of converting the name later in this chapter. Briefly, the term ‘comparative case study’ disguises the critical feature of Bartlett and Vavrus’s approach. Case study research can be comparative by nature (Yin, 2014). Several authors have already used this exact name in their research (e.g. Sheridan et al., 2014; Lane, Floress, & Rickert, 2014; Monte-Sano, 2008). To differentiate Bartlett and Vavrus’s comparative case study from others, and to highlight the transversal, vertical and horizontal axes, I will use the term ‘transversal–vertical–horizontal (TVH) case study’ throughout the thesis. What follows is a survey of other policy research models. I intend to situate the TVH case study within a sphere of policy analysis, and I elucidate why this framework offers a better methodological approach for my research.

4.2.1 Alternative Frameworks for Policy Analysis

This section explores a few different approaches to policy analysis, including the policy sociology approach, a composite model of policy borrowing, and backward mapping. Stephen Ball pioneered the policy sociology approach in education, developing several models for policy analysis over a few decades. The policy cycle (Bow, Ball, & Gold,

1992; Ball, 1994) forms the basis of his work. It regards a policy as more than just text, instead considering it as a process. The policy cycle illuminates the multidirectional practices brought about by the structure–agency relationships occurring throughout the process (Lingard & Sellar, 2013). This process of what Ball calls a ‘policy cycle’ presents the five contexts a policy goes through: the context of influence; the context of text production; the context of practice; the context of outcome; and the context of political strategy. Drawing on the policy cycle, Ball has developed other frameworks for policy sociology. Whereas the earlier policy cycle had little focus on global perspectives, recent work by Ball (2007, 2012, 2013) and his colleague (Ball & Junemann, 2012) sheds light on the non-negligible influence of global forces and the private sector in education. Network ethnography (Ball & Junemann, 2012) topologically investigates both human and organisational relationships happening in the course of the cycle. Policy analysis underpinned by such a framework calls for attention to focus on various stakeholders including philanthropists, business sectors and international organisations, which constitutes the broad scope of the policy sociology approach (Lingard & Sellar, 2013).

Although my research examines some phases of the policy cycle, it does not centre on the contexts of text production or political strategy. This study specifically focuses on the practice and influence of LCP while comparing these with policy texts. It does not aim to examine how human relations in different policy stages affect the formation and implementation of policies, as is suggested by the policy sociology approach. In addition, Ball’s approach takes the form of a sociological inquiry, especially related to that used by Foucault. It analyses the policy cycle by questioning the power, structure, agency and discourse which interconnect the five dimensions within the cycle (Lingard & Sellar, 2013). While appreciating the importance of power and agency in implementation processes, my research does not centre on power relations between different policy levels – international, national and local – but rather places its primary focus on how local actors interpret the policy and how they enact it within a specific social and cultural setting. Following Bartlett and Vavrus’s (2014a, 2014b) conceptualisation of the TVH framework, the research rests its interpretation of the observed phenomena on the sociocultural approach (Levinson, Sutton, & Winstead, 2009). It explores how the historical/ideological context of Tanzania might facilitate or impede the implementation of LCP, considering policies to be socially and culturally produced.

Comparable to the policy cycle developed by Ball, Phillips and Ochs (Phillips & Ochs 2003; Phillips, 2005) offer another framework to analyse the phenomenon of policy borrowing. Their composite model for policy analysis comprises six stages of a cyclical process. It first analyses the motivations behind importing particular education

policies, imbued with specific historical, social, cultural, economic and religious contexts. This leads to an investigation of decision-making practice from theoretical, practical, quick fix, and spurious perspectives. The next stage is focused on implementation. Here policy analysts examine local resistance as well as support for the application of the policies. Lastly, researchers investigate how the country internalises and indigenises the borrowed policy into its existing system. This stage involves an evaluation of both the internal and external impacts that the policy borrowing has on the intended and actual changes. The composite model aims to understand both the procedural and contextual factors influencing the policy adoption across national borders. LCP is a traveling policy which Tanzania has borrowed from Western-oriented organisations (Dimmock, 2000; Schweisfurth, 2013), and its implementation process may follow the pathway that the composite model proposes. However, my research does not intend to scrutinise the process of policy borrowing or its outcomes; its interest resides in how LCP policies have been implemented within the country and what effects, if any, they brought about for pupils and teachers on the ground.

Lastly, backward mapping is derived as a counteractive response to the top-down process of policy research. Elmore (1979) invented the model when educational policy analysis considered policy implementation as equivalent to its formulation. The then-prevalent approaches of policy analysis, called 'forward mapping' by Elmore (1979, p. 602), presumed unidirectional policy transfer, in which the intention of policymakers would be passed on to the lowest level without any interruption or alteration. Elmore criticised these models as entailing 'implicit and unquestioned assumption that *policymakers control the organizational, political, and technological processes that affect implementation*' (emphasis in the original, 1979, p. 603). Backward mapping, in contrast, starts from policy actors at the local level. To recognise the divergence between the intended and localised outcomes of policy implementation, research begins with people's behaviours and narratives, then proceeding up the administrative ladder (Dyer, 1999). Backward mapping uncovers the effects each administrative unit has on the implementation process. Similar to backward mapping, I compare the intent of policymakers and the policy's observed outcomes. However, the organisational operations and human relationships within the mediating policy units carry less weight in my work. Focusing on nonhuman objects such as policy documents, the examination at the higher administrative levels applies secondary analysis of policies enacted by the international and national governments. Having provided an overview of the alternative policy research models, I next establish the greater relevance of using the TVH framework as opposed to these models.

4.2.2 The Transversal–Vertical–Horizontal Case Study

Here I illustrate the transversal–vertical–horizontal (TVH) case study in detail. The section first expounds its conceptual framework, leading to an explanation of the three axes in the TVH approach. It also introduces a number of studies that have adopted the TVH case study.

Conceptualisation of the TVH case study originated from critiques of the existing case study approach developed by Yin (2012, 2014), Stake (1994, 2003) and Merriam (1998). The established case study method, according to Bartlett and Vavrus (2017), defines a ‘case’ as a place that is bounded and fixed. The attention it pays to the context and comparison of cases is, however, limited. Bartlett and Vavrus consider a case to be a fluid entity determined by social actors including researchers. The authors also criticise the exclusive focus on ‘contemporary phenomena’ in the mainstream case study approach. Yin (2014, p. 24) calls history a “‘dead” past’ and cautions us not to pay much attention to it. For him, the use of case studies commits to investigating ‘the present’ and ‘the recent past’. Bartlett and Vavrus stand against this notion, asserting the importance of historical information to provide an essential context to cases. The authors further censure the interpretivist standpoint taken by Stake (1994, 2003) and Merriam (1998). Interpretivists aim to understand the participants’ sense-making process, but they lack emphasis on the power relations and social structure that produce the sense-making.

To overcome the shortcomings of the existing method relating case studies, Bartlett and Vavrus (2017) encourage emergent research design, or what Maxwell (2013) terms ‘the process-oriented approach’. Researchers remain flexible in the theories and methods they apply in the field. Valentine (2001) posits that field researchers may well encounter new themes and unexpected participants, requiring them to change the pre-planned fieldwork schedule. This may necessitate reforming the research questions, theories and/or epistemologies carefully thought through prior to the fieldwork. The process-oriented approach avoids bounding cases in advance of fieldwork and urges researchers to explore relevant phenomena and factors once in the field (Maxwell, 2013). To engage in this approach, Bartlett and Vavrus (2017) theorise the TVH framework using three concepts: extended case method, multi-sited ethnography and actor network theory.

Extended case method is derived from a counterargument to positivism and interpretivism. Burawoy (1998, 2009) paved the way to conceptualising the method, employing four methodological ‘extensions’ when conducting case study research. These entail: to extend observation to participant observation; to extend observation over time and space; to extend the research focus from micro to macro forces; and to aim for theory extension based on findings rather than statistical generalisation

(Burawoy, 1998). However, Burawoy seemingly regards cultural process and social structure as rather static (Bartlett & Vavrus, 2017). To examine the fluidity and shifting nature of social production spatially and relationally, the TVH case study adopts multi-sited ethnography as its conceptual basis.

In approaching education policies with sociocultural theory, multi-sited ethnography focuses on how to compare cases horizontally, vertically and transversally. Founded by Marcus (1995, 1998), multi-sited ethnography encourages research across multiple field sites by moving parallel to different locales. It also shifts the scale of the study across different administrative levels (Bartlett & Vavrus, 2017). The approach reconceptualises space as socially and culturally developed, where the agencies actively engage in knowledge construction (Marcus, 2011). This necessitates examining *relationships* across sites and scales, instead of perceiving them as separate entities. To explore different administrative scales, multi-sited ethnography considers global, national and local levels as the vital units of analysis. Pierides (2010) suggests that conducting fieldwork at differing policy levels and locales breaks down global–local distinctions. The TVH case study incorporates multi-sited ethnography to investigate distinctive manifestations of global policies within different administrative units and local settings. Actor network theory (Nespor, 2004; Fenwick & Edwards, 2010; 2012) helps conceptualise the tracing of multiple sites across scales in the TVH case study.

Nespor (2004) posits networks as ‘assemblages’ of actors and resources, which are selected, enrolled, omitted and made interactive with one another while moving across time and space. The equal weight that actor network theory puts on human and nonhuman actors – the concept coined as ‘symmetry’ by Latour (1987) – typifies the theory (Fenwick & Edwards, 2010, 2012). Humans cannot exist without what is nonhuman. In Koyama’s (2011) view actor network theory focuses on what the latter *does* in policy processes, rather than what it *is*. Another concept central in actor network theory involves ‘translation’ (Latour, 1987), or changes brought from and to humans and nonhumans. It is through translation that a ‘network’ forms as an assemblage of the two entities, resulting in a particular enactment of policies (Fenwick & Edwards, 2012). Bartlett and Vavrus (2014a, 2014b) stress the substantial role played by objects – such as the curriculum, textbooks and policy documents – in determining the policy implementation. This helps researchers conceive its transversal and vertical dimensions across time and space.

Drawing on the interplay of these concepts, the horizontal, vertical and transversal axes in the TVH case study provide a tool to study the interconnectedness of the three domains of pedagogy (Figure 4.1). The horizontal axis denotes multi-sited comparisons of policy implementation. It juxtaposes classrooms within the interior layer

of the conceptual framework (Figure 3.1). This process intends to assess how differently and similarly each case within distinctive localities contextualises and appropriates certain policies at a given point in time. Bartlett and Vavrus (2017) distinguish two approaches to horizontal comparison: homologous and heterologous. A homologous study juxtaposes cases at the same scale, which are initially selected according to set criteria. It then compares the way similar forces unfold in multiple locations. A heterologous comparison, in contrast, traces a policy practice across categorically discrete entities (Falzon, 2009). Instead of identifying cases beforehand, the researcher generally detects samples that manifest the phenomenon of interest as the research proceeds. My study applied a homologous horizontal axis. I specified selection criteria *ex-ante*, from which cases sitting along the same scale were identified. By juxtaposing schools in distinct sites, the study intended to reveal a similar logic to that taken by policy actors in implementing LCP policy, which may result in similar and distinctive practices.

The multiple sites explored through the horizontal axis exhibit a phenomenon in congruence to socio-political ambience; and the vertical axis situates the horizontal cases within this cultural and social network (Bartlett & Vavrus, 2017). The vertical axis links the outer two domains of the conceptual framework with the classroom realm (Figure 3.1). Informed by actor network theory (Fenwick & Edwards, 2010), the vertical axis traces the human and nonhuman actors through which the national and international policies arrive at the designated locales. It analyses how policy discourse within and between global and national institutions shape the social norms and practices of individual schools (Bartlett & Vavrus, 2014b). The axis attends to how local actors modify the normative policies to fit their schooling environment as well as their own needs and interests (Levinson et al., 2009). My research looked into how the international policies of LCP have spread throughout developing countries, and in Tanzania specifically, while examining how these policies have permeated into Tanzania's national policies. At the field site, classroom observations examined how and to what extent primary schools appropriated the policy's intentions. Interviews with teachers and FGDs with pupils explored their experiences with LCP implementation at school. Comparing the policy documents and what was happening on the ground, the vertical analysis aimed to uncover how the network of human and nonhuman actors at international, national and local scales may have influenced policy practice.

The transversal axis contextualises the horizontal and vertical components in the country's past and present (Bartlett & Vavrus, 2014a). The TVH case study extends the scope of investigation to historical space. It traces how the data from different physical places (horizontal axis) and different policy levels (vertical axis) intersect with, and are influenced by, historical contingencies. Bartlett and Vavrus (2017) emphasise

that any contemporary social issue is rooted in history; to study these contemporaneous issues requires tracing their history. The transversal comparison over time investigates how the contemporary phenomenon, explored through the horizontal and vertical axes, has emerged as a practice. It examines the influence of various powers leading to the adjustment and readjustment of policy ideals across time and space. In the conceptual framework of pedagogy (Figure 3.1), the transversal axis in particular represents history in the culture/society sphere while also considering the other factors in the domain. This thesis traces the history of education development in Tanzania from the indigenous period. It specifically focuses on Nyerere's (e.g. 1967, 1987) political and educational philosophy, considering how *ujamaa* held both similar and contrasting concepts to learner-centredness. Integrating the horizontal comparison, interviews with teachers explored how the legacy of Nyerere may or may not have affected current Tanzanian society, as well as participants' teaching practices. Data analysis connects data about the history of Tanzania and teacher interviews, aiming at comparing across horizontal cases and vertical examination over time.

To connect these three axes, a 'case' in the TVH approach encompasses a broader meaning than a traditional case study which usually compares only horizontal cases. Borrowing a definition of 'cases' spelled out by Ragin (1992), Bartlett and Vavrus consider 'cases' as both 'similar enough and separate enough to permit treating them as comparable instances of the same general phenomenon' (Ragin, 1992, p. 1, cited in Bartlett & Vavrus, 2017, p. 27). The TVH framework particularly underscores *comparison* not only between contemporary cases (along the horizontal axis) but also across time and spaces. It necessitates constant comparisons of a phenomenon in one locale with other locales, across differing scales, and with historical moments. In line with Ragin's definition of 'cases', a 'case' must provide information comparable to each other across spatial and temporal milieu.

In my research, a 'case' existed at two levels. Firstly, Tanzania as a country was the case, which I studied taking the TVH case study approach. Along the horizontal axis, I also examined multiple schools as cases. Each case exhibited unique but comparable characteristics, which I analysed separately and presented as a cross-case comparison. Comparisons within the horizontal cases (schools) and across three axes in my TVH case study threw light on how historical elements (transversal) and international and national policies (vertical) unfold distinctively at different localities (horizontal). Each axis concentrates on various facets of policy implementation, but they interact with each other. They may well overlap (Bartlett & Vavrus, 2017), as represented in Figure 4.1 below.

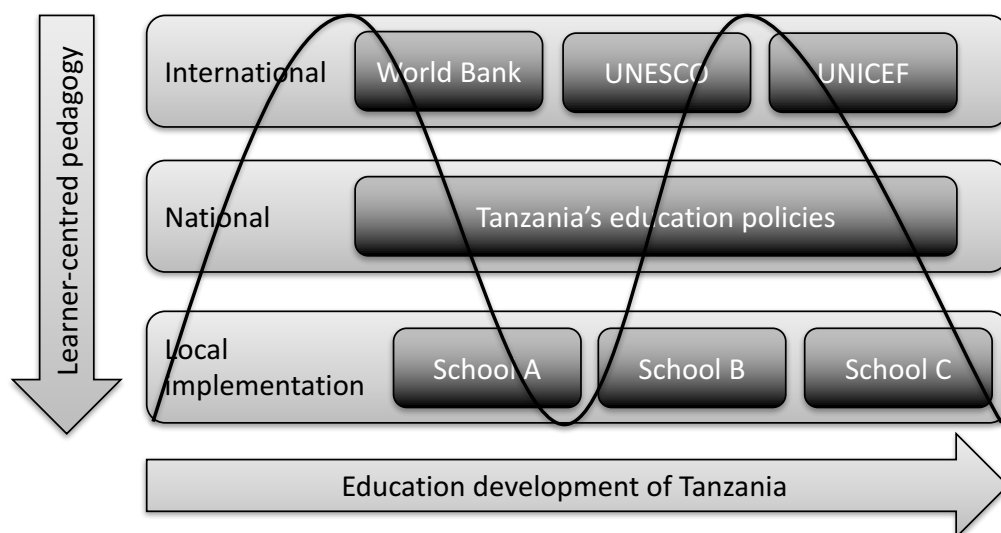


Figure 4.1: The TVH case study framework (adapted from Bartlett & Vavrus, 2014a)

While the TVH case study provides a comprehensive methodological framework for case study research, it is not free from drawbacks. One criticism the approach may receive, ironically, is the lack of criticism it encounters. Various researchers have adopted the TVH model for their multi-sited case studies (e.g. Bellino, 2016; Foulds, 2014; Shah & Quinn, 2016; Millei, 2011; Gardinier, 2015). However, these scholars have seldom identified the limitations of the framework, merely adopting the TVH axes as appropriate methodological tools. There is barely any research, to my knowledge, that has judiciously analysed, applied and refined the TVH approach. This in itself can be a weakness of the TVH case study, given the lack of academic scrutiny. Analytical engagement with the TVH framework would enhance this methodological tool.

One possible critique pertains to its naming, as mentioned above. Vavrus and Bartlett have revised the naming of the framework as they modify and enhance the concepts underpinning the TVH case study. The framework was born with vertical and horizontal axes as primary concerns, labelled the 'vertical case study' (Vavrus & Bartlett, 2006, 2009). Although the authors insinuated inclusion of transversal tracing in the vertical case study (Vavrus & Bartlett, 2009, p. 15), the historical dimension had not gained significant attention until a later conceptualisation. Bartlett and Vavrus (2014a, 2014b) introduced the transversal comparison as the third axis that locates policy appropriation within a historical milieu. The modification of the framework nevertheless did not lead the authors to alter its name. Despite the equivalent importance placed on the three axes – the transversal, vertical and horizontal – the term 'vertical case study' remained as if it considered only the vertical axis.

Upon reflection, Bartlett and Vavrus (2017) compiled a decade of their work and renamed the framework as a 'comparative case study'. Even though this term may denote the equal value placed upon the three axes, it is too generalised and might miss the significance of the axes, as pointed out at the beginning of this chapter. Any case study – whether it applies three axes or not – can be comparative. Yin (2014) distinguishes two approaches used in a case study: single- and multiple-case studies. The latter is commonly called 'comparative case study' (e.g. Sheridan et al., 2014; Lane et al., 2014; Monte-Sano, 2008). These studies often present comparisons between cases, albeit comparing only horizontal cases in Bartlett and Vavrus's model. I acknowledge the import of all transversal, vertical and horizontal axes being integrated in a multiple-case design. To ensure that the three axes are unequivocally expressed, I use the term 'transversal–vertical–horizontal (TVH) case study' throughout this thesis.

One of the few studies to have identified a limitation of the TVH case study was carried out by Ogisu (2014). In her study of the implementation of student-centred pedagogy in Cambodia, the researcher investigated contradictions between international policy ideals and what teachers were required to do to achieve the policy. Ogisu also inquired into how policy actors at various levels viewed these contradictions. In discussing her research design utilising the TVH case study, Ogisu pointed out that Vavrus and Bartlett's model rarely appreciated individuals' belongingness to multiple communities at multiple levels, and that they seem to treat a case as a separate entity. In other words, the methodological approach lacked consideration of communities of practice or groups of people sharing common concerns and interests, as well as actors interacting regularly as they act and learn together (Wenger, 1998).

To deal with this potential flaw of the TVH approach, Ogisu (2014) included participants from diverse organisations in her study. She observed how different communities of practice – which sometimes include the same individual – interacted and negotiated with each other. Ogisu interviewed personnel from donor agencies, national ministries, provincial and district governments, and local schools. She also conducted participant observations in four teacher meetings and in 32 lessons at 10 schools along the horizontal axis. Her findings indicated that the original policy meanings set out as part of the Cambodian pedagogical reform conveyed contradictory messages to the teachers as the policy recipients.

It is true that Vavrus and Bartlett had not explicitly conceptualised communities of practice in their framework until recently (Bartlett & Vavrus, 2017), and hence at the time of Ogisu's research. In their latest book, however, Bartlett and Vavrus comprehensively explain the TVH approach and acknowledge the significance of communities of practice. By citing Erickson's words that 'all humans participate in

multiple local communities of practice and take action opportunistically within them' (Erickson, 2011, p. 32), Bartlett and Vavrus (2017, p. 10) appreciate individuals' belongingness to multiple communities of practice that can alter over time. Underpinned by actor network theory, moreover, the TVH approach represents not only human relationships but also nonhuman actors playing roles in manifold communities of practice. It is imperative that a TVH study examines how 'object actors' including policy documents and textbooks get enrolled and become accountable to the networks (Bartlett & Vavrus, 2017). Further, and according to Wenger (1998) who developed the concept of communities of practice, power and meaning at the international level affect communities of practice in local settings. The TVH correspondingly emphasises the global–local connections between multi-scales, indicating its acknowledgement of communities of practice. Therefore, the TVH case study explicitly embraces the importance of communities of practice.

Feasibility and practicality can be another challenge when conducting a TVH study. Bartlett and Vavrus recognise that approaching all three axes equally and in depth requires a vast amount of human and financial resources. The authors recommend carrying out the TVH investigation as a team (Bartlett & Vavrus, 2014a; 2017); but this is not always possible. They nonetheless appreciate that some studies have applied only two of the three axes, if not just one (Bartlett & Vavrus, 2017). My research employed the three axes, but I place primary focus on horizontal examination. I carried out transversal and vertical comparison mainly through secondary analysis of policy documents and a literature review. The findings from horizontal investigation are to be compared with the data from the other two axes. This will provide information about the influences of global discourse as well as the historical trajectory of the current practice of LCP in schools.

One other possible limitation of the TVH case study pertains to its methodological application. Derived from the anthropological tradition that Bartlett and Vavrus come from, the TVH case study endorses ethnography-oriented studies. It is grounded in interpretivist, constructivist epistemology which employs qualitative methods (Bartlett & Vavrus, 2017). Its conceptual basis derives from theories developed in anthropology, such as the extended case method, multi-sited ethnography and actor network theory. The researchers unequivocally criticise variable-oriented, quantitative research for its ignorance of context, unpredictability and the co-constructedness of human behaviour. At the same time, Bartlett and Vavrus (2017) appear to appreciate the usefulness of mixed methods:

[W]e assume that most readers intend to use primarily qualitative research methods, such as observation, interviewing, and discourse analysis, but we also emphasize that questionnaires or surveys can help to gain a comparative perspective. (p. 7)

The authors introduce in detail the survey method for collecting quantitative and qualitative data to help investigate what is represented by the three axes (Bartlett & Vavrus, 2017). Nonetheless, there is little clarification as to how a researcher can utilise and incorporate a quantitative strand into the TVH approach; this is reflected in the much smaller number of mixed methods approaches in existing TVH studies compared to qualitative studies. Even when some researchers used quantitative and qualitative methods, their research could be described as qualitative studies with an addition of quantitative data, rather than mixed methods research with 'a specific research design that includes rigorous, systematic and the planned use of different quantitative and qualitative methods for collecting and/or analysing data in the same study' (Cara, 2017, p. 195).

For example, Shriberg (2008, 2009) describes her TVH case study in Liberia as mixed methods research, but with little attention to the above criteria. The study examined how the policy intentions of international and national government affected teachers' well-being. Blending the vertical and transversal axes, the researcher outlines a brief history of international recognition of education as a basic human right. Within the horizontal axis, Shriberg designed a heterologous case study. She conducted interviews with teachers and policymakers and distributed questionnaires to teachers. The researcher also carried out participant observations in primary, secondary and university classes. Her study identified that a list of teachers was not updated at the national level, causing confusion about who should get paid. During delivery of cash from the central government to teachers, the money often disappeared due to the broken down infrastructure and district education officers' 'broker[ing]' (Shriberg, 2009, p. 207) their salaries. As a result, the teachers received too little salary to maintain their basic life needs. Coupled with low social respect for the teaching profession, these circumstances left teachers demoralised and weighed down with low self-esteem. Shriberg's work demonstrates the interconnectedness of global, national and local scales by integrating the three axes of the TVH approach. Her dynamic tracing of the international and national history of policy enactment illustrated a puzzling situation in the Liberian education system. Confusion at the policy level provoked the devastation of teacher well-being, as substantiated by the horizontal comparison.

While Shriberg exemplifies the inextricable link between multi-scales, the research was designed not as 'mixed methods research' but as a qualitative study aided by questionnaires. The author seldom discusses the issues crucial to mixed methods research, such as: mixing of ontological and epistemological stances; the level and timing of interaction of quantitative and qualitative datasets; and integrating quantitative and qualitative findings (Creswell & Plano Clark, 2011). The relative priority

given to the two data types also did not receive attention in her study. As a result, quantitative analysis ended up merely presenting descriptive statistics and frequencies of certain responses. More rigorous data analysis – such as data transformation, correlation, comparison and/or integration (Onwuegbuzie & Teddlie, 2003) – would have corroborated her findings.

Given the lack of explanation as to the relevance or irrelevance of mixed methods, my research attempts to expand the TVH framework methodologically. I propose the use of mixed methods when investigating the horizontal axis. Integrating quantitative components with a qualitative case study would not harm but add richness to the data. To elaborate as to why and how I utilised mixed methods, I now discuss a mixed methods research design using a case study approach employed across the horizontal axis.

4.3 Research Design

Along the horizontal axis of the TVH approach, this research applied a mixed methods methodology using a case study approach in the research design. In explaining my methodology, the following section considers the advantages of the mixed methods approach in relation to how it better addresses the research questions in this study. I will also present the challenges in applying a mixed methods research design and explain how I overcame them. A specific mixed methods research design, the qualitative-led embedded mixed methods design (Creswell & Plano Clark, 2011) will be introduced, along with the changes of the research questions and the design over the course of my research. After the explanation of the mixed methods methodology and the accompanying research design comes a discussion of the case study design. The section explicates the strengths and potential pitfalls of a case study approach. This is followed by an introduction to the embedded multiple-case design (Yin, 2014) along with the case selection criteria. Mixed methods and case study research designs were employed within the horizontal examination of the TVH framework. To explicate how I explored the transversal and vertical axes, Section 4.3.3 discusses the data sources and my approach to policy analysis within the two axes. I conclude this section by reiterating how I linked the three axes.

4.3.1 Qualitative-Led Embedded Mixed Methods Design along the Horizontal Axis

Employing a mixed methods methodology, this study utilised a total of six qualitative and quantitative methods within a mixed methods research design. The reasons for using mixed methods are fourfold: the value of two contrasting paradigms; several

strengths of the mixed methods approach; suitability to answer the research questions; and possible contributions to a new application of the TVH framework.

Pertaining to the first point, I appreciate the value of different paradigms, as elaborated at the beginning of this chapter. The dialectical view of paradigm argues that mixing methods underpinned by different philosophical stances (i.e. constructivism and positivism in my research) can generate a better understanding of data. An effort to overcome a conflict or contradiction by means of a dialogue between contrasting paradigms will lead to a synergy of distinctive stances toward knowledge (Greene et al., 2001). In the dialectical approach, the use of multiple paradigms should be made explicit and honoured; not only does it apply both quantitative and qualitative methods but it deliberately invokes different paradigms for the sake of better understanding. The first section of this chapter clearly states and justifies the use of both constructivism and positivism and embraces different views of knowledge. Pedagogy is culturally and socially embedded (Alexander, 2004, 2008), which constructivism stresses. The ontological relativism featured in constructivism also suits this study's attempts to address the lack of children's voices in the previous literature. At the same time exploring a possible contribution of LCP to pupil learning required quantitative data accompanied by the positivist perspectives. I gathered qualitative and quantitative datasets concurrently while bearing in mind that integration of the both would produce more complete, coherent and analytic inferences than one paradigm alone could provide (Greene & Caracelli, 1997).

In addition, mixed methods were chosen in relation to their strengths for four reasons. Firstly, mixed methods can answer research questions that may not be addressed by either quantitative or qualitative methods alone. The former method generally undertakes confirmatory research questions to test a theory, whereas the latter engages with exploratory research questions to generate a theory (Tashakkori & Teddlie, 2003). What shall we do if we wish to simultaneously answer confirmatory and exploratory research questions, such as in my case? The questions about how Tanzanian primary schools actualise globalised LCP policies, and how and why the ideological and historical background of Tanzania affects this, require an in-depth description of cultural phenomena to be explored through qualitative approaches. Interviews and FGDs collected narratives on how teachers and pupils had been experiencing learner-centredness in schools, and how they viewed child–adult relationships in wider society. The teachers also reported their perceptions of Nyerere's beliefs about education and his ideological influence on the teachers' practices. Regarding the other aspect, the research questions inquire about the statistical relations between the observed level of LCP implementation and pupils' perceptions of their classroom experiences, and the relations between the observed level of LCP

implementation, pupils' views of LCP, and their learning outcomes. Tackling these questions needs the quantification of several variables to run regression analysis. The data from structured observations, questionnaire responses, and pupil exam scores assessed associations between LCP implementation and learning outcomes. Hence, mixed methods enabled me to investigate both exploratory questions for theory generation and confirmatory questions for theory verification in a single study.

The third rationale is to triangulate the methods. Triangulation of methodologies can corroborate research validity by offsetting the weaknesses of qualitative or quantitative methods when employed alone (Greene, Caracelli, & Graham, 1989). Criticism of quantitative research often focuses upon its ignorance of contexts, in that the surrounding environments and people's voices are not often studied in detail (Creswell & Plano Clark, 2011). This tendency may lead quantitative researchers to assume the universal applicability of their findings or the tested theory regardless of social settings. Qualitative studies tackle these problems, but they sometimes face accusations relating to their subjective choices and interpretations. The small number of participants involved in such research also makes it difficult to apply the results to other groups. In bringing together multiple sources of data, my study aimed to minimise these challenges within each strand. The structured observations, questionnaires and exams included a large number of pupils, though I was not necessarily aiming for population generalisation from the purposefully-selected cases. The unstructured observations, semi-structured interviews and FGDs were sought for context-specific information from the participants, with an awareness of my personal bias. Combining and comparing quantitative and qualitative findings derived from these data sources possibly led to a more comprehensive understanding of how LCP is implemented and what contributions it can make to pupil learning. Examining coherence and incoherence of the results between different data sources, and providing explanations for it, will also add a greater validity to the study (Creswell & Plano Clark, 2011).

Related to the purpose of triangulation, mixed methods allow researchers to elaborate and illustrate statistical results with narrative details (Bryman, 2006; Greene et al., 1989). Identifying factors related to LCP implementation and comparing pupils' learning experiences with policy intentions require both qualitative and quantitative data. Structured lesson observations and questionnaires looked into variables influencing LCP implementation and pupil perceptions in a quantifiable way. Interviews and FGDs add narrative elements to the numerical evidence, elaborating how and why the quantitative variables may affect LCP implementation in different schooling conditions. As with the triangulation rationale, such explanation and elaboration functions in mixed methods provide a more comprehensive picture of the phenomena, such as my research is attempting to uncover.

Lastly, the relative lack of mixed methods studies on LCP implementation pointed out in Chapter 3 motivates its use. Schweisfurth (2011) and Frost and Little (2014) cast doubt on potential methodological imbalance in the studies on LCP implementation in developing countries, with few utilising large-scale, quantitative enquiries. My review of the existing studies also revealed a disproportionate application of qualitative methods compared to mixed methods or quantitative studies. The research also addresses the relative shortage of mixed methods studies using the TVH approach. Similar results arising from methodologically-contrasting studies can substantiate each other (Firestone, 1987). An addition of mixed methods research may thus contribute to methodological triangulation for the literature on LCP implementation in developing countries' contexts.

The above accounts demonstrate the advantages of mixed methods, but mixed methods research also entails several challenges. One of the most notable questions arises from mixing epistemologies from the quantitative and qualitative approaches. This is exemplified by a heated 'paradigm war' which has been happening since the late 1980s when mixed methods research emerged as a distinctive methodology (Tashakkori & Teddlie, 2003). By presenting and comparing different approaches to mixing paradigms, Section 4.1 has justified the use of constructivism and positivism in my study. Furthermore, inconsistency between qualitative and quantitative researchers in ensuring inference quality may result in challenges in meeting the quality criteria of both datasets (Teddlie & Tashakkori, 2003). Section 5.6 recognises and addresses this issue, discussing validity and reliability in mixed methods. The section clarifies how I applied a different, sometimes contradictory, standard of data quality in qualitative and quantitative methods.

Another point to consider when using mixed methods concerns feasibility and practicality. As Creswell and Plano Clark (2011) warn, conducting rigorous mixed methods research requires extensive research skills, time and resources. The researchers should ideally be trained in both qualitative and quantitative techniques separately, and nurture enough research experience before carrying out a study. I had originally been trained in an anthropological methodology as part of my master's degree. Prior to my fieldwork, the doctoral course at my university had offered teaching on a range of quantitative, qualitative and mixed methods data collection and analytical approaches. The feasibility of mixed methods research is another challenge. The research design with mixed methods can involve substantial time collecting and analysing both datasets (Creswell & Plano Clark, 2011). It can also demand more human and material resources, posing the question of practicability. The support from the local organisations, schools, and governmental officers in Tanzania, as well as financial assistance from a few organisations helped me achieve practicability in

carrying out mixed methods in my fieldwork. Mixed methods research entails shortcomings with respect to mixing epistemologies, practicability and researchers' ability to carry out both methods; but if undertaken adequately, triangulation helps corroborate the findings of qualitative and quantitative methods. The use of mixed methods can methodologically triangulate the studies on LCP implementation as well as the studies utilising the TVH case study. Having considered the advantages and disadvantages of mixed methods study, I now explicate the mixed methods research design.

With the mixed methods methodology, the study employs a 'qualitative-led, embedded mixed-methods research design'. This approach embeds qualitative and quantitative data collection and analysis within a traditional qualitative research design (Creswell & Plano Clark, 2011). As mentioned earlier, the qualitative approach guides the overall research design, with a supportive role played by the quantitative approach within my research. The purpose of combining the two data types is that a single data type does not suffice to answer the overall questions. The embedded design postulates that different questions require different data types. In this study, the research questions to look for statistical associations required quantitative data. Other research questions were led primarily by qualitative data, although quantitative datasets were also utilised. The philosophical assumption in this design depends on the primary approach, or the qualitative strand within the constructivist paradigm in my study.

However, the choice of the qualitative-led, embedded mixed-methods design was not straightforward. The original research design has changed over the course of data collection and analysis. The thesis initially placed equal importance on qualitative and quantitative methods. My research focus nonetheless shifted due to the nature of the data collected, from what I had planned to collect to what I could actually gather in the field. I made several on-the-spot decisions to adjust to the condition of and availability in the field. The changes I made in my methodological approach were discussed with my supervisor along the way, and agreed upon considering the consistency and overall integrity of the research. Below I explain how and why the changes happened, illustrating the messy aspects of data gathering and analysis.

The extent of LCP implementation, which had been set out as the primary independent variable in statistical analysis, varies between classrooms and not between pupils. In other words, those who sit in the same class receive the same input. To make a statistical inference at the classroom level as to whether the degree of LCP implementation in one class statistically relates to learning outcomes, dozens of classrooms needed to be observed. Prior to the fieldwork, I estimated several streams of Standard 6 existing per school. Specifically, I planned to visit six schools, from which I would select two English and two mathematics classes. This would have put the

number of streams at 24. In each class I intended to observe two lessons, such that the number of structured lesson observations was 48. This number would have enabled me to conduct inferential statistics at classroom- and individual-level data, estimating the association between the degree of LCP implementation and learning outcomes while adjusting for other factors (Diamond & Jefferies, 2001).

Nevertheless, the number of streams in one school was far smaller than my expectation. Most schools had only one stream, and four schools had two streams at the largest. The shortage of classroom-level data meant that I needed to visit more schools than I had initially planned (i.e. six schools). This was due to the need to include a large enough number of pupils for individual-level data. An *a priori* power calculation, which will be explained in the section on Case Selection, indicated a need of approximately 1,000 pupils in order to run a quantitative analysis at the pupil level. Hence, instead of observing one teacher's lesson twice, or observing the same pupils twice, I decided to prioritise increasing the number of schools to visit. This would allow me to gather data from as many pupils as possible.

At the same time, time and financial constraints meant that I had to complete data collection within a few months. The academic year in Tanzania runs from January to December. My fieldwork started from September 2015, and the first one and a half months were spent acquiring the necessary permissions and conducting a pilot study. The actual data collection began in mid-October 2015. Considering the subject topics covered in the pupil exam for this research, I needed to approach those who were nearly at the end of Standard 6; therefore, I had to finish data collection within the 2015 academic year. What was more, one of the research assistants, Manyama Anania, a former secondary school teacher, informed me that schools usually start end-of-year examinations in the first week of December. During this examination period, teachers would not carry on with normal lessons. I needed to visit as many schools as possible before December. I thus decided to reduce the number of structured observations per class from twice to once.

Although I could manage to conduct the research at more schools than the initially-planned six schools, the number of classroom observations did not reach the level required for robust statistical analysis, as I had only 17 classes in the end as opposed to the planned 48. The research questions and its design consequently needed amendments along with the shift of priority on qualitative and quantitative datasets.

The research questions originally set out were as follows:

A. How is Tanzania implementing LCP in primary schools given the historical/ideological context of the country's education system and provision?

1. How are the international and national policies of LCP being actualised in schools?
 2. What school, classroom and teacher factors associated with LCP implementation influence pupils' learning practices in the classroom?
 3. Does the implementation of LCP vary between schools and what factors account for observed variation?
 4. How and why might the ideological and historical background of Tanzania facilitate or impede the implementation of LCP?
- B. Is LCP effective in improving students' outcomes? If so, what specific contributions can LCP offer their learning?
1. Do pupils undergo the intended learning experience that LCP envisages?
 2. Are pupil views toward their learning experiences related to the levels and consistency of LCP implementation in their classroom?
 3. Are pupil achievement levels varied, and is the variation associated with the levels and consistency of LCP implementation in their classroom?

After gathering the available data, I revised these questions as follows:

- A. How is Tanzania implementing LCP in primary schools given the historical/ideological context of the country's education system and provision?
1. How are the international and national policies of LCP being actualised in schools?
 2. How does the implementation of LCP vary between schools, considering the school, teacher and/or pupil characteristics unique to the schools?
 3. How and why might the ideological and historical background of Tanzania facilitate or impede the implementation of LCP?
- B. Is LCP implementation associated with pupils' perceptions of classroom experiences and/or their learning outcomes? If so, which specific pupil perspectives relate to LCP implementation?
1. Do pupils undergo the intended learning experience that LCP envisages?
 2. How do pupils perceive their experiences in their classrooms and schools in relation to learner-centredness?
 3. Are pupils' views of their learning experiences related to the levels and consistency of LCP implementation in their classrooms?
 4. Do pupils' academic performance and learning attitudes vary between schools? If so, is this variation associated with the levels and consistency of LCP implementation in their classrooms?

Although the original set of research questions put equal weight on qualitative and quantitative datasets, qualitative data gained more importance in the revised version. Under the first overarching question, I removed the second question, or 'What

school, classroom and teacher factors associated with LCP implementation influence pupils' learning practices in the classroom?' The question had intended to test the effects of classroom and teacher factors concerning the degree of LCP implementation, but this became nonessential given the small number of observed classes. The initial third question, 'Does the implementation of LCP vary between schools and what factors account for observed variation?' also came under the first overarching question. It now reads 'How does the implementation of LCP vary between schools, considering the school, teacher and/or pupil characteristics unique to the schools?' The question explores the context behind LCP implementation rather than seeking to determine the effects of some factors at the implementation level.

The second overarching question in the initial set, 'Is LCP effective in improving students' outcomes? If so, what specific contributions can LCP offer for their learning?' was tendentiously worded. It presumed that 'improvements' were likely. I reformulated it more neutrally to ask 'Is LCP implementation associated with pupils' perceptions of classroom experiences and/or their learning outcomes? If so, which specific pupil perspectives relate to LCP implementation?' Under this overall question, I added one question which was 'How do pupils perceive their experiences in their classrooms and schools in relation to learner-centredness?' This was because, when analysing the FGD data, I realised the significance of the pupils' narrative accounts in answering the second overarching question. To reflect the research aim that 'learning outcomes' include not only academic achievement but also learning attitudes, I rephrased the original third question, 'Are pupil achievement levels varied, and is the variation associated with the levels and consistency of LCP implementation in their classroom?' to 'Do pupils' academic performance and learning attitudes vary between schools? If so, is the variation associated with the levels and consistency of LCP implementation in their classrooms?'

Revision of the research questions occurred alongside changes in the research design. In the beginning the study was prepared to employ a convergent parallel design (Creswell & Plano Clark, 2011). I had arranged to concurrently carry out both qualitative and quantitative strands – from forming questions to gathering and analysing data – in a single research phase. With the original research questions that evenly attended both data types, the convergent parallel design ascribed equal priority to them both. However, the weight put on the two datasets had shifted more toward the qualitative strand. The quantitative strand came to play a subsidiary role in the research. With these changes the embedded design (Creswell & Plano Clark, 2011) suits my research better than the convergent parallel design. On one hand, both convergent parallel design and embedded design share a similarity in that a researcher collects and analyses both datasets separately but simultaneously (Cara, 2017). On

the other hand, the embedded design awards more priority to one type of data, while the other type provides a subservient function.

The embedded mixed-methods design also suits my research purpose and procedure better than other mixed methods designs, such as the sequential design or the multiple phase design (Creswell & Plano Clark, 2011). Both sequential and multiphase designs entail more than one research stage, which contrasts with my research design. In the sequential design the collection and analysis of either quantitative or qualitative data occurs separately. The second phase builds on the results from the first stage, gathering and analysing the other type of either quantitative or qualitative data. This mixed methods design aims at either supplementing quantitative data with qualitative findings, or testing or generalising the qualitative results using quantitative information. The multiphase design combines the convergent and/or sequential design(s) over more than one research phase. Researchers often choose this design for programme evaluation and development, where they adapt and improve a particular program over a period of time. Unlike these two research designs my research collected quantitative and qualitative data at the same time but separately, and it analysed each type of data independently. Here each type of data does not rest on the results from the other. Therefore, the embedded design, with priority placed on qualitative data and with the simultaneous collection and analysis of both datasets, fits with the research aims and procedure that I decided upon.

In conclusion, my research has attempted to advance the applicability of the TVH case study using mixed methods while maintaining the primacy of the TVH conceptual framework. I aimed to find out whether integration of qualitative and quantitative methodology can achieve the ultimate goal of the TVH case study, that is, 'to develop a thorough understanding of the particular at each level and to analyse how these understandings produce similar and different interpretations of the policy, problem, or phenomenon under study' (Bartlett & Vavrus, 2014b, p. 166). I also hoped to go beyond this intention by exploring how the transversal, vertical and horizontal interrelations translate into learning outcomes or quality of teaching and learning in Tanzania. The mixed-methods embedded design along the horizontal line would help attain these research aims, and this was accompanied by a case study research design.

4.3.2 Embedded Multiple-Case Study Design along the Horizontal Axis

While employing the TVH approach as an overarching methodological framework, the embedded multiple-case design was chosen to design the case studies of schools along the horizontal axis. Case study is an encompassing approach to empirical research rather than a method (Yin, 2014; Stake, 2003). Even though case study

research often takes on an array of qualitative inquiries, Yin (2014) suggests that the quantitative approach can also form a part of a case study. The horizontal analysis of the TVH compares the contextual conditions situated within each case.

Case study research possesses several advantages. As case study can elucidate the uniqueness of cases through detailed narratives (Thomas, 2011), it would allow me to explore the particularities of how different schools implement LCP distinctively, and why this occurs. Additionally, cross-case comparison across varied contexts could uncover how each case distinctively or similarly enhances or inhibits LCP implementation. The case study approach also addresses research questions inquiring into the reasons and processes of an observed phenomenon. The research question on what school factors might explain the variation of LCP implementation needs several cases to be looked at in detail. Data from collective cases also contributes to answering how and why Tanzania's history and cultural ideology may affect LCP implementation. The characteristic of case study to utilise multiple sources of evidence permits triangulation of data to answer these 'why' and 'how' questions (Stake, 2003). Furthermore, my research does not aim to manipulate behaviours or deliver LCP interventions, but attempts to explore a real-world, 'naturally-occurring' phenomenon, as is the purpose of case study (Yin, 2014).

Similar to any other methodological approaches, the case study approach is seen as having several shortcomings. The most often cited critique is the question of generalisability, that is, a detailed account of one or a few cases cannot produce universally applicable information. Nevertheless, as Flyvbjerg (2006) argues, knowledge generated in social science tends to be context-dependent. Greenhalgh and Russell (2009) relate this point specifically to policy analysis, claiming that the process and outcomes of policy implementation must be complex and must depend on given situations. Thus, an in-depth explanation of each case, rather than a breadth of analysis, can provide context-specific understanding of the cases. This will lead to an analytical generalisation, aimed at expanding a theory's applicability, as opposed to statistical generalisation to estimate the population characteristic from probabilistic sampling (Yin, 2014). This study was designed to collect different kinds of information with multiple methods in order to understand the distinctiveness of each case. After analysing them separately I present a general observation of LCP at the country level. This is not to assume that the results apply to the whole population of Tanzania; rather, the overall account draws on my review of the literature and contextualised understanding from the field. It attempts to generalise the findings analytically on how schools in Tanzania practice LCP and how and why this may be associated with learning outcomes.

Critics of the case study approach also warn of the subjective nature of its

knowledge accumulation; but subjectivism in a case study is not necessarily more or less problematic than within other research strategies. Even though deductive, hypothesis-driven quantitative methods are generally considered to be objective, such methods also entail subjective judgements (Flyvbjerg, 2006). Which instruments to be used and what variables to include in analysis are often arbitrary decisions made by quantitative researchers, with these decisions not often explained or even recognised. All research involves personal bias. What is important is whether the researchers reflect their research processes and transparently acknowledge their own subjective decisions. Throughout the thesis I will be transparent about the decisions and actions I took and provide justifications for these. In Section 4.8, I also undertake the practice of reflexivity, discussing how my presence may have affected the research process and the data generated.

Furthermore, subjective choice and interpretation common to the case study can build their own rigour. As a research approach looking deeply into real-life phenomena, it can clarify causal mechanisms – that is, how and why the phenomenon happens – in contrast to causal effects – that is, what causes the phenomenon to happen (Gerring, 2004). The research questions consider the process of LCP implementation, as well as the reasons behind the implementation practice and behind its relationship with learning outcomes. The case study strategy enables me to answer these questions by interrogating how and why the phenomena emerge in a given context. Given these rationales, the case study approach fits well with the aims and methodological framework of my research; and the application of embedded multiple-case design (Yin, 2014) facilitates the importance of using the case study.

This study examines multiple cases with embedded unit design, exploring more than a single unit of analysis embedded within more than one case (Yin, 2014). Individual schools form a unique single case, each of which contains multiple units of analysis at pupil, teacher, classroom and school levels. Schools include classrooms, a composite of physical facilities, educational resources and teachers. Because pupils, teachers and classrooms are situated within the schools, data from each of them constitutes a part of the school cases. Quantitative data at the pupil level represents one unit of analysis by itself, but simultaneously it exemplifies a part of one school case. In the same manner, qualitative data from pupils, teachers, classrooms and schools provides detailed inquiry for the school cases. The smaller units of analysis thus are accumulated into larger units.

Within this design a case plays an instrumental role (Stake, 2003; Thomas, 2011), where my interest lies in both the particularities of each case and its transferability to the broader context. I scrutinise single school cases and their context in depth; but the ultimate goal is to provide an aggregated understanding of LCP

implementation beyond individual schools. The former is a vital source to produce a wider implication applicable to the Tanzanian context. My instrumental case study approach therefore draws on the results from both individual and multiple cases. An instrumental case study contrasts with an intrinsic case study, where a researcher gathers data from a particular case (Stake, 2003). An intrinsic interest lies in the case itself, and its distinctive and ordinary features.

The process-oriented approach (Maxwell, 2013; Becker, 2009) undergirding the TVH framework suggests *emergent research design* as opposed to *a priori bounding* of the design (Bartlett & Vavrus, 2017). The TVH case study applies iterative and contingent design to the research because researchers often encounter relevant phenomena and factors in the field. Nevertheless, Bartlett and Vavrus (2017) also recognise that various factors – such as research focus, researchers' skills, available time and resources – can determine the extent to which the researcher structures the study in advance. In establishing the embedded multiple-cases in my research, I set three *ex-ante* criteria for case selection. This was because my review of the literature identified a few contextual factors seemingly critical to LCP implementation in low-income countries. These included school location and types, which will be detailed shortly. The research questions formulated based on the literature review, such as 'How does the implementation of LCP vary between schools, considering the school, teacher and/or pupil characteristics unique to the schools?' necessitated including schools, teachers and pupils with a variety of features. Addressing the second overarching question – 'Is LCP implementation associated with pupils' perceptions of classroom experiences and/or their learning outcomes? If so, which specific pupil perspectives relate to LCP implementation?' – and all the questions that fall under this overarching question also necessitated finding schools with distinctive conditions. Hence, due to the identified contextual variability plausibly enabling a comparison with existing studies, I specified the case selection criteria in preparation for the fieldwork.

Although I 'bounded' the case *a priori*, I acknowledge the fluidity and changing nature of cases. Bartlett and Vavrus (2017) admonish bounding cases due to its tendency to 'stubbornly refuse to distinguish phenomenon from context, often defined implicitly as place' (p. 39). To adhere to this ethos of the TVH approach, my analysis of data will embed results within contextual information. The pedagogical components that the conceptual framework (Figure 3.1) delineates – involving culture, history, policy, curriculum, assessment – will constitute a vital part of the analysis. Additionally, in the field, I continued to be flexible by adjusting research questions and research design, as was explained earlier. The process of case selection also altered according to the available means in the field. The initial selection criteria included: location (urban or rural); school types (public or private); and differing levels of LCP implementation

(high or low). However, the third criterion turned out to be arbitrary for reasons I will explain later, hence it was excluded from the categories of the embedded multiple-case design.

Each criterion addresses the issues pointed out by the prior literature on LCP implementation. Firstly, a number of studies have drawn inferences from urban–rural disparities in explaining their findings. The scarcity of resources hinders LCP implementation that encourages hands-on, creative learning (Schweisfurth, 2011; Kasanda et al., 2005). Rural schools are particularly under-resourced compared to urban schools (Brodie, Lelliott, & Davis, 2002; Thompson, 2013). They are also likely to have larger class sizes than their counterparts (Ackers & Hardman, 2001; Mtahabwa & Rao, 2010). These factors apparently hamper one-to-one student–teacher interactions and individualised activities. A large class size also forces the teachers to spend more time on classroom management and less on actual teaching. Further, Wang (2011) argues that the lower academic level of rural children urges their teachers to use teacher-centred pedagogy which is more time-efficient. O’Sullivan’s (2004) case study in rural Namibia also revealed that the teachers were largely unqualified or underqualified in rural areas. This possibly made it hard for them to understand the concepts and/or values of LCP, O’Sullivan argues. Given the unequal teaching and learning conditions between urban and rural schools, my study probed circumstances specific to the location of the schools, which may explain the varied extent of LCP implementation. I especially noted resource-richness, the number of pupils in class, and the attributes and backgrounds of pupils and teachers to compare their characteristics across different localities.

Similarly, public–private discrepancies appear to create different degrees of LCP appropriation. Private schools are better resourced and said to offer more quality education (Westbrook et al., 2009). Thompson (2013) claims, based on questionnaires and interviews carried out with teachers in Nigeria, that the resource-rich conditions with a smaller number of students in private schools provide a learning environment conducive to developed countries exporting LCP. He professes that implementing LCP first in middle-class private schools in urban areas would bring success for LCP appropriation in developing countries. At the same time, private schools may experience more exam pressure relative to public schools. The advantaged families, who are more likely to support the academic success of their children than disadvantaged parents would do, send their children to private schools (Altinyelken, 2011). This gives the teachers reasons to stress the importance of covering the syllabus and exam questions. They tend to practice fact-based teaching to align with the exam questions. My study interrogates how such variabilities between public and private schools are evident in relation to the extent of LCP implementation. It also asks

what factors related to the disparity between public and private schools may lead to certain levels of learning outcomes of the pupils.

The last criterion, high or low implementation level of LCP, was originally set to ensure the variability of LCP among the schools. Most of the previous research on LCP conducted in Tanzania (e.g. Vavrus, 2009; Barrett, 2007; Paulo, 2014) indicates the absence of its implementation. I hoped to avoid a situation where I would find little LCP practices across all schools, because this would inhibit inferring statistical associations between the level of LCP implementation and learning outcomes. Before embarking on the fieldwork, I had planned to refer to government records of LCP practices to select high- and low-implementing schools. However, my visits to administrative institutions revealed that neither ministries nor local governments had recorded LCP levels using a consistent means of measurement. To help detect the LCP variations as much as possible, I alternatively asked district education officers (DEOs) to select the schools that seemed to implement LCP relatively more and those that implemented LCP relatively less. Even if the DEOs selected schools according to the LCP level, nonetheless, its observed level did not necessarily match the officers' expectation; teachers acted in a more teacher-centred manner at some 'high LCP schools' than teachers did in 'low LCP schools', as explained by the DEOs. Moreover, some districts did not have any data about LCP at schools, and the DEOs selected schools based only on the other two criteria of locations and school types. Thus, the criterion regarding the LCP level was arbitrary, depending on the officers' judgment, and was used only as a reference rather than as a de-facto criterion. I therefore excluded the extent of LCP implementation from my list of case selection criteria.

Combining the two criteria of locations and school types, Figure 4.2 presents the embedded multiple-case design. The four categories – urban public, urban private, rural public and rural private – provide a framework to consider whether each group demonstrates similar and/or contrasting phenomena. Within each categorised case I collected data using mixed methods. Hence, I examined the research questions and purposes with mixed methods using the qualitative-led, embedded mixed-methods design under the embedded multiple-case approach.

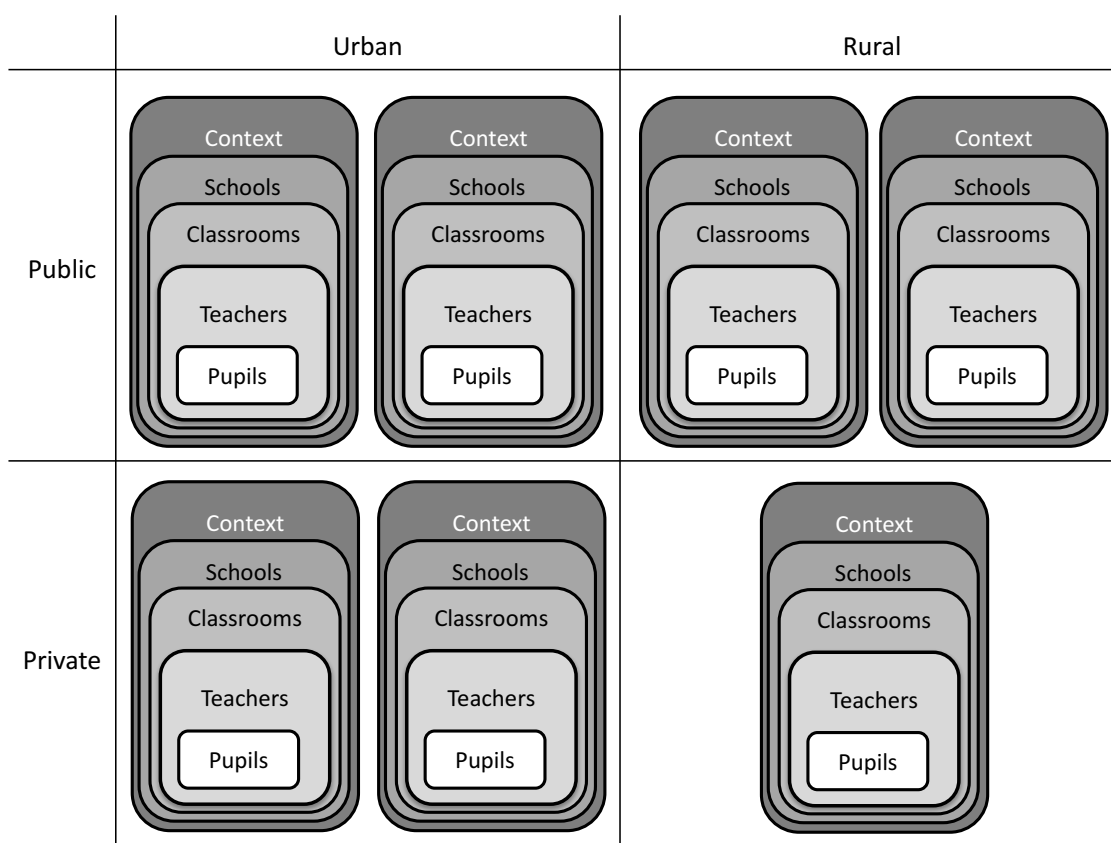


Figure 4.2: Multiple cases with embedded unit design
(adapted from Yin, 2014)

The methodological considerations discussed thus far have focused on horizontal analysis in the TVH framework. Yet examining policy implementation using the TVH axes requires tracing the history of the researched settings and multilevel analysis across international, national and local levels, which I will now explain.

4.3.3 Transversal and Vertical Investigations

The transversal and vertical examinations were conducted through literature reviews and document analysis, and then through a comparison of these with interview accounts from a son of Nyerere and the present teachers. To investigate the transversal component of LCP implementation in Tanzania, I first explored the trajectories of the country's educational development across time and that of international LCP policies across space. The transversal axis traces the historical and ideological foundation of Tanzania's educational development. It sketches education from the indigenous period to the pre-independence era. Much attention was given to postcolonial times, when the first president Julius Nyerere enacted ESR under the *ujamaa* policy. ESR promoted some of the concepts and features of LCP, such as hands-on learning and democratic teacher–student relationships (Nyerere, 1967).

In an attempt to obtaining Nyerere's personal view toward these dimensions of ESR, I visited Nyerere's birthplace, Butiama in the Musoma region. I interviewed one of Nyerere's sons, Mr Madaraka Nyerere. This occasion arose opportunistically after the main data collection was completed at schools; rather than a carefully planned interview, the interview was unstructured. I asked broadly about what Nyerere thought of: democratic student–teacher relationships; hands-on learning at school; downgrading of the importance of examination; cooperation with peers; and breaking the barriers between school and community. The interview data was used to inform how Nyerere personally considered his own educational policies and their visions.

The historical review of the literature and the narratives of the Nyerere's son were compared with the present teachers' accounts gained from semi-structured interviews. As I will explain in detail in Section 4.6.4, I asked how the current teachers understood Nyerere as a person and his *ujamaa* and ESR policies, and whether and how they thought the policies were reflected in the present schools. I aimed to explore whether and how Nyerere's philosophy influenced the pedagogical approach of the present-day teachers, as well as how the attention of ESR to learner-centred activities might have introduced nuances to current pedagogical practices in Tanzanian schools.

Not only the national policy development but the transversal appraisal also situates the present pedagogical change in Tanzania within an international sphere. By exploring the history of international policy development, I considered how the Western-born LCP has been spreading to non-Western countries over the past decades. The worldwide embracing of LCP concepts can be traced from the 1990 World Conference Declaration on Education for All (EFA), child-friendly schools (CFS) started in 1997, the 2000 Millennium Development Goals (MDGs), to the 2015 Sustainable Development Goals (SDGs). These agendas represent an effort to transmit LCP by the international bodies to individual developing countries. Hence, the transversal analysis historicises Tanzanian and international educational provisions across time and space.

As the transversal review of LCP and Tanzania moves toward more recent times, it eventually feeds into the vertical axis of the TVH model. The vertical investigation scrutinises the transmission of LCP policies from the international to national levels in the present time. I inquire into how the development agenda and donor pressure affect the formation of Tanzanian national education policies by the Ministry of Education and the Tanzania Institute of Education. Adaptation of LCP concepts in recent Tanzanian policies – such as the 2006 Primary Education Development Programme and the curricula for teacher education certificate and diploma programmes enacted in 2013 – are critically reviewed and problematised. I

aim to deconstruct the hegemonic influences of global education forces in the policy formation processes.

The transversal and vertical examination of LCP implementation at different levels and across time leads to a horizontal comparison of LCP appropriation through multi-sited case studies of local schools. The incorporation of the three axes interrogates how the current LCP implementation at the local level is situated within a particular historical, social, cultural and political context, and also within global, national and local discourses. Figure 4.3 below visualises the overall TVH framework applied to my research.

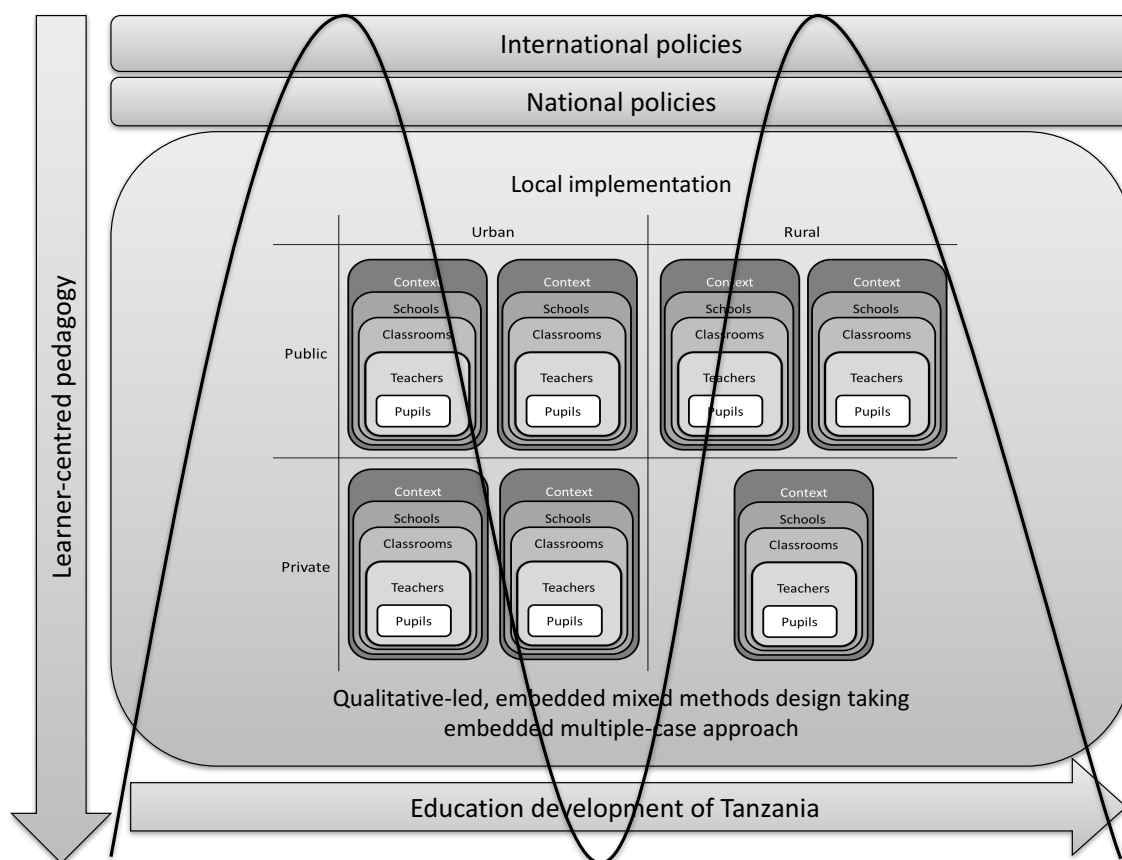


Figure 4.3: Research design within the TVH case study

4.4 Fieldwork along the Horizontal Axis: Local Support

In the following sections in this chapter, I explain how I gathered mixed methods data across the horizontal axis of the TVH case framework and related issues for data collection. I carried out fieldwork from September to December 2015. Conducting research in Tanzania as a foreigner requires a host institution. In the search for a local organisation which could support my research, I contacted the Economic and Social Research Foundation (ESRF) and gained an agreement that they would host me as a

visiting scholar. Established in 1994, the ESRF is a non-profit policy research think-tank, analysing social and economic policies and advocating for better policy implementation (ESRF, 2016). Their activities include educating young professionals in the area of policy research, under which category I was accommodated. Throughout my fieldwork the ESRF provided practical support for my data collection. The director of the ESRF wrote letters to the ministries and local governments to introduce me and my research. This facilitated my obtaining the research permit from the official bodies and starting the fieldwork. The ESRF also provided an office environment with a desk, a chair and a printer.

Two research assistants helped me throughout the data collection and analysis phases. I hired one intern working at the ESRF, Manyama Anania, to accompany me in Dar es Salaam. He was a master's degree student specialising in Secondary Education at a nearby university. As a former secondary school teacher, Manyama knew the administrative process I needed to go through to conduct my research at schools. He was also familiar with school environments and local areas, which was useful for locating schools and for arranging my research visits. After I gave a briefing on the purpose and procedure of the research, I had him sign a data protection and confidentiality agreement. In addition to providing on-site translations at schools, Manyama checked the accuracy of the translated documents, as is explained in Section 4.6.9. In the analysis phase, he translated the observation data from Swahili to English and rated classroom activities and pupil–teacher interactions for obtaining inter-rater reliability.

At the other data collection site of Kigoma, I recruited another research assistant, Samwel Kulinga. It seemed difficult to find a potential research assistant who could speak English in the remote area of Kigoma. Prior to my departure to Kigoma, I consulted with an executive director at an NGO based in Dar es Salaam. The director kindly introduced the NGO's local assistant in the region, who was a secondary school teacher with a master's degree in Education Management. I remotely contacted Samwel and received his agreement to assist me beforehand. Upon my arrival in Kigoma, I explained to him the research and his expected tasks, after which I obtained his agreement for the data protection policy and confidentiality. He helped me communicate with the government officers and the participants during the data collection in Kigoma. At the analysis stage, Samwel checked the transcription of interviews and lesson observations translated by Manyama from Swahili into English.

4.5 Pilot Study

Prior to the main study, I conducted a pilot study at one school in Dar es Salaam. It intended to check the data collection procedure with the six methods (which I will specify in the next section), including: unstructured observations; structured observations; semi-structured interviews with teachers; FGDs with pupils; self-administered questionnaires for head teachers, teachers and pupils; and pupil exams. The pilot study also tested the usage of all the instruments specifically in my research context. Finally, it validated the Swahili translation for several tools and letters, and examined whether all words and sentences made sense to the prospective participants. Here I summarise the process and outcomes of the pilot study; Appendix 1 presents them in more detail.

The school for the pilot study was permitted by a DEO and chosen on the basis of its proximity from the ESRF. I visited there with Manyama. Before any data collection began, we obtained signed consent forms from the head teacher and an English class teacher, and gave child assent forms to all Standard 6 pupils. Classroom observation of an English lesson took place first. I video-recorded the lesson for 20 minutes while jotting down what I noticed in the observation. I then asked the pupils to complete the English exam (Appendix 2) and questionnaire (Appendix 3), during which Manyama walked around the classroom and responded to several questions from the pupils in Swahili. While the pupils were working on their questionnaire, I sat down with the English teacher and went through the teacher questionnaire (Appendix 4) with her.

Manyama and I then carried out an FGD with three boys and three girls selected by the English teacher. Next a teacher interview took place in the teachers' room. Because the English teacher could speak English almost fluently, she and I spoke in English without Manyama's translation. Lastly, Manyama and I asked the same Standard 6 pupils to complete the maths test (Appendix 5). After this pilot study I analysed the data and revised the research instruments based on the questions and comments from the participants as well as on the results of the pilot data.

4.6 Data Collection Procedure

This section presents the procedure of the main study with the mixed-methods data collection sitting in the horizontal line of the TVH approach. I first explain how I selected cases and describe characteristics of the participants. I then elaborate the six methods used within the qualitative-led, embedded mixed-methods design. Each method centred on a different facet of pedagogy depicted in the conceptual framework (Figure 3.1) and had specific relevance to the research questions. I elucidate how each method links with the pedagogical elements of the conceptual framework and with the

research questions.

4.6.1 Case Selection and Participants

I selected cases using the replication logic with theoretical replication, where each case are chosen for their anticipated contrast based on theory (Candappa, 2017). Following this logic, purposive sampling for selecting information-rich cases in line with the research purpose and inquiries was applied. This is also in recognition that random sampling principles intending to generalise results from a large population do not apply to the selection of cases in this study.

The case selection in my study followed the maximum variation sampling strategy (Patton, 2015) at two stages of the regional and school levels. I purposefully selected a range of cases in order to obtain between-school variation on several dimensions of research interest, such as the extent of LCP implementation, academic achievement levels, school types and school locations. The variation in the first two dimensions was needed for analysing associations between LCP and learning outcomes. The third and fourth dimensions were meant to include a variety of schools, which might produce differing LCP levels according to the literature (e.g. Mtahabwa & Rao, 2010; O'Sullivan, 2004; Westbrook et al., 2009; Thompson, 2013) and in line with the embedded multiple-case design (Figure 4.2). With the maximum variation sampling strategy, I also looked for commonalities across schools regardless of diversity.

The first stage of case selection involved choosing two regions in Tanzania depending on the results of the Primary School Leaving Examination, following the sampling procedure employed by Ngware, Mutisya and Oketch (2012). Academic performance acted as one of the key outcome variables in the search for its possible associations with the extent of LCP implementation. In order to purposefully include a variation in pupils' performance levels, I chose two regions that particularly differed in this respect. Dar es Salaam, the economic capital of Tanzania, and Kigoma, one of the poorest regions located in the northwest end of the country (Tanzania National Bureau of Statistics, 2012; URT, 1998), were selected. They had consistently fallen in the top four or the bottom four respectively in the results of the Primary School Leaving Examination from 2009 to 2012 (MoEVT, 2010a, 2011, 2012, 2013a).

The next stage at the school level employed a purposive selection based on locations and school types, the two categories specified in the embedded multiple-case design. As explicated in Section 4.3.2, urban and rural schools as well as public and private schools exhibit distinctive schooling conditions, which previous studies claim to be significant in appropriating LCP (e.g. Mtahabwa & Rao, 2010; O'Sullivan, 2004; Westbrook et al., 2009; Thompson, 2013). Case selection of schools was designed to

contain a combination of the two categories within each region of Dar es Salaam and Kigoma.

The selection of the schools primarily depended on negotiation with the DEOs. Upon my arrival in the field, I obtained the ministerial authorisation to conduct my research in Tanzania, whose details are presented in Section 4.7. With the research clearance at the national level, I visited municipal councils in the Dar es Salaam and Kigoma regions. I first introduced myself to the DEOs and explained the reasons for my visit along with the research aims and procedure. To select the schools that I could visit, I proposed the initially-planned three selection criteria, including: 1) urban and rural schools; 2) public and private schools; and 3) high- and low-LCP implementing schools. As explained in Section 4.3.2, my original plan for case selection involved obtaining a list of LCP implementation from the DEOs and then randomly selecting six schools that represented each combination of these categories. However, on visiting the first few municipal councils I learned that the DEOs did not systematically record LCP implementation. Alternatively, I asked them, based on their knowledge, to provide the names of schools in both urban and rural areas, including: a high-LCP implementing public school; a low-LCP implementing public school; a high-LCP implementing private school; and a low-LCP implementing private school. As the criteria of 'high' or 'low' levels of implementation varied depending on the DEO's judgement, the third criteria became arbitrary at this point and hence was excluded from the definite criteria.

For conducting analysis at individual pupil's level, the *a priori* sample size calculation with G*Power, an open software for statistical power analysis, suggested that a sample size of 830 is necessary to detect an effect size of 0.02 ($\alpha = 0.05$, $\beta = 0.10$). Considering that there would be data inappropriate for analysis, such as missing data, I aimed to collect data from about 1,000 pupils (500 pupils in each of the Dar es Salaam and Kigoma regions) to perform robust statistical analysis at the individual level. From the lists of schools that the DEOs granted me to research, I chose the schools to visit (Table 4.1) on the basis of balancing the spread across school categories. In both regions, all private schools were chosen because only a total of four were permitted for my visit. Public schools were selected to balance the number of schools within urban and rural categories as much as possible. Appendix 6 provides details and justification regarding how I selected the individual schools.

Through the two-stage case selection at regional and school levels, data was collected from 1,024 pupils sitting in a total of 17 Standard 6 classes, 17 teachers, and 13 head teachers at 13 primary schools in the two regions of Dar es Salaam and Kigoma. I chose Standard 6 because Standard 7 pupils would be busy studying for the national exam, which was said to be memorisation-based (Bartlett & Vavrus, 2013;

Vavrus, 2009; Paulo, 2014). This possibly increases the teachers' tendency to use more teacher-centred practices in Standard 7 classes. Compared to lower grades, Standard 6 pupils would be relatively more capable of and comfortable with verbally expressing their views on classroom experiences. English (N = 7) and mathematics (N = 10) classes participated in the study.

Of the 13 schools, the five schools in Dar es Salaam had a total sample of 499 pupils (48.7%), and the eight schools in Kigoma had a total sample of 525 pupils (51.3%). In the embedded categories of the school cases, 509 (49.7%), 151 (14.7%), 326 (31.8%) and 38 (3.7%) pupils were in urban public, urban private, rural public and rural private schools respectively (Figure 4.4).

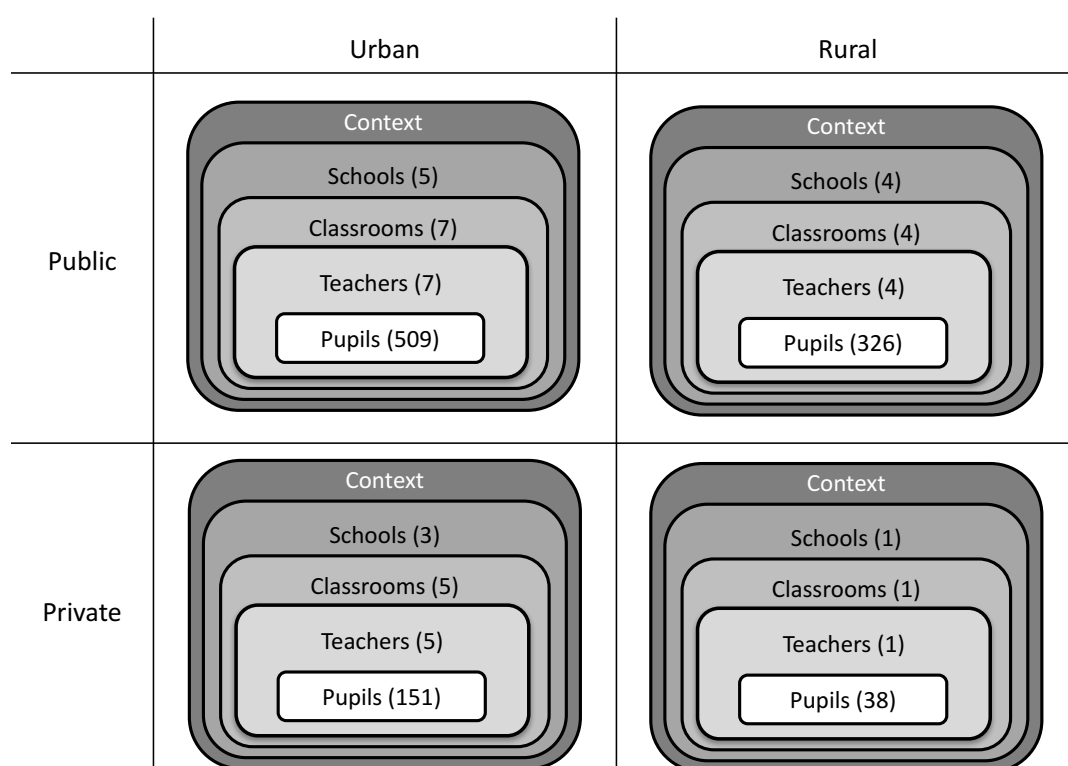


Figure 4.4: Number of participants

Table 4.1 shows the characteristics of the 13 schools that participated in the research. The number of schools in each category varies, partly because one district in Kigoma did not have any private school with Standard 6 as it was newly built, and partly because schools in Kigoma accommodated fewer pupils on average than those in Dar es Salaam.

Table 4.1: Characteristics of participating schools

	School pseudonym	Region	Enrolment	Number of teachers	Transition rate	Has electricity	Has water
Urban public	Amani	Dar	911	30	0.95	Y	Y
	Mwenge	Dar	1,804	45	0.97	Y	Y
	Umoja	Kigoma	637	18	0.61	N	Y
	Kwanza	Kigoma	959	19	0.72	Y	Y
	Bunge	Kigoma	641	24	0.09	Y	N
Urban private	Highland	Dar	338	22	1.00	Y	Y
	St. John	Kigoma	692	28	1.00	Y	Y
	Islamia	Kigoma	192	10	1.00	Y	Y
Rural public	Green	Dar	1,158	31	0.62	N	Y
	Baraka	Kigoma	697	21	0.05	N	Y
	Kisutu	Kigoma	235	12	0.86	N	N
	Siha	Kigoma	626	24	0.32	N	Y
Rural private	Kawe	Dar	549	27	N/A	Y	Y

Note on transition rate: average transition rate from primary to secondary school during 2012-2014 academic years. Kawe School had no data on the transition rate, as the school started in 2012 and had not produced any graduates at the time of my visit.

The average class size was 60.3 (SD = 32.7), but it ranged widely. Whereas the maximum class size at private schools was 40, Green (rural public) had 151 students attending the same lesson. Fifteen out of 17 teachers were male. Table 4.2 and Table 4.3 show the teachers' qualification levels and educational backgrounds.

Table 4.2: Teacher qualification

Qualification	Number
None	1
Certification	12
Diploma	3
Degree	1
Total	17

Table 4.3: Teacher educational level

Educational Level	Number
Secondary (O-level)	10
Secondary (A-level)	2
2-year diploma course	2
University / equivalent	3
Total	17

The proportion of male to female pupils was nearly equal: 506 male and 507 female pupils (11 missing) filled out the questionnaire and completed either an English or mathematics test. The return rate of the pupil questionnaire was 96.6%, whereas for the teacher questionnaire and the head teacher questionnaire this was 100%. Most pupils (N=715) were either 12 or 13 years old with an average of 12.7, but the ages ranged from 10 (9 pupils) up to 20 (2 pupils) (N = 983, SD = 1.2). This was partly due to not all pupils entering primary school at the official school age of 7, and partly because some pupils repeat the same grade(s) given inadequate performance.

4.6.2 Unstructured Lesson Observation

At each site for the main study, I invited Standard 6 pupils and teachers to participate in my study. All 13 schools had either one or two stream(s) of Standard 6, in which either English or maths classes participated. After obtaining their written and oral consent, each of the 17 classes was observed and videoed. I sat in front of or at the back of the classroom depending on the availability of space and a desk. While recording the lessons with the video camera, I took notes on what I saw, felt and experienced in relation to LCP features as much as possible.

To generate narrative accounts of the behaviours of the teachers and pupils in relation to LCP, I used unstructured observation. Without a pre-determined observation schedule, unstructured observation requires a researcher to develop as many detailed memos as possible on how the participants act (Bryman, 2016). It has the advantage of overcoming the limitations of interviews and questionnaires, or possible discrepancy between people's accounts and actual behaviour (McKechnie, 2008). However, a major concern of this method involves the observer effects. The mere presence of the researchers, especially when they are unfamiliar to the researched population, such as in my case, may well stimulate and alter certain behaviours (Robson, 2002; Bryman, 2016). My reflexive accounts in Section 4.8 will disclose possible effects of my identity and perceived social status on the research process. Throughout Chapters 6 to 9 on findings and analysis of data I will maintain transparency regarding how mine and my research assistants' presence may have impacted on the data generated.

The unstructured observation searched for teacher, pupil and classroom characteristics that may or may not be related to LCP implementation. By comparing different classrooms horizontally, it also aimed at making overall statements about LCP implementation in the primary schools of Tanzania. Unstructured observation hence examined the inner two layers of the conceptual framework (Figure 3.1).

4.6.3 Structured Lesson Observation

The videoed data was later analysed systematically using observation schedules. Systematic observation is a research technique where a researcher observes the behaviour of the researched in terms of a predetermined coding scheme. Similar to unstructured observation, structured observation is commonly used in combination with questionnaires and interviews (Robson, 2002; Bryman, 2016). It also shares the advantages and disadvantages of unstructured observation.

Within the classroom stratum (Figure 3.1), structured classroom observations with a video quantitatively investigated how and how much teachers and pupils were practising LCP in classrooms. The data became one of the major explanatory variables when examining the associations of the level of LCP implementation with pupil views and with their learning outcomes. The observation measured the time allocated to certain learning activities. It also counted several types of pupil–teacher interactions to calculate the proportion of specific interactions with respect to other interactions. Both measurements address the key aspects of LCP, with time allocation data focusing on teaching and learning practices in a lesson (Ngware et al., 2012; Frost & Little, 2014) and classroom discourse data exploring interactions between pupils and teachers (Ackers & Hardman, 2001).

The lesson observations employed three instruments. An observation protocol (Appendix 7) assessed how much learner-centred, teacher-centred and off-task activities were used in one lesson with respect to time. Each of these three categories entails three to five activities. LCP-related activities include: individualised activities (Frost & Little, 2014); group work (Frost & Little, 2014; Ackers & Hardman, 2001); pupil demonstration (Ackers & Hardman, 2001); and learner-initiated questions and answers (Q&A) (Hardman, Abd-Kadir, & Smith, 2008; Pontefract & Hardman, 2005). TCP-associated tasks are: watching/listening (Frost & Little, 2014); taking notes (Frost & Little, 2014); reading aloud (Ackers & Hardman, 2001); writing exercises (Ackers & Hardman, 2001); and teacher-initiated Q&A (Ackers & Hardman, 2001; Hardman et al., 2008; Pontefract & Hardman, 2005). Lastly, off-task activities involve: teacher management (Frost & Little, 2014); transition (Ngware et al., 2012); and pupil uninvolved (Frost & Little, 2014). The definitions of each activity can be found in Appendix 8.

An interaction codebook (Appendix 9) assessed pupil–teacher interactions in a quantifiable manner. It rated how many times particular behaviours of initiation, response and feedback (IRF) occurred in the classrooms. According to Flanders (1970), who invented the IRF system, classroom interactions generally follow a certain pattern. They start with initiation either from a teacher or pupil(s), stimulating a response from them, which leads to feedback. A variety of studies (e.g. Lyon et al.,

2014; Sahlberg, 2010; Block, 1993) have used the IRF system for researching patterns of teacher–student and student–student interactions in the classrooms. The codebook used in my study (Appendix 9) primarily adopts the IRF framework developed by Flanders (1970), but applies the interaction categories employed by previous research specifically investigating LCP in developing countries (Hardman et al., 2008; Pontefract & Hardman, 2005; Ngware et al., 2012; Frost & Little, 2014; Ackers & Hardman, 2001). I referred to these studies on LCP in order to tailor my research more to measuring learner-centredness as opposed to general teacher–student communications, as originally designed by Flanders. Appendix 10 explains the detailed definitions of the interactions and the sources for each IRF category.

Structured lesson observations also assessed available resources and the physical arrangement of the classrooms. I designed a classroom resource check sheet (Appendix 11). It was intended to estimate the resource-richness of the classrooms that could be one of the determinant factors for the extent of LCP implementation. I recorded: 1) the number of male and female pupils; 2) the number of textbooks; 3) the number and types of desks and chairs (whether they are connected or separated); 4) the seating arrangement; 5) materials or pupils' work on the walls; and 6) classroom resources, including a usable writing board, chalk, bookshelf, a teacher table and a teacher chair. The resource check sheet also included a space for drawing the classroom layout.

4.6.4 Semi-Structured Interviews with Teachers

I invited the 17 teachers whose lesson was observed to semi-structured interviews. All the interviews were recorded with an IC recorder with their written and oral consent. For teachers who were not fluent in English, the research assistants mediated our communication.

The semi-structured interviews with teachers sought to collect situated knowledge, views and attitudes toward learner-centredness, unique to each interviewee. The choice of semi-structured interviews, as opposed to unstructured or structured interviews, depended on the research aim. I had clear research questions to explore in greater detail, but the context-specific knowledge should be generated through interactions between the interviewees and myself. The semi-structured form enabled me to have a topical focus. At the same time, I could tailor the sequence and way of asking to each interviewee based on their responses and non-verbal cues, which could not be anticipated in advance (Mason, 2002; Gray, 2014). This feature of semi-structured interviews may pose concerns about 'bias', whereby not every participant gets the same stimulus (Robson & McCartan, 2016). Likewise, interview as a research method may be critiqued for its dependency on the respondents' ability to

understand, verbalise and remember their experiences. However, the information I hoped to obtain was not a general or abstract response, but was contextual and interactional knowledge specifically generated by particular teachers. In line with what Mason (2002) suggests, I interpreted the narratives not as a representation of other teachers, but as a specific response to the interviewed teacher produced in a specific context at the specific time of the interview.

The interviews had two purposes with regard to the research questions. First, they sought to substantiate the answers to how LCP is actualised in schools and what teacher characteristics may or may not relate to appropriation of the pedagogy, within both the classroom and school layers in the conceptual framework (Figure 3.1). The first part of the interview schedule (Appendix 12) explored the teachers' motivation and rationales for their teaching practices; their understanding of LCP-related terms; challenges to implementing LCP; their views toward interacting with pupils; and their relationship with parents.

The interviews also investigated Tanzania's ideological compatibility with LCP, which is one of the central inquiries of my research. This is described as the culture/society stratum of Figure 3.1, and transversal and vertical axes of the TVH case study (Figure 4.3). The second section of the interview indirectly asked how teachers, currently working at school, experienced ideas related to *ujamaa* such as social cohesion and equality. They talked about their perspectives on respectful practices in Tanzania; their knowledge of Nyerere and his political ideas; and how they viewed Nyerere's influence on society and on their teaching practices. Semi-structured interviews provided information on present-day views of the historical figure of Julius Nyerere, which I would not be able to gain through other forms of data collection, such as standardised questionnaires, observation or archival research (Mason, 2002). Through the interviews I aimed to contextualise the horizontal axis of the TVH case study into the transversal and vertical frameworks, interrogating how the *ujamaa* philosophy corroborates and/or complexifies, or does not feed into, LCP implementation in Tanzania.

4.6.5 Focus Group Discussions with Pupils

Besides teachers, I also invited three girls and three boys in each of the 17 classes to the FGDs. A total of 107 pupils participated in the FGDs. They were selected by the teachers or on a voluntary basis, and the discussions were recorded with pupils' written and oral agreement.

FGDs with a group of six pupils from each class examined their perceptions and experiences with LCP implementation. The reason for using FGDs, instead of individual interviews, is to collect together the viewpoints of several pupils at the same

time, as opposed to that of individuals (Cohen et al., 2011). In addition, because a power imbalance could plausibly exist between pupils and myself, an FGD with a group of pupils was chosen, as this method can mitigate the power differential (Schischka, 2014). Robinson (1999) states that moderators for FGDs need facilitation expertise to manage the group dynamics and allow every participant to speak. Prior to my doctoral study I had had some experience of carrying out FGDs with children at an international non-governmental organisation (NGO). During the FGDs in the current research, I remained vigilant about who spoke more or less, and consciously sought to stimulate less vocal pupils in a gentle manner. Additionally, FGDs in general may cause individual participants to disagree with each other in expressing viewpoints, where their confidentiality is not likely to be protected (Robson & McCartan, 2016). To mitigate this drawback, at the beginning of the discussions I reminded participants of the value of their own views.

A topic guide (Appendix 13) explored the pupils' experiences inside and outside schools across the three tiers of the conceptual framework (Figure 3.1). The first two questions asked about preferred and less preferred learning activities. The next question asked what they would do if they could change one aspect of the classes and/or school. This sought to uncover any hindrance to LCP implementation from pupils' perspectives. The pupils were also asked about their relationship with teachers, or how much they followed teacher orders. In the second part of the discussions, I explored their family life in correspondence with the culture/society layer illustrated in Figure 3.1. The questions included: what the pupils usually talked about at home; whether they expressed their views to their parents; whether their parents sought the pupils' opinions when discussing family matters; and how equally they shared things with their siblings. These inquiries investigated whether Tanzanian society embraces child-centredness outside school, which might affect pupil-teacher relationships at school, thereby elaborating on the answers to the first overarching research question.

4.6.6 Self-Administered Questionnaires for Head Teachers and Teachers

I used self-administered questionnaires for obtaining background information on schools, head teachers (N=13), teachers (N=17) and pupils (N=1,024). I asked the head teachers and teachers to fill in the questionnaire themselves (Appendices 14 and 4 respectively) in their own time.

Questionnaires as a research technique can gather information from a large number of people quickly at a low cost (Bryman, 2006). Unlike interviews, it is free from interviewer effect on the interviewees and from variability caused by differences among the interviewers. Although a researcher cannot follow up the questionnaire responses due to its anonymous nature, the semi-structured interviews with teachers and the

FGDs with pupils complemented this weakness in my research. The latter two methods gathered narrative details related to the questions raised in the questionnaires. The respondents were also able to ask questions of the research assistants or myself at any time during their completion of the questionnaires. A low response rate can be another concern for the questionnaire technique; but my study achieved a 96.6% response rate for pupil questionnaire and a 100% response rate for questionnaires targeting teachers and head teachers. However, the problems of missing data (where the respondents do not answer every question), social desirability bias (where they tend to answer in a more socially acceptable manner), and different meaning (where people have varied interpretations of the questions) remained as disadvantages of the questionnaire method in my study (Robson & McCartan, 2016; Bryman, 2016).

The questionnaires for the head teachers and teachers assessed what school and teacher factors might be associated with the implementation level of LCP. Their responses were also used to explore whether LCP yields positive and/or negative contributions to pupils' experiences and/or learning outcomes. The head teacher questionnaire (Appendix 14) first asked about their academic and professional backgrounds, as well as the structure and organisation of the school regarding a pupil–teacher ratio and a transition ratio to secondary school. It also inquired about resource availability, including piped water, electricity, library, science laboratory, staff room, playground, school garden, telephone and photocopier, as well as the numbers of computers, toilets and books. The head teacher questionnaire then explored their views on school climate (IEA, 2011a), collaboration among teachers (IEA, 2011b), and perceived problems among pupils (IEA, 2011a). Concerning LCP implementation at school, the head teachers were asked to rate several dimensions of LCP-related practices (WHO, 2003 adapted by UNICEF EAPRO, 2006), to define LCP-related terms and to answer questions about the frequency of LCP training.

Subject teachers responded to the teacher questionnaire (Appendix 4). It first enquired about teachers' academic and professional backgrounds. Teachers' views on school climate, school safety, classroom and school conditions, communication with parents, collaboration with their colleagues and job satisfaction (IEA, 2011b) were also asked. Teachers then responded to the questions about their knowledge of LCP and challenges in practising LCP, if they experienced them. The teacher questionnaire ended with questions about the amount and frequency of homework (IEA, 2011b). The head teacher and teacher questionnaires attempted to assess to what extent schools and teachers were 'LCP ready', in regard to the inner two layers of the conceptual framework (Figure 3.1).

4.6.7 Self-Administered Questionnaire for Pupils

The booklet containing the pupil questionnaire (Appendix 3) and English (Appendix 2) or maths (Appendix 5) exam was distributed to the 1,024 pupils. By relating the data collected in the lessons and the data from the head teachers and teachers, the self-administered questionnaire for pupils (Appendix 3) addressed the second overarching question as to whether LCP contributes to pupil learning. The questionnaire first asked about the pupils' socioeconomic and family backgrounds (Rolleston & Krutikova, 2014; OECD, 2012) and parental help with homework (IEA, 2011c). It then enquired as to how pupils felt about their school and how they communicated with peers (IEA, 2011c).

In the next part, the questionnaire looked into the concept of *perceived-LCP level*, asking the respondents about their perceptions of their school and classroom experiences. As opposed to the *observed-LCP level* monitored through the unstructured and structured observations, the perceived-LCP measures the subjective experience of LCP as reported by the pupils. The literature review in Chapter 3 identified a lack of focus on learners' viewpoints with respect to LCP implementation (Schweisfurth, 2011; Tabulawa, 2013), as most research concentrating only on teachers' practices and beliefs (e.g. Altinyelken, 2011; O'Sullivan, 2004; Barrett, 2007). However, what the teachers say and what an adult researcher observes is likely to differ from the students' actual experiences (James, 2007). Knight, Parker, Zimmerman and Ikhlef (2014) pioneered how to explore direct and indirect relationships between the observed- and perceived-LCP. At 17 primary schools in Qatar, the researchers systematically observed mathematics and science lessons to measure observed learning processes. They also distributed a self-administered survey to approximately 1,000 pupils to capture their perceived learning environment. Multiple regression analyses between the two variables indicated a significant association, although the regression model was not explicitly explained and it was unclear what variables were included in the model. My study builds on this research by exploring possible relationships between the implementation degree of observed-LCP and pupils' perceptions of learner-centredness. This research also furthers results shown in Knight et al.'s research by distinguishing the associations of observed- and perceived-LCP with pupil learning outcomes.

In the pupil questionnaire, 14 questions on classroom activities asked the respondents to rate how much they thought learner-centred activities were taking place in the classroom. These questions were obtained from the Individualised Classroom Environment Questionnaire (Fraser, 1981; Fraser & Fisher, 1983) used in the study by Knight et al. (2014). It aims to measure five dimensions of students' perceptions of the classroom environment, including personalisation, participation, independence, investigation and differentiation. The pupils rated the frequency of behaviour

occurrence on the five-point Likert-scale. The average rating from these questions denotes the perceived-LCP level, and this serves as both independent and dependent variables in statistical analyses. It aimed to answer the second overall question about the associations between observed- and perceived-LCP implementation, and their differentiated effects on several learning outcomes.

The last part of the pupil questionnaire explored students' learning attitudes. Despite the belief in LCP enhancing learners' attitudes, including motivation, interest and confidence as well as better social well-being (Weimer, 2013; Ginnis, 2002), scant research has looked for relationships between these attitudes with the implementation of LCP. To examine their possible associations, I asked in the questionnaire how much pupils agreed with statements describing self-related beliefs, attitudes toward learning, and learning behaviour on a four-point Likert-scale (Appendix 3). Questions 36, 37 and 38 were adapted from the TIMSS 2011 Student Questionnaire (IEA, 2011c) that investigates contextual information relating to students. Selected questions for my study ask about self-perceptions and attitudes toward learning (IEA, 2013), with items like 'It is important to do well in school' and 'Learning is harder for me than for many of my classmates'. Questions 39 and 40 were adapted from the PISA 2012 Student Questionnaire (OECD, 2012). The questions, according to OECD (2013a, 2013b), aim to capture students' self-related beliefs and planned behaviour. Example questions include 'If I wanted to, I could do well in school' and 'I pay attention in class'. Since both the original TIMSS and PISA questionnaires intended to assess relations of these measurements with mathematical and/or science literacy, some phrases were replaced with general terms. For instance, the sentence 'If I put in enough effort, I can succeed in mathematics' in the PISA 2012 Student Questionnaire was changed to 'If I put in enough effort, I can succeed in school' to be used in my research. The question items from 36 to 40 are expressed as 'learning attitudes' in this thesis. The average of pupils' ratings on the Likert-scale acts as a dependent variable to seek out their associations with the extent of LCP implementation. It should be noted that the measurement of learning attitudes is not treated as psychometric tests to quantify a person's characteristics and personality; rather, I use it as an indication of whether, and to what extent, LCP may associate with positive attitudes towards learning as assumed in the LCP tenets. The pupil questionnaire as a whole inquired into all three domains of the conceptual framework (Figure 3.1).

4.6.8 Academic Exams for Pupils

To investigate if LCP might contribute to pupils' academic achievement in the classroom realm of Figure 3.1, I asked them to complete an English (Appendix 2) or mathematics (Appendix 5) test, depending on which subject was taught in the

observed lesson. English and mathematics subjects were selected as they were two of the most studied subjects in the previous research reviewed. The tests were adapted from Tanzania's official exams, obtained from one of the local governments I visited to gain research clearance. The municipal council in that district had used the exams publicly when assessing the academic levels of the Standard 6 pupils at the public schools within its jurisdiction. The original tests contained 50 to 60 questions, and was estimated to take two hours for the maths exam and one and a half hours for the English exam. I randomly chose 25 questions from each test, using the Excel function of random numbers, so that it would take approximately 30 minutes for the pupils to complete. During the analysis phase, I marked the completed exams.

Prior to obtaining the government test, I explored the possibilities of using exams implemented by an international donor agency and by a local NGO. Although the former measures Standard 6 and had already been validated and practically employed, confidentiality and copyright issues restrained its usage in any individual research. The exam designed by the local NGO targeted Standard 6 pupils but assessed the Standard 2 performance level in numeracy and literacy. A combination of the government test and the NGO test might have enabled my research to evaluate different academic levels, conceivably increasing the variability of the exam scores. However, the English questions in the NGO exam required the participants to read aloud words and stories in front of the researchers. Due to impracticality for the research assistants and myself to assess the reading skill of pupils one by one, I decided not to include the NGO test. The use of the government tests, already validated and standardised by the official body, met the purpose of my research to measure the general literacy and numeracy levels of Standard 6 pupils in Tanzania.

One point worth noting concerns the abilities and skills measured in the English and mathematics exams. They were obtained from the official body. Given that the regional and national examinations in Tanzania measure pupil ability to remember facts (Bartlett & Vavrus, 2013), the tests employed in this study are likely to assess fact-based knowledge rather than the skills supposed to be nurtured through LCP, such as creativity and problem-solving. This will present inconsistency between LCP practice and what LCP is expected to produce. Nonetheless, the study interrogates Tanzania's attempt to implement LCP, as both input (national education policies) and output (exam outcomes) were designed by its government.

In summary of the methods used, Table 4.4 shows the achieved sample size for each of the six data collection techniques.

Table 4.4: Sample size for each method

Data Level	Methods	Samples
School-level data	Head teacher questionnaire	13 head teachers
Classroom-level data	Unstructured observations	17 classes
	Structured observations	17 classes
	Teacher interviews	17 teachers
	Teacher questionnaire	17 teachers
	Pupil FGDs	102 pupils (6pupils/class x 17 classes)
Pupil-level data	Pupil questionnaire	1,024 pupils
	Subject tests (either English or maths)	1,024 pupils

4.6.9 Issues of Translation

Several instruments and consent letters required translation from English to Swahili. As I had only basic knowledge of Swahili at the time of the fieldwork, I sought translation help from native speakers. An experienced translator, found through Manyama's personal connection, translated the questionnaires for the head teachers, teachers and pupils, the mathematics exam (the English exam did not require translation because Standard 6 pupils in Tanzania took English tests in English), and consent letters to the head teachers, teachers, parents and pupils.

I used an oral checking method to verify the quality of her translation.

Researchers commonly use back-translation, where a secondary translator re-translates the text back into the original language. However, translation of research instruments requires interpretation of meanings and concepts, rather than word-by-word translation (Hennink, 2007). Instead of hiring another professional translator who would be unfamiliar with the research context, I had my research assistant and a research fellow at the ESRF, my host institution in Tanzania, independently check the texts. After briefing them on the research aims, methods and usage of each instrument and consent letter, I asked them to read through the translated documents to ensure that the intended meanings in the original English documents were conveyed. We discussed how the translated text would be understood, and they changed the translation if necessary. Getting someone with professional research experience at the ESRF allowed me to examine the appropriate word choices for the instruments and the consent letters in the context of my research.

4.7 Ethical Consideration

The research followed a set of ethical guidelines. In advance of my fieldwork, I obtained ethical approval from the institutional review board at my home university, University College London Institute of Education. The approval abided by the ethics policies of the British Educational Research Association (BERA, 2011) and the British Sociological Association (BSA, 2002).

I also adhered to the local protocol set by the government of Tanzania. Conducting research as a foreigner in Tanzania requires research clearance from national and local government. Upon my arrival in the field, I obtained research permission from the Tanzania Commission for Science and Technology (COSTECH) which oversees research activities conducted throughout the country. I brought the letter from the COSTECH to the Prime Minister's Office-Regional Administration and Local Government (PMO-RALG) which oversees the implementation of education policies at primary schools, and I acquired its permission for my research. With approval from the two government bodies at the national level, I approached the DEOs at the municipal councils in both regions of Dar es Salaam and Kigoma. There I obtained written consent with the names of individual schools where I was granted to carry out my research.

Once research clearance was made by the government agencies, I visited the schools with all the obtained permission letters and the consent letters for the participants. I first made initial visits to the schools without intending to collect data on that day. The visits aimed: 1) to explain my research to the head teachers to discuss convenient date(s) for the research; 2) to have a consent letter signed by the head teachers (Appendix 15); and 3) to deliver an opt-out consent form for parents. I asked the head teachers to give the consent letters to the parents of Standard 6 pupils prior to the specified date(s) of the data collection.

On the day of the study, I sought teachers' agreement to the voluntary informed consent (Appendix 16) and their permission for the pupils' participation before any research activity began. These forms stipulated the purpose and procedure of the study, details of confidentiality and privacy protection, and their right to choose not to participate or to withdraw from the research at any time. When Manyama or Samwel and I entered the classroom for the first time, I or the teacher introduced myself and my study in Swahili. The research assistants followed this with a more detailed explanation of the activities and answered any questions or concerns the pupils might have had. I also handed the pupils the child assent form that explains the same content as the other consent forms given to the head teachers and teachers but in age-appropriate language (BSA, 2002). At the beginning of the semi-structured interviews with the teachers and the FGDs with the pupils, I orally reminded the participants of my use of

the voice recorder and asked them again if they were comfortable with the conversation being recorded. This research, therefore, was conducted in an awareness of necessary adherence to the ethical guidelines of the institutional review board at my university and of Tanzania.

4.8 Reflexivity on my Positionality

Our own identity, subjectivity and social relations frame, construct and reshape all aspects of the research process. Researchers thus need to question how their own identity and positionality may affect themselves, research participants and the knowledge they claim to produce. Usher and Edwards (1994) assert that reflexivity practice helps researchers interrogate the power imbalance between the researcher and the researched and its influence on the knowledge generated. To remain vigilant about my decisions and interpretations, I took field notes about what happened, why I thought it did and how I felt about it. Over the course of my doctoral work, I had opportunities to organise student conferences on the messiness of fieldwork and that of data analysis. These practices made me pause and observe my research process. They also opened up discussions of reflexivity issues with fellow doctoral researchers.

In the field, my perceived identity as a Japanese foreign researcher with a middle-class background positioned me as a more privileged individual in relation to the researched population (Naveed, Sakata, Kefallinou, Young, & Anand, 2017). On the one hand, this status accelerated the government officials' production of permission letters, making it easier to access schools and to recruit the teachers and pupils as participants. On the other, it altered the research relationship and potentially twisted the collected data in a particular manner.

Upon my arrival in Tanzania and with my visits to the government offices, I became aware of the 'wealth and privilege' (Baaz, 2005, p. 85) attributed to my perceived identity. A ministerial official effortlessly allowed me to refer to publicly-unavailable documents because I was a 'White person', which made him become interested in my research, as the official explained. Paperwork to produce a permission letter at one local government, which usually takes two weeks according to Manyama, needed only a few hours (field note, 22 September 2015). Manyama later explained that the officials were willing to respond to my request far more quickly than usual because I was a foreigner. My perceived social privilege seemingly granted me easy access to the governments and earlier receipt of permission letters, accelerating the start of the main fieldwork.

Nevertheless, this power relation and my outsider-ness were carried over into the data collection sites, producing a certain research relationship. For example,

classroom observation is often criticised for creating a non-everyday environment. The stranger the researcher is to the participants, the more the latter tend to act differently (Robson, 2002; Bryman, 2016). As a foreign researcher visiting the research sites for only one or two day(s), I remained an outsider throughout the data collection. This might have resulted in some teachers perceiving me as an inspector/assessor from an organisation. One teacher explicitly stated after his class that 'I demonstrated my lesson for you', while a few other teachers seemed to intentionally form groups in their lessons but did not engage in actual 'group work'. The generous cooperation of the teachers might have reinforced their attitude to set up their classes to 'put on a show' for me, possibly violating the construct validity of the observation data. Moreover, the pupils from time to time looked back during the class, waving their hands to me and/or smiling at me. This exemplified their awareness of my presence, potentially hampering the credibility and generalisability of the collected data.

Further, the pupils seemed to consider me to be a donor who should have brought a gift to them, especially in the Kigoma region. According to Samwel, non-Tanzanians rarely visit this remote area. When they appear, oftentimes they are from aid agencies who come to research the school condition for development projects or who come to make donations. On the way to the schools, I noticed that I attracted people's attention much more than I did in Dar es Salaam. One significant difference found in the FGDs between Kigoma and Dar es Salaam was the pupils' questioning after our discussions. At the end of each FGD I asked the participants if they wanted to add or ask questions. In all public schools of Kigoma, they enquired me of: 'So, what can you do for us?' 'How will your research benefit us?' or 'Why are we participating in your research?' Some pupils asked if I brought learning materials including pens and notebooks. The pupils seemingly perceived me as a donor officer, expecting gifts from me. Such an expectation from the Kigoma pupils potentially enhanced their willingness to tell me about how poor their learning conditions were.

My reflections above demonstrate only a few instances of potential impacts derived from my perceived identity and positionality. Not only the data from classroom observations and FGDs but also those collected with other methods may have been affected by my perceived identity. In the forthcoming chapters on findings and analysis, I will be transparent as to how my presence might have influenced classroom practice and the responses of the teachers and pupils. Although I endeavoured to practice reflexivity while in the field, the tactic to mitigate hegemonic power including member checking (Robson, 2002) proved difficult practically and financially. Simultaneously, during the analysis phase, the research design with mixed methods triangulated the data. I was able to check consistency between what was observed in the lessons and what was said by teachers, as well as between what was reported by pupils in the

questionnaire and what was said in FGDs. Comparison of different data sources facilitated capturing a comprehensive picture of LCP implementation at school.

4.9 Conclusion

This chapter has discussed and justified the methodology and methods applied in the study. The TVH methodological framework facilitates addressing the research gaps. In the culture/society domain of the conceptual framework (Figure 3.1), the TVH case study prompts a transversal, historical investigation of Tanzania's educational development. Coupled with the constructivist paradigm, the TVH enquiries also help to engage pupils' views and experiences in the system/policy and classroom strata of Figure 3.1. While constructivism essentially leads the study, the mixed methods embedded design is supported by the use of quantitative methods. This enables the study to challenge the scarce empirical evidence regarding the association between LCP and learning outcomes. At the 13 primary schools situated in the categories of the embedded multiple-case design, I collected the data from 17 teachers and 1,024 pupils using six methods. The next chapter explains the analytical procedure I adapted to examine the data garnered from these participants. The TVH framework, the mixed methods embedded design, and the embedded multiple-case design have assisted organising and integrating the different data sources at the analytical phase.

Chapter 5 Approach to Data Analysis

The previous chapter elucidated the methodology and methods employed to generate the data; this chapter continues the discussion of my engagement with the data, focusing on how I approached the data analysis. The methodological framework of the TVH case study (Figure 4.3) gives structure to the data analysis. The analysis begins with the transversal and vertical inquiries, followed by a horizontal comparison. Within the horizontal layer of the TVH case study with embedded units design and the qualitative-led, embedded mixed-methods design allowed for a cross-case analysis. Although I describe below the means and steps I took in analysing the data, the process was circular and iterative as is typical with case study analysis (Bartlett & Vavrus, 2017; Yin, 2014) and not at all linear. I went back and forth between the TVH axes and between qualitative and quantitative databases to draw meaning from the data.

5.1 Transversal and Vertical Inquiries

The conceptual framework (Figure 3.1) and the TVH case study approach (Figure 4.3) guided the process of data analysis. The transversal axis investigated the influence of history in the culture/society layer of Figure 3.1. Chapter 2 discussed the transversal exploration by reviewing Nyerere's life path and his *ujamaa* philosophy. The transversal analysis in Chapter 6 focuses on educational development in Tanzania. It first surveys indigenous education and discusses educational policies enacted by Nyerere. The transversal axis primarily draws on secondary data from the literature, as well as Nyerere's policy documents, speeches and essays. To explore whether his educational legacy survives or not today, I compare these with the narratives of the teachers and Nyerere's son. Through the transversal analysis, I attempt to shed light on whether and how the ideological and historical background of Tanzania might facilitate or impede the implementation of LCP.

The vertical axis merges into the transversal axis. I first traced the history of LCP application in English-speaking Western countries. This led to an examination of LCP's policy diffusion phenomenon from the West to developing nations at the present time. By linking all three strata within the conceptual framework, I examined policymaking and implementation processes among international, national and local actors. The vertical inquiry illustrates how donor agencies act as the exporting organ of LCP, to which various developing countries adhere. The vertical axis next narrows its geographical focus to Tanzania. It examines how the government of Tanzania has adopted and passed the internationalised LCP on to the local level. The transversal

and vertical inquires locate the horizontal axis with respect to historical, social and cultural ambience. They provide the contexts to address one research question – how the international and national policies of LCP are being actualised in schools – to be compared with the horizontal axis. By contrasting policy intentions with their implementation, I question how the culture and ideology unique to particular locations shape the aims of policymakers and the actualisation of such policies on the ground through appropriation (Levinson, Sutton, & Winstead, 2009).

Along the transversal and vertical axes, document analysis was employed to examine relevant literature and official documents. Any document reflects the authors' biases (Bryman, 2016). To address the underlying intentions and hidden assumptions that Nyerere, global aid agencies and the Tanzanian government may have held in relation to their suggested pedagogical approaches, I followed Rapley's (2007) advice on exploring both what is said and what is not said. In addition to arguments and ideas explicitly stated in these documents, silences, oversights and omissions may uncover certain messages the official figures intended to convey. Another means of analysing documents is discourse analysis. Derived from the field of linguistics, discourse analysis requires a fine-tuned attention to the forms and use of language including the structure of paragraphs, stories, semantics and syntax (Johnstone, 2008). General foci of this method include how words and sentences are associated with meanings and how language changes over time. Analysis of policy documents along the transversal and vertical axes in my research attempted to locate the classroom pedagogy recommended and justified by governments, which was then juxtaposed with the relevant contexts along the horizontal axis. Rather than concentrating on language use in the documents, my focus was on exploring the pedagogy legitimised by authorities. Apart from document analysis, teacher interviews regarding their understandings of Nyerere's political and educational ideas were analysed using thematic analysis (to be explained shortly). I then juxtaposed the interview responses with policies enacted by Nyerere. This was to link the past and present in terms of whether and how Nyerere's wish for education continues to exist today. The results from the transversal and vertical investigation were applied to interpret the findings from the horizontal exploration.

5.2 Case Study Analysis

Along the horizontal axis of the TVH framework situates multiple school cases. Case study data investigated both the classroom domain of the conceptual framework (Figure 3.1) and the beliefs and experiences of the teachers and pupils beyond the classroom, thereby examining the culture/society and system/policy domains. The

embedded multiple-case design (Figure 4.2) provided a structure for the case study analysis. The data from pupils, teachers, classrooms and schools developed into 13 individual school cases. Following the idea of the horizontal axis to juxtapose individual schools (Bartlett & Vavrus, 2017), I compared findings from different sources to make sense of the whole dataset. I examined different data strands (i.e. qualitative and quantitative datasets) within each case. The results from each school were also assembled into a cross-case synthesis, where I compared the same data sources between multiple school cases.

Even though strategies of case study analysis have not been highly developed, Yin (2014) proposes four general strategies. These include: relying on theoretical propositions; analysing data from the 'ground up' or inductively; developing a descriptive framework; and examining rival explanations. Pertaining to the first strategy of applying theoretical propositions, my research is not heavily driven by a given theory. While I explained in detail the development of learner-centred educational theory in Chapter 3, I did not intend to test the validity of its theoretical propositions by, for example, constructing a hypothesis. This study is not purely ground up, either. Instead of gathering and analysing data without any theoretical or conceptual propositions, the literature review and the conceptual framework (Figure 3.1) provided me with research problems to focus on prior to the fieldwork.

These reasons for not using theoretical propositions or examining data from the ground up may provide a rationale for my analytic strategy to combine descriptive frameworks and rival explanations. The conceptual framework (Figure 3.1) presents various pedagogical dimensions to look for and collect data on. This allowed me to form explicit research questions, exploring broad but focused topics in the data gathering and analysis stages. In order not to stick to my preconceptions developed based through consideration of the literature review and the conceptual framework, I also searched for observations and explanations that may run counter to my expectations. In analysing the data, I looked for alternative descriptions of the data and 'other influences' (Yin, 2014, p. 140) which might explain it. Using these strategies for case study analysis, mixed methods data was analysed within all cases as a whole, as well as within each case.

5.3 Mixed-Methods Data Analysis

With the dialectical philosophical assumption to appreciate multiple views of knowledge, mixed methods data analysis along the horizontal axis helped to undertake more complete and thorough analysis than what one paradigm alone could provide. By moving back and forth between qualitative and quantitative datasets, I attempted to

engage in what Greene et al. (2001) call 'a "conversation" between different paradigms' (p. 28). Whenever I encountered contradictory findings derived from different philosophical stances, I sought to provide possible explanations as to why this occurred. Sometimes the inconsistencies seemed to result from participants' social positions (i.e. pupils, teachers or researcher); at other times different methods might have produced contrasting results, which will be presented in later chapters on findings and analysis. An integration of data representing different philosophical assumptions would contribute to more relevant and comprehensive inferences.

With the dialectical approach, I first analysed the data gathered through each method. The qualitative and quantitative data collected separately in the field were independently analysed (Creswell & Plano Clark, 2011). The qualitative strand employed a thematic analysis of the data including unstructured observations, interviews and FGDs. The quantitative strand involved statistical analysis of structured observations, questionnaires and academic exams. The pupil-level data for statistical analysis comprised the pupil questionnaire and exams. Part of the questionnaire responses – such as pupil socioeconomic status (SES) and family background – became independent variables (IVs). Other components of the pupil questionnaire – including perceived-level of LCP as well as learning attitudes – together with the test scores were considered to be dependent variables (DVs). At the teacher and classroom level, the data from unstructured observations, interviews and FGDs were examined through thematic analysis to convey in-depth accounts of each class. It also added narrative explanations to the numerical results from the quantitative datasets. Quantitative data gathered at the teacher and classroom levels from the teacher questionnaire and structured observation, as well as at the school level from the questionnaire for head teachers, became the IVs in the regression analyses. The initial embedded multiple-case design entailed four school categories including urban public, rural public, urban private and rural private. Urban private and rural private schools were combined at the analysis stage, since the latter category contained only one school (Kawe) and both urban and rural private schools showed similar characteristics. Table 5.1 summarises my approach to the mixed methods data analysis.

Table 5.1: Mixed methods data analysis

Unit of analysis	Data source	Data type	Analytical method
Pupil	Pupil questionnaire, Exam	Quantitative	Statistical regressions (IV, DV)
Teacher/ classroom	Structured observation, Teacher questionnaire	Quantitative	Statistical regressions (IV)
	Unstructured observation, Interview, FGDs	Qualitative	Thematic analysis
School	Head teacher questionnaire	Quantitative	Statistical regressions (IV)

5.4 Qualitative Thematic Analysis

To analyse qualitative data from structured observations, teacher interviews and pupil FGDs, I applied thematic analysis. Thematic analysis is a method of qualitative data analysis to identify recurring and/or notable ideas and patterns of data in an attempt to uncover themes and sub-themes (Braun & Clarke, 2006; Bryman, 2016). Themes are categories relevant to research questions, which emerged from smaller chunks of coded data. I chose thematic analysis primarily due to its theoretical, epistemological and methodological flexibility (Braun & Clarke, 2006; Boyatzis, 1998). Other qualitative analytic methods, such as grounded theory, narrative analysis or conversation analysis derive from a particular theoretical and paradigmatic base. In comparison, thematic analysis engages with a manifold of theoretical and epistemological approaches. The dialectical approach, explicitly valuing multiple paradigms (Greene & Caracelli, 2003), requires a flexible means to analyse data. Thematic analysis seemed to be the best fit for this approach compared to other analytic methods with their theoretical and epistemological boundaries. Furthermore, the previous chapter explained a design change from the convergent parallel design to the qualitative-led embedded design of mixed methods research. The flexibility of thematic analysis could tolerate these adjustments. Lastly, Braun and Clarke (2006) claim the relative accessibility of thematic analysis for novice qualitative researchers. As a doctoral researcher, whose entire research process is a research training, thematic analysis provided me with a realistic choice to conduct qualitative analysis.

However, the theoretical and epistemological flexibility can entrap thematic analysis in several ways. Thematic analysis has been poorly defined and demarcated. In fact, it has been used as a process of analysing data within a specific analytic method (Boyatzis, 1998; Ryan & Bernard, 2000). The absence of a definite analytic framework could cause a researcher to not analyse the data at all or to have trouble finding what to focus on in the data (Braun & Clarke, 2006). Researchers hence need to take care not to merely describe the data.

Thematic analysis begins with transcribing. Riessman (1993) posits that the process of transcribing immerses and familiarises a researcher with the data. The close attention to the data that transcribing requires informs later analysis (Braun & Clarke, 2006; Lapadat & Lindsay, 1999). In my research, all the videoed and audio-recorded data was transcribed and translated into English. The videoed data from lesson observations included mathematics lessons at public schools conducted in Swahili and other lessons in English. Manyama transcribed and translated the former datasets. He was familiar with the research background and school settings while we nurtured a mutual trust over the four months of the fieldwork. This could aid in preserving colloquial language in translation (Hennink, Bailey, & Hutter, 2011). Manyama first transcribed in Swahili and then translated the transcription into English. I also listened to the videos in Swahili while visually following his transcribed texts. If there seemed to be discrepancies between what was pronounced by the participants and what Manyama transcribed, I asked him to listen to the videos again and revise the transcription. I also sought him out for clarification with regard to English translation when needed. To check the accuracy of Manyama's translation, the other research assistant, Samwel Kulinga, compared the Swahili transcription and English translation. Samwel indicated mistakes and awkward expressions, which I discussed with him regarding whether to change these or not. For the audio data from the interviews and FGDs, both Manyama and Samwel had verbally translated from the original language to English at the site. I myself transcribed the audio data recorded in English. Throughout the transcription process, I annotated salient segments, jotting down what I noted as significant to the research foci.

The next analytical stage after transcribing was code development. The coding process involves both deductive coding – stemming from existing literature, theories or the interview guide – and inductive coding – originating directly from the collected data. The value of qualitative data analysis lies in the latter (Glaser & Strauss, 1967; Patton, 2015) while Hennink et al. (2011) maintain that most qualitative research uses both types of coding. By reading and re-reading the texts, I identified repeated ideas and patterns and labelled the segments with initial codes. Using NVivo, a computer-assisted software specialising qualitative data analysis, the coded texts were organised in several ways according to the interview questions, the initial codes, individual schools, and school categories. I also engaged in what Hennink et al. (2011) term analytic reading. I examined the context of individual schools and school categories, seeking out issues absent in the data in addition to those present. This helped in developing and consolidating the codes not only at the manifest or directly observable level, but also at the latent level, in order to uncover underlying concepts (Boyatzis, 1998). In coding the data, I applied the codes to a larger portion of the texts than the

immediate segment under consideration in order to retain the context surrounding the coded texts (Hennink et al., 2011).

I then created a matrix in Excel sheets with the codes identified in the previous stage along with the categories of urban public, rural public and private schools respectively. This was meant to discover common characteristics within the same school categories but distinctive between categories. I considered the narratives on a school-by-school basis. Using cross-case synthesis to compare multiple schools (Yin, 2014), I examined whether different schools shared similar views and responses in the interview and FGD data, and/or indicated varied pictures. Multiple case studies were then introduced into the embedded units. This led to generating statements at social and country levels to address the first overarching research question about how Tanzania is implementing LCP.

The entire process allowed me to build themes by combining similar codes. A theme should be understood on its own and represents a large segment of the data comprehensively. I compared the themes and codes between individual schools as well as between each of the three case categories (urban public, rural public and private), searching for similarities and differences in the cases. The codes and themes also sought to illustrate how and why the quantitative data demonstrates certain results. Thematic analysis guided qualitative data analysis; the next section explains the approach used to analyse the quantitative data.

5.5 Approach to Quantitative Analysis

Quantitative analysis was performed on the data based on structured observations, questionnaires and subject tests. Descriptive statistics first explored the characteristics of the researched population as well as key explanatory and outcome variables. The multiple regression analysis sought to answer the research questions by searching for associations between the observed-LCP and perceived-LCP levels, as well as between these two aspects and pupil outcomes.

5.5.1 Rating Observation Data

In preparation for analysing the data from structured observations, classroom activities (LCP-related, TCP-related and off-task activities) and pupil–teacher interactions were assessed using the observation schedule (Appendix 7) and the interaction codebook (Appendix 9) respectively.

In order to analyse the kinds of activities pupils were engaged in, the dominant activity taking place every 30 seconds was tallied. The tallies within one lesson were added up and converted into percentages in relation to the overall scores. Although the

classification of activities into LCP-related, TCP-related or off-task activities depended on earlier research (Appendix 7, adapted from Frost & Little, 2014; Ackers & Hardman, 2001; Hardman, Abd-Kadir, & Smith, 2008; Pontefract & Hardman, 2005; Ngware, Mutisya, & Oketch, 2012), why certain activities were considered as more learner-centred and others as more teacher-centred requires justification. Appendix 7 indicates that LCP-related activities involve individual activity, group work, pupil demonstration and learner-initiated Q&A. TCP-related activities include watching/listening, taking notes, reading aloud, writing exercise and teacher-initiated Q&A.

Individualised activities are categorised as an LCP-related activity based on Rousseau's (2007) emphasis on individual variability. Different children have distinctive characteristics and curiosity, requiring educators to individualise learning (Darling, 1994). On the other hand, Rousseau considered the lecture method to be ineffective, because teachers deliver the same contents to the mass, regardless of children's attributes and abilities. This explains why watching/listening is classified as a teacher-led activity.

Other LCP-related activities involve group work and pupil demonstration. The United Nations Educational, Scientific and Cultural Organization (UNESCO) (2015) recommends such learning practices whereby learners should actively engage and enhance learner collaboration. On the other hand, silently taking notes or doing writing exercises involve little interaction, and reading textbooks aloud may offer little in the way of critical thinking and problem-solving (Ackers & Hardman, 2001), such that these activities are considered to be TCP-related. In UNESCO's (2005) terms, furthermore, learner-initiated, inquiry-based learning – denoted as 'learner-initiated Q&A' in my research – is more desirable in LCP classrooms than teacher-driven practices, expressed as 'teacher-initiated Q&A'. The former is thus categorised as LCP-related and the latter as TCP-related.

It should be acknowledged that classifying these activities as either LCP-related or TCP-related may violate construct validity, or the match between what researchers intend to measure and what they actually measure. Even if pupils work in groups, the task they are involved in may require memorisation or fact-based learning. In a similar vein, writing and reading silently could offer pupils the chance to freely express their opinions, which LCP embraces. Although aware of the limitations of structured observation, the rating of activities was purely based on the behaviour of the pupils. Combination with other methods, especially with unstructured observation, worked to triangulate the results based on the structured observation.

To examine classroom interactions, every interaction that happened was sorted into one of the initiation, response or feedback (IRF) categories. This was intended to calculate its proportion with respect to the whole and against paired interactions. As

with the observation protocol, certain pupil–teacher interactions were treated as a proxy for LCP-related interactions. Specifically, open-ended questions, pupil initiation, individual responses/interactions, girls’ answering, and encouraging feedback were all considered to be more learner-centred than their counterparts, including close-ended questions, teacher initiation, whole-class responses, boys’ answering, and neutral or discouraging feedback respectively. The reasoning as to why some interactions were classified as more learner-centred and others as less so requires an explanation.

In regards to open-ended or closed-ended questioning, the LCP approach prefers the former over the latter. Open-ended enquiries draw knowledge or answers from the learners, instead of compelling them to remember fixed facts. Furthermore, LCP encourages the learners to initiate their own learning and to question the teachers’ knowledge (Tabulawa, 2013). As a proxy of this aspect, pupil initiation – where the pupils ask questions, express their thoughts, or initiate a new topic – were contrasted with teacher initiation with their questioning, giving directions, eliciting or checking pupil understanding.

With an emphasis on individualised learning (Rousseau, 2007), LCP values one-to-one communications over one-to-many. Individual interactions between pupils and teachers were compared to the whole-class response, where all or some pupils recite the same answer. With respect to gender balance in classroom participation, international initiatives such as EFA (UNESCO, 2000) and CFS (UNICEF, 2009a), grounding based on the LCP principles, embrace a gender-sensitive environment in the classroom. In Kenyan primary schools, research on LCP by Hardman et al. (2009) observed relatively equal participation of both sexes in group work, concluding that teachers appeared to be aware of the importance of gender balance. Following their research, my study has assessed gender equality in classroom participation by calculating how many times the teacher called upon boys or girls. The percentage of girls’ answering was used as one indication of LCP implementation.

Lastly, LCP urges positive communication and encouraging feedback. This allows the learners to feel secure, presumably optimising their learning in a safe environment (Ginnis, 2002). Ngware et al. (2012), in their study on active teaching in Kenya, found that the fewer the encouraging feedback comments, the lower the active participation of learners. The observation rubric used in my research computed the ratio of encouraging feedback to neutral or discouraging feedback.

The percentage of LCP-related activities and interactions, in proportion to TCP-related activities and interactions, became a variable to measure the extent of LCP implementation. To check the inter-rater reliability of these variables, Manyama and I independently rated the data on both protocols based on the definitions provided in Appendices 8 and 10. When our ratings differed significantly, which was observed

especially in the early stages, we discussed why each of us gave particular ratings. I polished the definitions until we agreed on the meanings, based on which we both rated the data separately again. At the end, the coefficient agreement of kappa estimated $k = .95$, $z = 71.80$, $p < .001$ for classroom activities, and $k = .99$, $z = 204.45$, $p < .001$ for pupil–teacher interactions. Both indicated a strong agreement between the coders (Landis & Koch, 1977).

Regarding perceived-level of LCP, the scores from the 14 questions in the pupil questionnaire (Appendix 3), asking about their classroom experiences of learner-centredness, were averaged. The average score (1 = Almost never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Very often) was expressed as the level of perceived-LCP. The statistical analysis explained below utilised these variables to address the research questions regarding the level of LCP implementation and its association with learning outcomes.

5.5.2 Preparing Data for Statistical Analysis

Preparation of quantitative data for analysis also involved recoding the different types of data from structured observations, questionnaires and exams into one dataset. I first assigned numerical values to ordinal and categorical data. For instance, urban schools were recoded as 0 and rural schools were recoded as 1. I entered and cleaned the data using Stata, a statistical computer programme. Since this process can commonly result in mistakes and since there were no resources to recruit a secondary researcher, I checked the data entry several times. The next stage of the process was data exploration. Pictorial representation of the data helps to grasp its overall features (Marsh & Elliott, 2008). I visually inspected the key variables – such as teacher attributes, pupil SES and test scores – with tables and graphs. Descriptive and inferential statistics – with correlation, distribution, t-tests and analysis of variance (ANOVA) – were also used to explore data characteristics. Using the dataset assembling all quantitative variables, multiple regression analysis was conducted.

5.5.3 Multiple Regression

To find whether LCP might make a difference in pupil learning, I chose multiple regression as the analytical method. Multiple regression tests relationships between two or more variables while adjusting for confounders. Everything being equal, this uncovers whether the major explanatory variables in the data significantly correlate with the response variables, including test scores and other indicators of learning outcomes. Previous studies, albeit few in number, that have investigated how much LCP accounted for learning performance (Ngware, Oketch, & Mutisya, 2014; Knight, Parker, Zimmerman, & Ikhlef, 2014) also applied multiple regression analysis.

Although regression has been widely used in the social and behavioural sciences, it has several limitations. Regression measures relationships between variables but does not reveal causation (Diamond & Jefferies, 2001). Myriad numbers of confounding factors, including unobserved ones, may account for the association. Manipulation of such factors by means of experiments or randomised control trials may indicate a causal relationship; but as my research only observed a naturally occurring phenomenon and did not control behaviours, its analysis did not attempt to identify causal relationships. The interpretation of the results hence only unpacks the associations between factors.

Additionally, several concerns arise with regards to the selection of variables (Tabachnick & Fidell, 2013). Which DV and IVs are measured, and how? Which IVs should be included in the equation models, and why? Sections 4.6 on data collection and the research instruments address the first point, explaining why certain variables were assessed and how they were collected. As for the second problem, the choice of the IVs to be added to the regression sets revealed a difficulty in my research. Due to a lack of prior literature testing the associations between LCP and pupil performance, little evidential basis existed as to which variables might show significance. Other studies have questioned which school, teacher and pupil factors may affect learning outcomes (e.g. Rolleston & Krutikova, 2014; Rivkin, Hanushek, & Kain, 2005). I referred to these studies when determining the IVs.

Related to this issue is a concern about the combination of the variables. Tabachnick and Fidell (2013) warn that the combination of IVs introduced into a regression equation can greatly affect its outcome. In other words, the degree of importance of an IV depends on the other IVs which are already part of the model. At the same time, a regression model should contain the smallest number of IVs possible to predict a DV, a point made by Cohen (1990). To address these problems, each time a new variable was added, the changes were checked with respect to other IVs, confirming the significant contribution that each variable made to the predictive power of the DV. If the newly introduced factor did not indicate significance in an adjusted R-square, it was removed from the model. Moreover, a regression solution must meet a few assumptions regarding errors. The errors should be normally distributed while varying constantly, regardless of the value of the IVs (Coladarci, Cobb, Minium, & Clarke, 2004). The normality and homoscedasticity of errors were checked and reported for each regression equation.

Lastly, regression analysis assumes that errors are independent of IVs (Berry, 1993); if a correlation is observed between the errors and IVs, it may indicate that other variables explain the DV. The independence of errors is particularly problematic when the data has a hierarchical structure, such as in my study at the individual, school and

regional levels. Individuals within the same group are likely to be more similar than those from different groups. Ignoring this nested structure of the cases violates the assumption of conventional statistical tests, such as single-level ordinary least squares (OLS) regression (Hox, 2010). OLS assumes that the participants are sampled from the whole population at random, and that individuals within a sample are equally independent of each other. If an OLS analysis is used for clustered data, this underestimates the standard error of the regression coefficient, resulting in an overestimation of the statistical significance (Hox, 2010). The multilevel regression models (also called hierarchical linear models, mixed models or random effects models) deal with the likely problem in the clustered design (Snijders & Bosker, 2012). Multilevel modelling acknowledges data hierarchy and partitions the residual variance into a between-group unit and a within-group unit (Hox, 2010). In this way, the model allows us to distinguish sources of variability made by individuals from those made by the social context within which they are situated.

Along with simpler OLS analysis, I analysed the data using multilevel regression models. Although the regional and classroom levels also comprise part of the hierarchical structure in my research, the analysis at a multilevel took only the school and individual levels into account. Introducing additional levels to multilevel modelling increases the complexity of the model, making interpretation of the results more intricate. For this reason, I decided to introduce only the school-level variance into the multilevel analysis.

Notwithstanding that multilevel analyses were conducted for each regression model I tested, the estimated models revealed insignificances of the between school variance in comparison with the model without random effects. Specifically, likelihood-ratio tests checked whether the improvement in the model fit of the random intercept model (i.e. a model with multi-levels) as compared to the model fit of the simpler OLS model is worthwhile, given the additional complexity. The likelihood-ratio tests indicated insignificances of multilevel analysis. To make the interpretation straightforward, I report the results from the single OLS.

5.5.4 Models of Multiple Regressions

The analysis at the individual level investigates if observed- and/or perceived-LCP implementation is associated with any differences in pupil learning. Multiple regression analyses test the relationships: (1) between observed-LCP and academic performance; and (2) between observed-LCP, perceived-LCP and academic performance. The major IV in the equations is the extent of LCP implementation, comprising two types of LCP: observed-LCP and perceived-LCP. Observed-LCP consists of learner-centred activities and pupil–teacher interactions, as measured in structured observations. In contrast, the

data on perceived-LCP comes from pupils' classroom experiences, which was asked about in the pupil questionnaire. The DV is academic performance assessed by the subject tests, whose relationships with the two types of LCP were analysed by means of linear regressions. Table 5.2 summarises the main IVs and DV.

Table 5.2: Summary of the variables and data sources

	Variable	Measurement	Data source
IV	Observed-LCP	LCP activities Pupil–teacher interactions	Structured observations
	Perceived-LCP	Pupils' classroom experiences	Pupil questionnaire
DV	Learning outcome	Academic performance	Subject tests

The equation model to be tested takes the form of Equations (1) and (2), which are adapted from Rivkin et al. (2005) and Oketch, Mutisya, Sagwe, Musyoka and Ngware (2012). Equation (1) describes pupils' academic achievement (Y_{ij}) for individual i in school j .

$$(1) \quad Y_{ij} = \beta_x X_{ij} + \beta_t T_j + \beta_s S_j + \beta_l L_j + \varepsilon_{ij}$$

Pupils' academic performance is a function of pupil characteristics (X), teacher characteristics (T), school characteristics (S), the level of LCP implementation (L) and a random error (ε). Pupil characteristics include gender, home assets and parental education. Teacher characteristics include gender, years of teaching and teaching qualification. School characteristics, which also cover classroom variables, contain region (Dar es Salaam or Kigoma), location (urban or rural), school type (public or private) and class size. The level of LCP implementation is measured through consideration of the time duration of LCP activities and pupil–teacher interactions. Equation (1) estimates the variance in academic achievement levels dependent on the observed LCP implementation. Equation (2) attempts to test if pupil perceptions of learning experiences are associated with pupils' outcomes.

$$(2) \quad Y_{ij} = \beta_x X_{ij} + \beta_t T_j + \beta_s S_j + \beta_l L_j + \beta_p P_j + \varepsilon_{ij}$$

The model estimates that academic performance (Y_{ij}) depends on pupil characteristics (X), teacher characteristics (T), school characteristics (S), the level of LCP implementation (L), pupil perceptions (P) and a random error (ε). By treating pupil perceptions as one of the predictive variables, this model examines whether pupil learning is dependent or independent of their perceptions. In summary of the approach to quantitative analysis, the data from structured observations, questionnaires and pupil exams were used to explore the potential contribution of LCP to learning outcomes. Percentages, graphs and tables are also presented in analysis of the overall

trend. Having demonstrated the qualitative and quantitative analytical methods, the next section discusses quality evaluation to indicate how this research has endeavoured to meet the quality standard of a mixed methods study.

5.6 Data Quality Issues in Mixed Methods Study

The concept of trustworthiness in research was first derived from the positivist paradigm (Campbell & Stanley, 1963; Cook & Campbell, 1979), which qualitative researchers later adapted. This history has resulted in differing understandings of the terms used in quantitative and qualitative approaches. Teddlie and Tashakkori (2009) postulate that the quality of mixed methods research must meet the individual quality standards of both quantitative and qualitative strands. Here I illustrate the evaluation criteria applied to both quantitative and qualitative research, with their implications for mixed methods study. I then apply these criteria to my own study.

Quantitative and qualitative approaches share a similar meaning of construct validity, or whether researchers measure what they intend to measure (Maxwell & Loomis, 2003). Various researchers (e.g. Yin, 2014; Robson, 2002; Johnson, 1997) suggest the use of multiple methods as a tactic to strengthen construct validity, which this study has adopted. Any single method possesses drawbacks and may not be enough to measure what it is intended to measure; a combination of methods could facilitate cross-validation of the findings and conclusions.

Internal validity, developed by early quantitative researchers (Cook & Campbell, 1979), refers to a causal relationship between two or more variables. The emergence of qualitative research in the 1980s (Lincoln & Guba, 1985; Guba & Lincoln, 1989) led to the coinage of the term 'credibility' to consider the extent of accuracy when the researcher draws conclusions from their data in qualitative studies. Teddlie and Tashakkori (2003) noted the commonality of the two terms, and offered *inference quality* as a comparable term regarding internal validity and credibility in mixed methods. Inference quality concerns how accurately a researcher draws conclusions deductively (usually from quantitative data) and inductively (usually from qualitative data). While my research does not seek for causality in a statistical sense (i.e. it does not assume x causes y , controlling for other factors), it aims to infer what characteristics might associate to higher levels of LCP implementation and/or better learning outcomes. In doing so, I consider evidence that contradicts the conclusion, which is a method to bolster internal validity by addressing rival propositions of findings (Yin, 2014). Additionally, I have had to reflect on my own identity, positioning and power relationship with the participants to consider the possible effects of these on data generation and interpretation (Creswell, 2014), as presented in Chapter 4.

Nevertheless, some of the tactics for building credibility in the qualitative strand – such as using multiple researchers when collecting and interpreting the data, and checking transcription and interpretation with the participants (Johnson, 1997) – were logistically and financially unfeasible.

The terms *external validity* or *generalisability* in the quantitative approach and *transferability* in the qualitative approach also share similar meanings, in that the terms suggest transferring a conclusion to a wider context (Maxwell & Loomis, 2003). This research does not seek a statistical generalisation to a population mean; rather it aims to apply the transversal, vertical and horizontal findings to LCP as a pedagogical theory, considering whether the data conform, or not, to the theoretical umbrella of LCP.

Lastly, reliability in a quantitative sense refers to consistency or replicability of measurement (Robson, 2002; Cook & Campbell, 1979). The concept derives from the experimental design in natural and biological sciences, where it is important for other researchers to replicate the exact same study and produce the same results. Social research nonetheless rarely replicates a study in the same manner (Bryman, 2016). It is in the nature of social science to be context-dependent and, in my research, observational. Although I did not aim for my study to be replicable, following the underlying goal of replicability to present the research procedures clearly and in detail (Robson, 2002), the previous chapter and this one have operationalised and justified the methods of data collection and analysis. Reliability also pertains to standardised instruments in the quantitative approach. As the research did not intend to construct an instrument, I used those which were already validated and tested; hence, I did not conduct a check of the reliability of the questionnaire and exams by means of test–retest reliability. To monitor the consistency of responses in the questionnaires, the questions asking about the respondents' views or feelings included reversed questions. Inter-rater reliability between Manyama and I involved checking the extent of consistency in applying the codes to different categories. The rating revealed high reliability, as reported above. My study has thus attempted to maximise the trustworthiness of the results and analysis in line with the criteria employed in mixed methods studies.

5.7 Conclusion

This chapter has explicated my analytical approach. The TVH framework continues to guide the analysis. The transversal and vertical examination contextualised the analysis in the historical, cultural and social milieu using secondary documents and interview data as data sources. Along the horizontal axis, thematic analysis and

statistical analysis serve to investigate the qualitative and quantitative data respectively. The next four chapters present my findings and analysis. Chapter 6 attends to the transversal and vertical inquiries. The two axes examine in detail the effects of indigenous education, educational policies enacted by Nyerere, and contemporary international LCP policies. Given this contextual information, Chapter 7 reports data from teachers and teaching. In analysing why vertically transferred LCP policies were appropriated in particular ways in Tanzania, the chapter utilises the transversal axis to offer historical and epistemological explanations. Horizontal comparisons of urban public, rural public and private schools follow in Chapter 8. This chapter shifts the focus to contemporary issues of pedagogical dimensions apparently affecting LCP implementation distinctively at different localities. It also examines whether and how LCP could contribute to pupil learning. Chapter 9 summarises the findings and analysis while illuminating the significance of pupils' viewpoints in pedagogical research. It then revisits the conceptual framework (Figure 3.1) and the TVH case study (Figure 4.1), thereby engaging with the multidimensionality of pedagogy for educational policymaking.

Chapter 6 Transversal and Vertical Inquiries

LCP, developed by constructivist educational philosophers and theorists, has travelled around the world from Western to non-Western countries. The past decades have witnessed the adoption of international LCP policies by the governments of developing countries, notably in sub-Saharan Africa, including Tanzania (Chisholm & Leyendecker, 2008; Lewin & Stuart, 2003). A number of studies have revealed ambiguities and the incompatibility of LCP implementation in the context of developing countries (Schweisfurth, 2011; Tabulawa, 2013). However, the empirical literature has left out three critical components of pedagogy as delineated in the conceptual framework (Figure 3.1). In the classroom domain, existing studies have mostly investigated teachers' understandings of LCP and their practice, despite *students* being co-constructors of knowledge, values and interactions (Alexander, 2004; Tabulawa, 2013). Another element in the same domain which requires further explication is that of *learning*. The lack of an evidence base on links between LCP implementation and learning outcomes (Ngware, Oketch, & Mutisya, 2014) casts doubt on the effectiveness of LCP on children's learning. Within the culture/society layer of the conceptual framework, the research on LCP carried out in Tanzania has overlooked possible historical influences on current LCP implementation. Some aspects of Tanzania's educational history appear to align with constructivist educational theory. Thus, Tanzania's present endeavour to implement LCP, following international recommendations, needs to be historically situated.

Applying the transversal–vertical–horizontal (TVH) case study approach (Bartlett & Vavrus, 2017), this study investigated the inextricable links between history (transversal), macro-, meso- and micro-levels (vertical), and local cases (horizontal) with regards to LCP implementation in Tanzanian primary schools. This chapter establishes the foundation for the transversal and vertical axes which Chapters 7 to 9 will employ to analyse my findings. The transversal axis explores indigenous education and educational development under Nyerere. I also introduce interviewed teachers' views on Nyerere. This aims to link the past and the present, attending to whether and how Nyerere's *ujamaa* philosophy and educational agenda continue to exist today. The transversal axis eventually meets the vertical axis, which analyses policy diffusion and appropriation on international, national and local scales. The embracing of LCP by global agencies has permeated into Tanzania's national educational policy. The transversal and vertical examination provides historical, societal and cultural background to the data explored in Chapters 7 to 9.

6.1 Transversal Inquiry

6.1.1 Educational Development before Independence

It appears, based on the principles guiding education and on how learning is organised, that traditional Tanzanian society incorporated some features of LCP, although knowledge as well as child–adult relationships were fixed. The aim of education was to pass on established values and ideologies to the next generation, but talent could also thrive naturally via mutually respectful master–learner relationships (Cameron & Dodd, 1970). What is perhaps more fundamental in relation to LCP is that traditional society integrated learning into everyday life, where children acquired knowledge of agricultural competencies and ceremonial procedures at their own pace (Castle, 1966; Raum, 1967). There was no formal structure with a knowledgeable teacher in front of the classroom. The learners were exposed to knowledge, observed the skills of the master, and constructed their knowledge progressively. Knowledge and rituals were not simply memorised, but passed down in the form of narratives, storytelling and so forth. Later on these were intended to have an impact on an individual's character, their sense of responsibility, duty and belonging (Furley & Watson, 1978; Mushi, 2009). Because society highly valued communal relationships in order to maintain tribal harmony, collaboration with others in learning processes was common. Simultaneously, in this arguably 'democratic' space for knowledge acquisition, the transmitted rituals and traditions were fixed and could not be questioned. Society esteemed elderly people as the possessors of knowledge, and there were rigid relationships between older and younger generations (Cameron & Dodd, 1970; Coulson, 1982).

It was alien influences that introduced school-based, textbook-oriented education. From 700 AD Arabs had a significant presence along the East African coast of Tanzania, having previously arrived there through trading routes. They had a huge impact on language formation and on a form of schooling that stressed rote learning. It has been argued through sustained research that cultural integration and intermarriage with the indigenous population occurred, producing a new culture and language called Swahili (Yeager, 1989; Cameron & Dodd, 1970). Arabs and Persians were therefore the first to bring formal literacy education to Tanzania. At mosques they taught children reading, writing and calculus as well as religious tenets and practice with textbooks (Cameron & Dodd, 1970). As opposed to communal learning, the emphasis was on rote memorisation and individual learning (Mushi, 2009), though not necessarily 'individualised' in terms of the abilities and interests of each child. Hence, the Arabs brought education with more teacher-centred practice to the coastal area.

The next foreign influx arrived with Western Christianity. Missionaries from Germany, Britain and France came in the latter half of the nineteenth century and

trained African evangelists, albeit a select few (Furley & Watson, 1978; Coulson, 1982). In addition to Christian tenets and the Gospel, mission schools provided literacy education with teacher-centred practices not only in the coastal area but also in the continental interior. Similar to the Koranic schools initiated by the Arabs, they depended on written texts divorced from real African experiences. Christian missionaries also stressed individual advantage and dismissed cooperative activities (Cameron & Dodd, 1970). On the whole, Western education spread the decline of the practical and communal features of traditional learning among the wider African population.

This trend continued, and even intensified, under German and British colonial education. In the mid-1880s, Germany proclaimed Tanganyika – now mainland Tanzania – as a protectorate (Coulson, 1982; Cameron & Dodd, 1970). Demanding skilled labourers for infrastructure development and literate workers for government administration, the Germans established a secular education system in 1890. They also made Swahili the national language in order to govern the country efficiently (Cameron & Dodd, 1970; Furley & Watson, 1978). Education under the British colony, which began after World War I following the German defeat, dealt with Western knowledge unrelated to local matters (Morrison, 1976). It set up an examination system to screen bright children. This fortified competition and ‘selfishness’ among peers while lowering the cooperative aspects of African education, which had already been dealt a blow through Koranic modes of learning. The once indigenous cooperative learning had all but disappeared over time. Consequently, scholars criticised education in Tanzania as bookish and examination-oriented at the end of the colonial era (Cameron & Dodd, 1970).

6.1.2 The Legacy of Nyerere in the Education Sector

Independence in 1961 brought with it ambitions of reviving traditional society in Tanzania. While the colonial system of education had introduced formal schooling, it had served only a select few, with the estimated enrolment ratio in 1960 being 16.5% (Omari, Mbise, Mahenge, Malekela, & Besha, 1983). Village life remained dominant in people’s daily lives (Buchert, 1994; Cameron, 1980). The president Nyerere ‘despised’ schooling that produced elites who were detached from ‘village’ existence (Nyerere, 1967, pp. 383-384). Proclaiming that Western education had harmed the African way of learning, resulting in educational and social inequality, Nyerere formulated the idea of *ujamaa* to reconstruct traditional learning, but within the auspices of 20th century schooling provision and infrastructure. It could be analogous with forcing ‘the genie back into the bottle’.

Though not an educationalist by background, with his teaching diploma obtained at Makerere University and some years of professional teaching experience, Nyerere was committed to education. He believed in its power to transform the nation. Three years after independence Nyerere argued for the right to education for all children. His speech entitled 'Expectations and Responsibilities of Children and Youth (*Mategemeo na Wajibu wa Watoto na Vijana*)' in 1964 articulated two priorities in educational development. To provide equal education, those who were able to enrol in school must teach their fellows left out of school (Lema, Mbilinyi, & Rajani, 2004). Nyerere also focused on removing the boundary between community and school. Denouncing the colonial education that had separated the school from village life, he aimed to integrate the two entities. Nyerere underscored the relevance of the curriculum to local circumstance (Mbilinyi, 2004, p. vii); people from the community were expected to be involved in educating children, and the latter in turn were supposed to learn history and culture from the former, both inside and outside school (Lema et al., 2004).

Nyerere's commitment to equal education stuck in the memories of the interviewed teachers. Two teachers from different schools, Aisha and Moyo, mentioned that there were no private schools under his leadership; everyone regardless of their background could receive education entirely free of charge. Teacher Nyo further explained:

He [Nyerere] made sure that all the school had the equipment. There were enough books for every student. There were enough. You didn't have to buy a pen. (Interview with Nyo, 4 November 2015)

The fact that all schools across the country learned with the same textbook was also conducive to equal education, as another teacher Kito suggested. These teachers honoured the former president in promoting equality of opportunity in education.

In this process Nyerere saw teachers as agents for social change. Being a dedicated teacher himself, he had a great deal of trust and confidence in the then teachers. He delivered a speech at Morogoro Teachers College in 1964 on 'The Power of Teachers'. Nyerere (2004a) preached:

It is they, the teachers now at work and now going through Training College, who are shaping what Tanzania will become, much more than we who pass laws, make rules, and make speeches! (p. 42)

Those who educate the young determine the future of Tanzania. The respect Nyerere paid to them was remembered by teacher Nyo, who used to teach under Nyerere's presidency. In his interview with me, Nyo expressed that he received better treatment at that time: 'During Nyerere's time, the teachers were given enough salary to make them last the month. But today, we've been forced to find other means of getting

enough money to support ourselves'. Nyo's comparison of how they treat teachers between Nyerere and the current government suggests the teacher's grievance against the latter.

Grounded in his respect and trust in teachers, Nyerere issued his seminal policy paper in 1967, Education for Self-Reliance (ESR) (Nyerere, 1967). The paper criticised the formal education brought by Europeans for its remoteness from the life of the majority of Tanzanians. It was simply meant to train government servants. The president denounced it and intended to make education part of a pathway to African socialism articulated in the 1967 Arusha Declaration. Given that Tanzania was a predominantly agricultural country, Nyerere stressed the aim of education to produce good farmers; hence, ESR expected most pupils to cease schooling after primary education to work in agriculture.

In need of farmers to serve village communities, Nyerere repeatedly pronounced the importance of cooperation and not individual endeavour. School and community were to be integrated. He asserted that, 'Schools must, in fact, become communities – and communities which practice the precept of self-reliance' (Nyerere, 1967, p. 396). ESR invited local farmers to teach children how to cultivate the land. The school farms would eventually be able to generate income, with which they could self-sustain the school operation instead of relying on external funding from the government and charities. Teaching and learning should take place outside classrooms, where 'pupils can learn by doing' (p. 397):

The possibilities of proper grazing practices, and of terracing and soil conservation methods can all be taught theoretically, at the same time as they are put into practice; the students will then understand what they are doing and why, and will be able to analyse any failures and consider possibilities for greater improvement. (Nyerere, 1967, p. 397)

A few of the present-day teachers mentioned self-reliance when remembering Nyerere. Teacher Rajabu believed self-reliant activities would contribute to national advancement. According to teacher Abdu at another school, Nyerere's policies ensured that most pupils acquired skills through practice, so that they could depend on themselves when interacting with the environment. Both teachers regretted that the import of self-reliant activities had been downgraded since Nyerere's presidency.

To align how people live with what children learn at school, the curriculum should be made relevant to local conditions, and this should be done democratically. Nyerere emphasised that it is the children, and not the government, who reside in the community. Instead of a rigid curriculum imposed by the state, ESR was meant to grant plenty of flexibility to teachers and pupils in planning their teaching and learning (Nyerere, 1967). Student organisations were to be established, where pupils could have made decisions concerning school governance. These endeavours, Nyerere

thought, would nurture self-reliant graduates who contribute to their community after seven years of primary schooling. He detailed the key aspects of ESR at a conference attended by secondary school heads in 1967. Nyerere (2004c) proposed the benefit of student committees in involving students for planning what they learn and allocating resources:

[An] essential part of the success of our attempt to build a democratic society is the combination of free discussion followed by the full implementation of joint decisions; if the children get used to this at school they will at the same time be learning about the responsibilities of citizens in a free society. (p. 93)

Practising discussions and decision-making at school would produce democratic citizens, Nyerere argued. In order to successfully implement his educational ideals, the president travelled throughout the country, visited schools and spoke directly to teachers about the aspirations of ESR and the role of teachers (Lema, 2006). The teachers were expected to adjust the syllabus to local settings, practice self-reliant activities and cooperate with local authorities.

Despite these arguably learner-centred provisions as advanced by Nyerere, ESR was soon found to be a failure. Cameron (1980) called ESR 'a personal pamphlet' (p. 106), while Urch (1989) considered it 'more of a slogan than a reality' (p. 218). Even though Nyerere's ideas were progressive and 'horizontal', they did not align with the desperate educational situation and demands of the time. Due to the shortage of human and financial resources, newly-independent Tanzania had to depend on the already-established educational means and structures inherited from the British (Bartlett & Vavrus, 2013). Academic mastery continued to be emphasised over practical skills, and success in examinations remained crucial in climbing the education ladder (Samoff, 1990; Buchert, 1994; Oketch & Rolleston, 2007). The assessment strategy kept testing student ability to memorise and recall rather than higher-order thinking skills. This caused the proposed curriculum change laid out in ESR to barely be achieved (Mbilinyi, 1979). In spite of Nyerere's wish to change curricula, they remained rigidly determined without allowing teachers and students to introduce changes or to provide input, due to there being an excess of content to be covered (Mosha, 1990). School farms were compulsory affairs, with no exceptions or room for negotiation. Authoritarianism continued in classrooms, as there was no room for students, or even for teachers, to make decisions on the imposed curriculum (Mbilinyi, 1979; Mosha, 1990). Hence, dependence on the available curriculum, textbooks and assessment schemes persisted.

Only seven years after the enactment of ESR Nyerere admitted to this reality in the Musoma Resolution: '[W]e must accept that most of our objectives have not been achieved' (Nyerere, 2006, p. 102). Nyerere espoused the principles of learner-

centredness decades before international agencies took it to Tanzania through LCP programmes, but his means of implementation was authoritarian. ESR was revealed to be Nyerere's idealistic provision and not a realistic procedure. As a result, Nyerere's wish to restructure education in Tanzania did not come to fruition, and the school system of Tanzania remains similar to other sub-Saharan African nations.

In line with the above literature, the teachers participating in my research indicated a discontinued legacy of Nyerere's educational philosophy at the present time. Most teachers admired Nyerere and his *ujamaa*-related ideas, with many regretting that these did not exist in Tanzania today. Teacher Abdu claimed that the syllabi had changed from Nyerere's era in that self-reliant aspects of the syllabus had disappeared. Kito talked about different textbooks being used at different schools. Those who worked in public schools, such as Aisha and Moyo, notably pointed out the social gap created by public-private disparity, expressing their sympathy for the pupils at their schools for not being able to afford the cost of a private school. Jamba at another public school detailed this point:

[D]uring the Nyerere time, there were only government schools. Everybody went to school, so they received education freely. But according to the development and interaction of the ideologies, from socialist to capitalist, we have nowadays got private schools which even teach Chinese. So, those parents who are well off send their students to better schools, and this one [Jamba's school] is regarded for poor people. We now have many [social] classes – classes of higher people, middle, lower and the lowest, even the lowest. (Interview with Jamba, 22 October 2014)

Nyo also held Nyerere in high esteem, comparing him with the 'corrupted' politicians who served after him. The changes in educational policies made by them had destroyed education in Tanzania, Nyo argued. Hence, the present teachers largely showed their respect to Nyerere as a politician and educationalist, while highlighting the discontinuation of Nyerere's policies in today's Tanzania.

In addition to these teachers' accounts of the historical change from the time of Nyerere, including changes of syllabi, equality of opportunity and politicians, one crucial aspect in the classroom layer of pedagogy (Figure 3.1) was completely missing from their interview responses. When asked about their understanding of Nyerere's political and educational ideas, none of the teachers touched on how teachers should act and how learning occurs. None brought up Nyerere's intentions regarding practising democracy at school or working with peers collaboratively. The teachers' ignorance of these dimensions of ESR reflects the literature arguing that the policy was never implemented. ESR spelt out the ideology as to what education should look like in terms of Tanzania becoming a socialist nation, but how the philosophy should be translated into action remained ambiguous (Otunnu, 2014).

Nyerere himself was aware of the impracticability of a democratic teacher–student relationship. In my interview with Mr Madaraka Nyerere, the son of the president, he noted:

In Tanzania, younger people have to respect the elderly. Particularly in Zanaki village where Nyerere came from, there are four age groups: children, youth, middle age and elderly. Each age group has specific duties and responsibility, and makes decisions by themselves. But if they cannot solve a problem within the group, the last decision will be made by the elderly group. This tradition of Tanzania would limit the effectiveness of the student–teacher equal relationship, and Nyerere was aware of that limitation. But even so, he claimed that students should be able to challenge teachers. (Interview with Mr Madaraka, 22 November 2015).

To further illustrate the absence of Nyerere’s educational legacy in current Tanzanian society, discourse on ESR-associated ideas – such as curriculum relevancy, hands-on learning, children’s decision making and democratic pupil–teacher relationships – was missing from the presidential campaign that took place during my fieldwork in October 2015. Heated debates occurred between the ruling party, Chama Chama Mopinduzi, and the main opposition party, UKAWA, as the 2015 presidential election might have brought about a change of government for the first time since independence (Roop & Weghorst, 2016). The campaign pledges about their educational commitment focused on physical facilities at schools. When the candidates referred to teachers, they lacked details. Dr Magufuli, the later-elected president, promised:

The country faces a number of challenges in the education sector; should I assume the presidency, my government will see into it that learning and teaching environment is made better by providing schools with requisite materials and construction of houses for teachers. (Mwakyusa, 2015).

In comparison with Magufuli’s promise with respect to educational materials and teacher welfare, the opposing party led by Lowassa guaranteed free education from pre-primary to university levels, as well as improving curricular and teacher education (Peter, 2015). Furthermore, the then incumbent president of Zanzibar, Dr Shein, sought re-election, advocating an increase in school buildings and adequately trained teachers (Shekighenda, 2015). These candidates gave few details about how they would train teachers or on what ideas education should be based.

Given the consistency of accounts in the literature, interviews with teachers and Nyerere’s son, and the political campaigns, the pedagogical ideas of ESR seemed not to have spread at the time of his presidency; hence, present-day teachers in Tanzania were not likely to inherit his legacy in this respect. The transversal analysis has provided the historical context specific to Tanzania’s educational development. The focus now moves on to processes of policy transmission from international and

national to local levels, while the transversal axis fuses into the vertical axis. I trace the history of LCP spread within English-speaking Western nations, and from there to non-Western countries. The vertical exploration will end with the post-Nyerere period covering the international attempt to support LCP implementation in Tanzania. The secondary analysis along the transversal and vertical axes contextualises the policy cycle historically, socially and culturally.

6.2 Vertical Inquiry: International and National Endeavours to Implement LCP

6.2.1 Spread of LCP in the US and the UK

LCP is said to be a traveling policy (Dimmock, 2000; Schweisfurth, 2013). After being theorised by Rousseau and Dewey and scientifically supported by Piaget and Vygotsky, LCP first began to be widely accepted in the Western world – mostly in the United States and United Kingdom. Progressive methods were disseminated to public schools in the US during the first half of the twentieth century (Ravitch, 1983). The US Office of Education and the National Education Association recommended learner-centred beliefs and its usage as ‘best practices’ (Stone, 1996, p. 10). According to Ravitch (1983), by the late 1940s and 1950s, people in the US no longer considered progressivism as a particular teaching method but simply accepted it as a desirable pedagogy. It was not called ‘progressive education’ anymore, but merely termed ‘modern education’, ‘new education’ or ‘good educational practice’ (Ravitch, 1983, p. 43). Turning to the UK, the so-called Plowden Report published by the then Central Advisory Council for Education in 1967 was largely influenced by Piaget’s work on child development (Alexander, 2008; Schweisfurth, 2013). Providing a detailed explanation of development phases, the report put children at the centre of learning processes. Its emphasis shifted from a standardised curriculum to children’s meaning-making (Moore, 2012). The Plowden Report also underscored discovery learning, learning based on each child’s experience and interests, and problem-solving skills (Central Advisory Council for Education, 1967; Alexander, 2008).

In present times, the basis of national educational standards in the US rests on the praise of LCP (Vavrus, Bartlett, & Salema, 2013). The pedagogical theory also forms the foundation of teacher education, as advocated by the National Council for Teachers of Mathematics and the National Science Teachers Association (Fosnot, 1996). Not only in the US and the UK but also in other Western countries, governments have adopted the concept of LCP as desired teaching. The Education Review Office of New Zealand evaluated primary and secondary schools that employed student-centred learning as ‘the most successful schools’ (Education Review Office, 2012, p. 7).

Australia's Education Foundation also prioritised student-centred learning and promoted it to narrow the gap between the affluent and the disadvantaged (Black, 2007). Therefore, from the beginning of the twentieth century, LCP has been popularised in some English-speaking Western countries with strong backing from their respective governments.

There has been a great deal of praise for LCP in these cultures. In their guide to LCP practice for teachers, McCombs and Miller (2007) advocate learning through teachers' and other students' support as well as learning through student autonomy over learning processes. Weimer (2013) compiles research evidence supporting the successes of LCP implementation in the US. Based on various studies carried out in the country, the author concludes that LCP facilitates the intrinsic motivation of students and brings them deep understanding of learning content. Additionally, Brandes and Ginnis (1986) working in the UK context indicate how student perceptions changed after introducing student-centred pedagogy as they became more responsible for their learning and built trust in others.

Since the beginning of its spread, nevertheless, criticism of Dewey's progressive education has also prevailed in the US and UK (Ravitch, 1983; Schweisfurth, 2013). Scholars, teachers and parents in the US worried about the lack of intellectual basics and that of respect for others. Smith (1949) warned that students merely pursued their own interests and did not gain any knowledge (as cited in Ravitch, 1983, p. 72). Hutchins (1972) asserted that too much stress on individual needs ended up not meeting any needs and that schools failed to teach fundamentals. In addition to these rebukes against progressive education in the US, the Plowden Report was castigated in the UK. In the Black Papers published in response to the government's White Papers, Froome (1969) lamented the absence of order in primary school, pointing out children playing with toy-like objects and walking around and chatting. These accounts show that a number of researchers expressed doubts and indicated the operational problems of progressiveness, as Alexander (2008) notes.

Whether the adoption of LCP enhances pupils' academic attainment is also questionable. Cross-national examinations seem to show few correlations with respect to LCP implementation, whose trend has been unchanged since the late 20th century (Alexander, 2008). Chapter 3 took the PISA results as an example to illustrate this. Several other international tests including TIMSS and PIRLS have also shown ambiguous and inconsistent relationships between academic achievement and the extent of LCP implementation (Schweisfurth, 2013). The undesirable low pupil attainment in some English-speaking nations in the West has been attributed to the prevalence of LCP by some researchers (e.g. Dimmock, 2000; Schweisfurth, 2013).

6.2.2 International Recommendation of LCP in Developing Countries

Despite its ambiguous effectiveness in teaching and learning, LCP has permeated non-Western, developing countries. In the aftermath of World War II, education was recognised as a powerful instrument in peace building and setting up a new global order. Multilateral organisations such as UNESCO, UNICEF and the World Bank have spread ‘common values of individual freedoms and shared prosperity’ (Mundy, Green, Lingard, & Verger, 2016, p. 3) in the process. LCP, advocating individual learning (Rousseau, 2007; Darling, 1994) and freedom of expression (Dewey, 1916), played a major role in achieving this goal. Education for All (EFA) marked the outset of such LCP dissemination, derived from critiques of structural adjustment programmes in the 1990s (Vavrus et al., 2013). Implemented by the World Bank and the International Monetary Fund, the programmes demanded political and economic changes from publicly-controlled to market-oriented businesses (Mushi, 2009). With the introduction of school fees and the privatisation of schools, education in heavily indebted countries underwent a sudden drop of the gross enrolment ratio and a deterioration of education quality (World Bank, 2014; Vavrus, 2005).

The international response against this phenomenon came together in the launch of EFA in 1990. This demanded that sub-Saharan African and other developing countries make consecutive educational reforms (Chisholm & Leyendecker, 2008). Shifting the focus of global educational reform from access to education to the quality of learning experiences (World Bank, 2000), EFA aimed to provide quality education for all members of society from children to adults. The ‘quality’ here means a constructivist teaching style to enhance students’ active participation and inquiry-based learning (Vavrus, 2009). At the World Declaration on EFA, the donor agencies agreed that curriculum and learning materials should be ‘learner-centred [and] participatory’ (Haddad, Colletta, Fisher, Lakin, & Sutton, 1990, p. 68). They specified the necessity of reforming the curriculum to reflect cultural underpinnings and learner needs, and the need to transform the teaching-learning process into a learner-centred one (World Bank, 2000). By focusing on each student and stressing their interests, LCP is considered to be effective in accomplishing the intended outcomes of individual development and equal rights. EFA has thus urged many sub-Saharan African countries to adopt new curricula that promote LCP as official pedagogy in primary schools (UNESCO, 2007b). Three major global policy frameworks – child-friendly school (CFS), Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) – have followed EFA to spread LCP.

Led by UNICEF, CFS also espouses LCP as a preferred teaching strategy. First undertaken in Thailand in 1997, CFS is a policy framework that advocates the rights of children – including their participation in the community, their involvement in decision-

making, their health, and a child-centred approach to teaching and learning – to be achieved through classroom practice and school management (UNICEF EAPRO, 2006). The CFS project claims that teachers ought to use child-centred and interactive teaching methodologies, as these ‘make learning enjoyable and exciting to students and improve their retention, participation and performance’ (UNICEF, 2009a, Ch6, p.23). Teachers are expected to encourage children’s active participation, use cooperative group work, interact with individual students, and emphasise critical thinking and problem-solving skills rather than simple memorisation of facts. The CFS framework thus stresses LCP characteristics as its central tenets.

Curriculum reform is a large component of meeting international goals for education not only outlined in EFA but also in the MDGs enacted in 2000 (Chisholm & Leyendecker, 2008). The umbrella of MDGs’ eight targets underlines people-centred development (UNDP, 2014). In the education sector, MDGs aim for achieving universal primary education with EFA and CFS initiatives running in parallel. The policy accelerates education reforms with ‘student-centred learning’ (UNDP, 2014, p. 22). UNESCO (2015) reports that one of the achievements of EFA throughout the MDG years from 2000 to 2015 includes that ‘textbooks became more student-centred’ (p. 204). UNICEF had also tried to shift the attitudes of head teachers and teachers towards child-centred approaches under MDGs (UNICEF, 2009b). Inheriting the ‘unfinished business’ of EFA and MDGs (UNESCO et al., 2015, p. iii), the Incheon Declaration for Sustainable Development Goals continues to embrace LCP. It envisages ‘sufficient numbers of teachers and educators of quality using learner-centred, active and collaborative pedagogical approaches’ (UNESCO et al., 2015, p. 8). SDGs promote participatory methods in order to motivate and empower learners socio-emotionally, and aspires to them using knowledge in their day-to-day lives (UNESCO, 2017).

All these policies propose the use of learner-centred, participatory teaching practices, while labelling a teacher-centred, ‘chalk and talk style’ as inappropriate for teaching. Development agencies thus commonly believe LCP to be a universally effective teaching methodology and a promising way to improve learning outcomes for pupils (Barrett, 2007). Their shared intentions to switch pedagogical approach have had a notable influence on educational reform in individual countries across sub-Saharan Africa, as illustrated in Chapter 3.

A point worth noting is the language used in these policy discourses. These policies understand ‘pedagogy’ rather narrowly, referring exclusively to the act of teaching. For instance, UNESCO (2007b) introduces the ‘child-centred curricula’ and discusses ‘a move away from “chalk and talk” methods to more discovery-based learning’ (p. 29). It implicitly equates curricula with a teaching technique. CFS appears

to adopt a holistic approach involving school design, community involvement and children's rights; but its pedagogical focus attends to teachers and teaching methods, mostly considering how best to train teachers to use a child-centred approach (UNICEF, 2009a). At first glance, SDGs distinguish learning objectives from learner perspectives by listing what learners should be able to do as a result of 'quality education' (UNESCO, 2017, p. 18). However, the initiative assumes that using a 'participatory method' enables learners to be motivated and empowered (ibid). Even if these policies use terms like learning or learners, their attention is directed primarily toward teaching practices and classroom processes. As Tabulawa (2013) criticises, educational development discourse tends to 'single out [the *teachers*] as the most important change agent, to the exclusion of other participants, such as *students*' (emphasis added, p. 12). Borrowing Alexander's (2004, 2008) definition of pedagogy, the international policy frameworks speak of observable teaching practice while leaving aside the attendant discourse of pedagogy such as values, knowledge and beliefs. The tendency to trim down pedagogy to only teaching methods implicitly indicates a techiest assumption held by the global players, whereby LCP implementation will be successful as long as the recommended teaching practices are employed.

Furthermore, behind these global education reforms lie objectives that are not educational but rather ideological and political. Tabulawa (2003) asserts that education, or more specifically pedagogical practices, pave the way to producing the intended citizens and nations from the perspective of the governing body. Political democratisation is a prerequisite of capitalism, or the free-market economy, as the latter involves individual freedom and autonomy (Boron, 1995). Tabulawa contends that in order for developing countries to economically advance in the same way as developed countries, political pluralism is a necessary condition. One of the interviewed teachers, Mosi, explicitly explained this point:

After the fall of the USSR [the Union of Soviet Socialist Republics], who was the pioneer of socialism, many socialist countries including Tanzania fail to implement their...their ideas, their views. They followed capitalist countries. And they got what? Condition. If we want to get their [capitalist countries'] help, their loan, we had to join capitalism with democracy. (Interview with Mosi, 10 November 2017)

Mosi continued to argue that Nyerere's *ujamaa* policy was eventually terminated due to the forced shift from African socialism to capitalism, whereafter *ujamaa* became history. Tanzania nowadays practices capitalism, although the people still hold with the ideal of socialism, Mosi explained.

The school is a microcosm of society. LCP promotes democracy with its emphasis on learner autonomy, participation and ownership. Democratic social relationships in schools stimulate students to be democratic personnel (Dewey, 1916).

Tabulawa (2003) claims that aid agencies' interest lies in the permeation of democratic capitalist ideology. Thus, the promotion of LCP is an ideological project by international donors, which Carney (2008) calls a ritual of 'cultural imperialism' (p. 40). Since the collapse of the USSR, Tanzania has been caught up in this cultural remodelling.

6.2.3 National Embracement of LCP in Tanzania

Tanzania has espoused the concept and use of LCP, and explicitly states a commitment to international schemes and a pro-LCP approach in its education policies. Its recent embracing of LCP dates back to the Primary Education Development Programme enacted in 2006, declaring the government promise to aspire to the targets of EFA and MDGs. The emphasis is placed on 'promot[ing] new teaching methods which are child-centred with a variety of inquiring methods, problem-solving, critical thinking and practical learning' (MoEVT, 2006, p. 27). The Basic Education Master Plan lists policies and government programmes aligned to the realisation of EFA, and states explicitly the government intention to 'implement agreed international commitments' (MoEC, 2001, p. 2). The Plan makes a specific reference to UNICEF's CFS, urging the adoption of 'learner centred methods' to reduce education disparities (MoEC, 2001, p. 23). Most recently basic education curricula for Standard 3 to 4 'emphasizes learner-centred approach in which the pupil is the focus' (MoEST, 2016, p. 28). It promotes activities suitable to pupil abilities and a variety of participatory ways of teaching and learning.

In addition to these policy pronouncements clearly in favour of LCP, the Tanzanian government has taken the initiative in realising these policies by training teachers appropriately. The In-Service Education and Training Strategy for Primary School Teachers, established by the Ministry of Education and Vocational Training in 2009, calls for attention to existing teaching habits that 'do not easily support learner centred methods' (MoEVT, 2010b, p. 9). It sets the improvement of quality education as its goal, where the quality here indicates LCP that entails 'interactive teaching' and 'active problem solving' (p. 15). Additionally, the National Competency Framework (MoEVT, 2010c) articulates that competent teachers should 'identif(y) pupil's interests and talents' (p. 9), 'compos[e] meaningful group tasks' (p. 14), and 'create a democratic atmosphere in the classroom' (p. 14). These policy documents reveal the Tanzanian government's concentration on LCP in educational settings.

More recently, the curricula for the certificate and diploma in teacher education programmes, formulated jointly by UNESCO and the Tanzania Institute of Education, aim to educate qualified teachers in participatory and interactive pedagogical skills (MoEVT, 2013b, 2013c). Specificity is mentioned about how teaching methods should be taught at teacher-training colleges; that is, to 'engage students in active learning'

and to 'create opportunities for student–tutor interactions and student–student interactions' (MoEVT, 2013b, p. 26; MoEVT, 2013c, p. 22).

UNICEF has played a critical role in the actual implementation process of these policies. To institutionalise the CFS model at district, ward and village levels, it has hosted a range of workshops for teachers and visited field sites (UNICEF, 2009c). In seven designated districts, UNICEF and Tanzanian local governments have reviewed teacher-training courses and allocated resources. This policy transmission process indicates that the Tanzanian government, with generous support from multilateral donors, has taken steps to equip teachers with LCP skills so that they can practise LCP in classrooms.

Following the focus on *teachers* and *teaching* in the international recommendations, the Tanzanian national agenda also concentrates on the act of teaching. Its education policies mainly promote ideal teaching methods, such as 'interactive teaching' and 'active problem solving' (MoEVT, 2010b, p. 15). The Tanzanian Institute of Education has considered what teaching skills student teachers should be equipped with through teacher training (MoEVT, 2013b, 2013c). The Tanzanian government is nevertheless silent as to how teacher training may affect *pupils* or what support *schools* should provide to maximise training. There exists a tendency to reduce 'pedagogy' to mere pedagogical *acts* exclusive of pedagogical *ideas* at both international and national levels.

6.3 Conclusion

The transversal and vertical inquiries across time and space have explored the sociocultural milieu Tanzania has cultivated in relation to LCP (Bartlett & Vavrus, 2017). Espousal of 'democratic' and cooperative education by the Nyerere government had started decades before the international donors brought LCP into the country. Yet, the implementation of ESR was revealed to have been unsuccessful due to a lack of understanding among policy actors (i.e. teachers and pupils) and because of an institutional culture inconsistent with ESR ideals. Global organisations nonetheless soon introduced similar educational concepts, which Tanzanian national policies have recently adopted. What happens when such policies hit the ground in local schools? How do local actors of LCP implementation understand LCP and appropriate it? The transversal, vertical and horizontal analysis of local schools in the subsequent three chapters seeks to address these enquiries.

Chapter 7 Teachers and the Act of Teaching

Chapter 3 introduced a comprehensive definition of ‘pedagogy’, namely that ‘Pedagogy is the observable act of teaching together with its attendant discourse of educational theories, values, evidence and justifications’ (Alexander, 2008, p. 29). This chapter centres on one of the complementing constituents of pedagogy, *the observable act of teaching*, and its actors, *teachers*. Sitting in the innermost layer of the conceptual framework (Figure 3.1), these two elements of pedagogy have been a primary focus of existing literature. Research conducted on LCP implementation in low-income nations dominantly observed teachers’ lesson activities (e.g. Nakabugo & Siebörger, 2001; Harley, Barasa, Bertram, Mattson, & Pillay, 2000), examined their beliefs and understanding of LCP (e.g. Dyer et al., 2004; Barrett, 2007; Sikoyo, 2010), and evaluated the effectiveness of teacher training (e.g. Hardman et al., 2009; Thompson, 2013). This is regardless of the fact that *students* and *learning* equally compose an integral part of pedagogy in the classroom. Below I present findings on how teachers thought about LCP and how they acted in the classroom, obtained mainly from semi-structured interviews with teachers and unstructured and structured classroom observations. I add transversal and vertical analysis to the observed phenomenon; employing the transversal and vertical axes from the TVH case study reviewed in Chapter 6, I intend to embed my findings within historical and epistemological contexts unique to Tanzania.

In doing so it may be useful to briefly review the two contrasting views of knowledge introduced in Chapter 3. Constructivism rejects fixed knowledge, instead considering knowledge as fluid and constructed (Crotty, 1998; Patton, 2015). The absolute truth does not exist, and individuals build up their knowledge through cultural and social interactions. Rationalism in contrast considers knowledge existence to be independent of the knower (Davis, Jo McCarty, Shaw, & Sidani-Tabbaa, 1993). Reality is ‘out there’ regardless of how humans perceive it. These two epistemological perspectives legitimise a certain kind of pedagogy, with constructivism leading to LCP and rationalism leading to TCP. Constructivist epistemology argues that each learner constructs knowledge uniquely, which justifies individualising the learning process for each learner (Rousseau, 2007; Darling, 1994). Since teachers are not ‘knowledge possessors’, LCP also encourages equal, democratic relations between teachers and learners (Dewey, 1916; Biesta, 2006). In collaboration with teachers and other peers, LCP recommends activity-based learning – such as discussion, hands-on experience and presentations – over mere sitting and listening to teacher explanations (Ginnis, 2002; Schweisfurth, 2013). On the other hand, the rationalist view of knowledge offers an epistemological and theoretical grounding to didactic, teacher-centred modes of

education. Learning in this paradigm becomes a process of discovering an already-existing reality (Kelly, 2009). Since absolute knowledge exists as the truth, the purpose of education is to equip the learner with the right knowledge, such that learning activities become answer-centred (Tabulawa, 2013). It also produces unequal power relations between teachers and learners (Pignatelli, 1993). Teachers as the source of knowledge obtain authority, and learners become passive receivers of ready-made knowledge. Hence, the quality of education within rationalist epistemology is determined by how well students recall the transmitted knowledge.

Tabulawa (2013) insists that making a 'paradigm shift' from one epistemology to the other is almost impossible: 'The disintegration of the dominant paradigm represents a disintegration of the practitioners' taken-for-granted world and a concomitant loss of psychological support' (p. 47). Here he suggests that epistemology and its accompanying pedagogy are implanted within a cultural and social realm, and that they are historically succeeded over time. Bearing in mind these two sets of epistemology and their accompanying pedagogy, this chapter presents the results regarding *teachers* and *the act of teaching*. By attending to teachers' understandings of LCP gained from the interviews and their acts of teaching observed in the classrooms, the analysis will unveil the underlying epistemology the teachers may have to adhere to apply a certain kind of pedagogy.

7.1 Teachers' Understandings of *Observable Act of LCP*

The vertical investigation of LCP transfer in the previous chapter revealed a policy emphasis on *observable* LCP practices. International and national policymakers tendentiously regard LCP as identical to a mere teaching method, exclusive of cultural, social, political and system-level factors that would affect the forming of appropriate pedagogy (Figure 3.1). Such a view of LCP as a recommended observable method reached primary teachers as local actors in Tanzania. When asked about their understandings of LCP in the semi-structured interviews, every participant teacher except for Rashid at a private school of Islamia had heard of LCP-related terms including learner-centred pedagogy (*ufundishaji unaozingatia mwanafunzi*), child-centred pedagogy (*ufundishaji unaozingatia mtoto*), participatory method (*ufundishaji shirikishi*) and/or synonyms of these. The teachers learned these terms in pre-service or in-service teacher training, or during daily conversations with their colleagues.

One LCP feature highlighted by the teachers, both frequently and saliently, involved learners' participation in teaching and learning processes. Eight out of 17 interviewees explained the term(s) using words like 'participation', 'involvement' and 'activity'. They elaborated on what they meant by these words with specific examples

of ways to involve their pupils in classroom activities. Teacher Abdu at the rural public Kisutu School offered details as follows:

Participatory method is when you... let me give you an example. When I'm in a class, I teach a certain subject. [...] I ask them questions, and they answer the questions. Or when I'm at the blackboard, I can call one pupil to come to the blackboard. For instance, when I teach mathematics, I can use one pupil to calculate on the blackboard. Instead of me calculating, the pupils are going to calculate. (Interview with Abdu, 3 November 2015)

For Abdu involving pupils in teaching and learning meant giving them tasks that they could actually do, such as Q&A, pupil demonstrations or pupil–pupil teaching. In a similar fashion, Aisha at the Amani urban public school explained her understanding of LCP:

[In] participatory method, I can consider pupils to participate in learning, like question and answer. Or I can give them questions [or] individual tasks in groups. The groups can do the task. After I show examples on the blackboard, I can give them the questions. And then, they participate to answer the question. (Interview with Aisha, 12 October 2015)

Thus, according to these teachers, pupils actively participating in tasks is key to LCP. Learner-centred classes place students at the core of, and enhance their involvement in, learning processes. Barrett (2007) points out that the word 'participation' (*ushirikishaji*) has become a buzzword in Tanzania, implying its fashionable use without careful consideration regarding its underlying meaning. Although the interviewed teachers in Barrett's research attached the term 'participation' overwhelmingly to Q&A, the teachers in my study cited a variety of activities, from discussion and group work to peer teaching, as well as Q&A. The different results obtained in Barrett's and my research might have derived from the ways in which questions were asked; the former enquired what the teachers considered 'good practice', whereas I asked the teachers about their understandings of LCP.

On the other hand, what is perhaps common in both studies is teachers' focus on *observable activities*. The teachers in my research explained the importance of pupils diligently engaging in observed tasks and activities. They considered Q&A, pupil demonstration, group discussion and pupil–pupil teaching as 'learner-centred'. The emphasis placed on these activities by the teachers can imply that LCP does not mean merely sitting and listening, or the use of "lecture" methods' in Barrett's terms (2007, p. 285). This allies with Rousseau's focus on letting children experience things for themselves and encouraging children's movement around the learning space (Darling, 1994). Ginnis (2002) and Schweisfurth (2013) also identify the active roles learners play in teaching and learning processes as LCP features.

What was missing from teachers' descriptions were the theories and principles underpinning LCP's observable practices. They articulated what LCP looks like, but rarely touched on the meanings and concepts underlying LCP-related activities. The absence of LCP concepts from teachers' understandings may present a similarity with LCP policy discourse which also focuses on observed teaching acts. The vertical analysis in Chapter 6 demonstrates that policy diffusion of LCP places emphasis on observable teaching practice. International LCP policies including EFA, CFS, MDGs and SDGs equate LCP with teaching techniques such as 'participatory method' and 'active and collaborative approaches'. They do not substantiate the import of these practices with the accompanying theories and concepts. The teachers who participated in Barrett's and my research seemed to acknowledge the global LCP discourse at the language level, using the terms with respect to specific classroom practices but without referring to the LCP tenets. The fact that teachers prioritised concerns with activities prompts a query: *Did they employ discussions, Q&A, group work and pupil presentations in their classrooms?* The next section on classroom observation analysis will unpack this question.

7.2 Observed Pedagogical Approaches

The teachers spoke about observable LCP in line with international policy documents, but learner-centredness did not come about as an observable act of teaching in the manner intended by aid agencies. Data from structured observations shows the dominance of teacher-centred activities in a collective average of the 17 lessons. TCP-related tasks accounted for 81% of the lesson time, whereas the teachers spent 14% on learner-centred activities. Off-task activities took up 5%. Table 7.1 shows a breakdown of mean percentage of time applied to specific activities. The full lesson time used by the teachers totalled 11 hours 28 minutes and 17 seconds, ranging from 13:28 by Mosi at Siha (rural public) to 1:05:31 by Rajabu at St. John (private). As Barrett (2007) remarks, teachers in Tanzania tend to not strictly adhere to the timetable. In my study this dynamic was more evident in public rather than private schools. Some teachers finished their lessons earlier than the bell rings, while others took significantly longer than their allotted timeframe of 40 minutes.

Table 7.1: Percentages of activity time used in classes

Large categories	Small categories	Mean (%)	SD	Min (%)	Max (%)
TCP-related	Watching/listening	40	0.23	2	82
	Taking notes	4	0.06	0	18
	Reading aloud	2	0.05	0	15
	Written exercise	21	0.22	0	69
	Teacher-initiated Q&A	15	0.11	0	41
	TOTAL	81	0.15	51	100
LCP-related	Individualised activity	0	0.00	0	0
	Group work	4	0.07	0	20
	Pupil demonstration	10	0.11	0	26
	Learner-initiated Q&A	0	0.01	0	4
	TOTAL	14	0.14	0	44
Off-task	Teacher management	1	0.02	0	8
	Transition	3	0.03	0	8
	Pupil uninvolved	1	0.02	0	4
	TOTAL	5	0.05	0	16

Table 7.1 indicates that the pupils were predominantly involved in lecture-driven activities based on watching and listening to teachers (40%) or responding to teacher-initiated questions (15%). Many classes also included writing exercises (21%) as a way to test pupils' understanding at the end of the lesson. This took up more than half of the lesson time in some classes, as detailed later. The prevalence of TCP-associated activities corresponds to previous quantitative findings in other sub-Saharan African countries. Frost and Little (2014) found 75% of TCP-related, 11% of LCP-related and 15% of off-task activities in Ethiopia. Likewise, Ackers and Hardman (2001) recorded a predominance of teacher-directed instruction in Kenyan primary schools.

Below I provide narrative portraits of two lessons. Each of the 17 individual cases exhibited similar and distinctive features in relation to LCP. The two lessons were chosen here to illustrate the prevalence of TCP-related activities even in two very different settings: one from a rural public school that suffered from a severe shortage of facilities and teaching aids, and the other from a private school with newly-built classrooms and an abundance of materials. The two case stories are not meant to generalise their teaching and learning processes to the entire schools, and portraits of all schools are included in Appendix 17. The stories draw mostly upon qualitative data from unstructured lesson observations and field notes, but I also knit together these with quantitative information from the head teacher questionnaire. They present school characteristics – their surroundings, their history, and my impression of school

conditions – and the pedagogical approaches that the two teachers adopted in their lessons.

School Case 1: Siha School (Rural Public)

Siha School was located in a remote area of the Kigoma region. To reach there, only a privately-hired motorcycle was available, as there was no public transport to the school. One would pass by the school signboard made from a stone, because its painting had mostly worn away and it looked like a bare stone. The school had several unpruned trees here and there while weeds were taking over a sloped playground. The classrooms were made of concrete, but their paint had peeled off. Open windows and doors let air into the rooms. The head teacher indicated in the questionnaire that the school had only piped water and a playground out of the nine facilities enquired about (including piped water, electricity, library, science laboratory, staff room, playground, school garden, telephone and photocopier) (Appendix 14). However, next to its school building was a brand-new nursery school built by a donor agency.

Teacher Mosi's English class was packed with nearly 90 pupils. They shared 24 desks and chairs with up to five peers while sitting with their bodies squeezed. In addition, three girls did not have a chair and sat on the floor in front of the chalkboard. No electricity was used, but the sun acted as the light in the classroom. The lesson on relative pronouns started without greetings. Mosi first copied phrases and sentences from his textbook onto the board. Yet the quality of chalk was so poor that what he wrote was barely readable. In introducing the lesson topic, Mosi prompted the pupils to repeat. He then went on to explain how to construct a sentence using the relative pronoun 'who'. No pupil had a textbook. The teacher copied two examples from the teacher's book. He read aloud while writing, throughout which he faced the blackboard.

After a brief introduction of the relative pronoun came a whole-class exercise. As with the introduction, Mosi wrote down the questions on the board and read them out. The pupils watched and listened to him. Yet, many pupils neither paid attention to Mosi nor seemed to understand the teacher's explanation in English. Some lay down on the desks and others looked outside. In the middle of the exercise preparation, the teacher needed a duster but could not find any in the classroom. A girl stood up and went out to find one.

Mosi finished drawing a table with one column featuring different types of occupation and another containing their descriptions. He then asked the class to choose phrases from each column. The pupils were expected to make a meaningful sentence by connecting two phrases with the relative pronoun 'who'. Mosi first read aloud the description, for example, 'Someone who prepares food in a restaurant or hotel is called?' This was followed by a pupil choosing the occupation from another

column. The class was rather quiet. Only a few of the same pupils raised their hands. To those who answered correctly, Mosi uttered 'good' and repeated the whole sentence. When the pupils got a wrong answer, the teacher told them 'no thank you', and called upon another pupil. After repeating such interaction eight times, Mosi finished his short lesson in a little more than 13 minutes.

School Case 2: Kawe School (Private)

Built by a business owner of a large enterprise in Tanzania, Kawe School in Dar es Salaam had very recently opened and provides private education from the pre-primary to secondary levels. A security man stood in front of a metal gate. I explained the reason for my visit, and he easily let Manyama (the research assistant) and me enter the school. Six school buses were parked to the left of the entrance. Classrooms were built into a U-shape, with concrete covering the ground in front of them. Along with the newly-built classrooms, the school is equipped with all facilities asked about in the head teacher questionnaire and held more than 30 computers. To fully utilise their abundant teaching materials, the head teacher told me that the school had been trying to attract more pupils.

Zakia in his late 20s had taught for four years after university. Zakia's English class on gender-related vocabularies comprised 38 pupils sitting on individual chairs. The well-painted walls with white and cream colours had some teaching material relating to the subject of English and a timetable.

Zakia began his class by asking the pupils the definition of 'gender'. A girl sitting in the front row confidently answered, 'The state of being a male or a female'. After restating her answer Zakia described how to refer to the two genders, followed by pupil repetition:

Zakia:	The males, we call them the masculines. We call them what?
All pupils:	The masculines.
Zakia:	When I'm talking about the males, we also call them masculines. We call them?
All pupils:	Masculines.
Zakia:	What about the females?
All pupils:	Feminine.
Zakia:	How do we call them?
All pupils:	Feminine.

After this exchange a variety of gender-specific vocabularies were presented and defined. For instance, Zakia introduced the word 'husband', prompting the class to answer and define the opposite term. An appointed pupil would state 'wife' and give definitions of either or both of 'husband' and/or 'wife'. A similar pattern of interactions took place dozens of times for 30 minutes, dealing with human-related vocabularies like 'widower' and 'widow' as well as animal-related ones such as 'buck' and 'doe'.

Throughout the lesson Zakia remained a very authoritarian figure. When few hands were raised he shouted, 'You raise up your hand! There are some people here who are sleeping. They don't know anything'. Similarly, when the collective voice of the class was low for cued elicitation, the teacher ordered the pupils in a loud, somewhat angry voice to repeat what he said. At another time when a girl tried to respond to Zakia's question to define the term 'a waiter,' Zakia cried to her, 'Can you stand up and give us a correct answer? Stand up!' Towards the end, Zakia invited the pupils to come up with pairs of gender-specific words not covered by the lesson. Seven pupils responded, and the teacher finished the lesson rather abruptly.

Reflections on Two Lessons

Both teachers recorded no LCP-related activities during the class, albeit for seemingly different reasons. Mosi's class had the most severe classroom environment among other observed classes, which limited what the teacher could do in his lesson. It was obvious that his classroom lacked very basic materials, from desks and chairs to proper chalk and a duster. Although the classroom accommodated a moderate number of pupils compared to other schools, the shortage of desks and chairs forced them to sit squeezed together. A few pupils even sat on the ground. It was visibly impossible to move the connected desks to form groups. The pupils whose minds were clearly unfocused would become more distracted if that happened, as they already looked disengaged from the lesson. Moreover, Mosi seemed to lack teaching skills in general and not to be trained adequately in LCP. He mostly spoke toward the chalkboard. Despite the lesson topic on the relative pronoun, the pupils only answered one or two words of occupation without using the grammar. Hence, the material shortage and the capacity of the teacher seemed to hamper LCP appropriation at the Siha School.

In contrast, Kawe benefitted from relatively adequate facilities and teaching aids, but these did not prompt Zakia to practice LCP-associated tasks. The pupils watched and listened to him for more than 60% of the lesson time. The teacher-led Q&A was the most common form of pupil-teacher communication, followed by cued elicitation. In calling upon individual pupils, Zakia shouted at them to stand straight and not to 'sleep'. Although the pupils did not seem to be frightened by Zakia's shouting, his authoritarian figure was evident throughout the lesson. The pupils did not appear to be willing to initiate their learning but passively followed the teacher's direction.

In sum, the data from classroom observations suggested little *observed* implementation of LCP-related practices. The 17 teachers on average predominantly applied lecture-driven, teacher-led styles of teaching. Having demonstrated how teachers utilised TCP-related activities – including watching/listening, taking notes,

reading aloud, written exercises and teacher-initiated Q&A – I now shift the focus to another category in Table 7.1, LCP-associated activities.

7.2.2 Absence of Individualised Activities

The founder of child-centred pedagogy, Rousseau (2007), appreciated the unique characteristics and different developmental stages of each child. This notion led him to endorse that education be individualised in order to cater to their varied interests and abilities. In the schools which took part in this study, Rousseau's notion of individualised teaching and learning attracted far less attention from the interviewed teachers, compared to their frequent reference to pupil participation and activities. Even so, a few did show their understandings of LCP in this respect. Moyo at the rural public Green School and Aisha at the urban public Amani School cited individualised learning as an example of LCP while briefly explaining it:

We teach students based on how he or she is. We teach them according to who they are. Here we have slow learners, those who don't know how to read from Standard 1 up to Standard 7. So, we teach them mathematics and other subjects, but we also teach them how to read and write. (Interview with Moyo, 19 October 2015)

I know some of my pupils have some problems. If he or she is a slow learner, I take more time to introduce topics to him or her. I try to know everyone who has problems, like he has a hearing problem or eyesight problem, or he is a slow learner. I take more time to support him or her. [...] In this class, there are [pupils with] different ages. One can start Standard 1 at an older or younger age, like Standard 1 with seven years or six years or five years. Others, eight years. So if they are different ages, you can consider who is younger and who is older. (Interview with Aisha, 12 October 2015)

Both Moyo and Aisha noted the need to adapt teaching and learning to each child, attending to their different academic abilities, with specific references made to those who are 'slow learners', those who had disabilities, and those who were younger. According to the two teachers, LCP is meant to adjust the way of teaching to the diversity that pupils bring to the classroom.

Table 7.1 nonetheless shows no individualised activity observed in any lessons. All pupils undertook the same activity in the same place, at one point in time and at the same pace. When some worked at a different speed, they were made to adjust their pace. Writing exercises, which accounted for 21% on average of the 17 lessons, epitomise this characteristic. In Malika's 50-minute lesson on fractional equations at the rural public school of Baraka, she spent more than 30 minutes on pupils' solving five questions on the board. The class became perfectly silent. Malika went around the room to mark their work one by one, which took a long time. Learners who completed the problems early had to wait silently until everyone else finished. Classes by Aisha and Nyo involved similar instances. Some pupils waited with nothing to do for more

than half of the lesson. Thus, the pupils in this study never engaged in classroom tasks in the way Rousseau (2007) proposed, with learning being based on an individual's abilities, interests or experiences.

Moyo and Aisha, who recognised individual variation as one feature of LCP, explained why individualised tasks would not occur in their day-to-day lessons. Both teachers expressed the difficulty to adjust activities according to the abilities and differences of each pupil. Large class size, especially with over 150 pupils in Moyo's class, and time limitation hindered their execution of individualised activities. The interview accounts of Moyo and Aisha regarding situational constraints may provide one possible reason to limit LCP implementation, which Chapter 8 pursues further analysis of.

Here instead, the transversal axis developed in Chapter 6 attempts to explain the non-presence of individualised learning from a historical perspective. The purpose of education in Tanzania's indigenous era involved passing on the customs and values from the knowledge possessor to the recipient (Cameron & Dodd, 1970). Its process demanded that every member of society acquire predetermined knowledge. Learning always took place cooperatively between masters and peers (Furley & Watson, 1978). By critiquing the colonial education model which advocated competition between individuals, Nyerere also discouraged independent learning but stressed collaboration with fellow students and communities. The aim of this approach was to achieve ESR in order to produce farmers who would cultivate and harvest agricultural products cooperatively (Nyerere, 1967). Self-reliant activities were meant to enhance pupil awareness as members of society. Such a historical tracking would signal that neither indigenous education nor Nyerere's ESR appreciated individualised activity over the course of Tanzania's educational development. Collective learning, where learners acquire the same knowledge and customs in the same manner, seems more important than the uniqueness of learners or their independent learning. The complete omission of individualised activity during the lesson observation in this study, as well as fewer teacher narratives focused on this within the interviews, might reflect a continued absence of such activities over the course of Tanzania's educational history. The present teachers and pupils were engaged in the same task at the same time and at the same speed, not allowing for individuals to undertake their own learning.

7.2.3 Employing Undemocratic Pedagogy

Another dimension that manifested the lack of *observed* learner-centredness in the classroom entailed a democratic aspect, one of the key features of LCP urged by Dewey. His progressive education accentuates equal student–teacher relationships and learner involvement in curriculum development (Dewey, 1916; Schweisfurth,

2013). Dewey ran a school that let children design their own curricula and fostered democracy in the school community, albeit without scientific justification (Cuban, 1993). Nyerere followed Dewey's direction; ESR (Nyerere, 1967) foregrounds democracy and states that curriculum relevance should be realised in school. Decision making with respect to school governance and free discussions between students and teachers were encouraged (Nyerere, 2004c). The official curricula were meant to leave room for them to jointly construct and adjust to local needs. Nyerere believed, in line with Dewey, that democratic schooling would foster future democratic citizens.

However, these educational values of Nyerere were not carried through by teachers currently working in schools. As presented in Chapter 6, when asked about their knowledge and understanding of Nyerere in the interviews, the teachers focused on Nyerere's contribution to the political and social realm, paying little attention to his educational legacy. None of the 17 teachers touched on Nyerere's pedagogical principles, let alone his ideals of democratic pupil–teacher relationships or flexible curricula.

Observation data from their lessons corroborate such interview narratives, lacking a democratic perspective as learner-centred. The teachers tended to maintain an authoritarian manner throughout their lesson time. Zakia at Kawe School, introduced above, often used shouting to control the classroom climate. Teacher Rajabu at the private St. John School in Kigoma also maintained a somewhat humiliating manner in his lesson. When pupils were engaged in a writing exercise, he walked around the classroom to check how they were doing. Rajabu spotted a wrong tense that a boy had written in his exercise book, uttering to him, 'It seems you don't...you don't learn, is it?... You don't study. The family leave. It scares [me]'. To a girl who made a grammatical mistake in writing 'there was going', Rajabu asked, 'Is that English?' Rajabu maintained a coercive manner throughout his lesson, which appeared to frighten the pupils. In another lesson at Umoja (an urban public school), teacher Nyo brought a stick when pacing in the classroom to check pupils' writing exercises. When he reached a male pupil who was not writing properly at one point, Nyo beat the pupil's back three times. The teacher then added three problems to the board for the class to solve, and walked around the room to mark their answers. He beat the backs of several pupils who made a noise, who made mistakes in the exercise, and who did not follow his order to collect the assignment. A few pupils screamed, but Nyo did not desist from beating them.

Tabulawa (2013) calls such classroom interactions 'teaching by surveillance' (p. 57). Citing interview accounts from teachers in Botswana, the author convincingly illustrates how the teachers felt safe and stable when in control of the classroom climate and student attitudes. Zakia in my study conformed to Tabulawa's example

during his interview. The teacher described his ideal lesson, which he defined as ‘pupil-centred’:

I think pupil-centred is whereby the teacher normally is very keen whether *he’s delivering the contents*. He¹ has to oversee all pupils to ensure what he’s delivering. Everyone is able to hear what he is speaking, what he is doing. And pupils are not doing anything apart from listening what the teacher is speaking. (Interview with Zakia, 29 October 2015, emphasis added)

A high quality teacher, according to Zakia, would ensure that pupils listen to what the teacher tells them. The teacher is the one who is ‘delivering the contents’. This phrase, used by Zakia, implicitly indicates a certain assumption he held about the nature of knowledge. Knowledge is situated in teachers’ heads to be passed on to the pupils. To establish the one-way transmission of the contents, teachers need to patrol the class to make all pupils alert. Zakia tried to accomplish such a classroom state by shouting and accusing sleepy-looking pupils. In Zakia’s lesson, pupils are ‘centred’ when they receive the knowledge delivered by means of teacher surveillance.

Perhaps a salient manifestation of the unequal relationship between teachers and pupils was the seating arrangements in the classrooms, which Tabulawa (2013) also highlights. All but one (Aisha’s) class had their pupils sit in rows while facing the teachers standing in front. Besides, all public schools used long benches and rectangular desks which two to five pupils shared. These facilities would not be suitable for forming groups or for pupils moving around according to their interests. Such classroom arrangements and facilities seemed to be made for pupils to gaze at their teachers, as this setup would efficiently pass the teacher’s knowledge onto the pupils. Thus, the way classrooms were set out may have reflected, or intensified, undemocratic relationships between teachers as knowledge possessors and pupils as knowledge recipients. Discussion on the epistemological implications for classroom practices in contemporary Tanzania will continue later in this chapter.

7.2.4 Adopting *Observable* LCP Activities

The complete lack of individual activities and teachers’ authoritative manner represent a scarcity of learner-centredness in the classroom, however, LCP-associated practices did take place in some lessons. Table 7.1 shows that the two common LCP-related activities entailed pupil demonstration (10%) and group work (4%). Teachers at urban public schools – Amani, Mwenge, Umoja, Kwanza and Bunge – notably employed these tasks as compared to their counterparts at rural public and private schools.

¹ It is interesting to note that Zakia referred to a generalised teacher as ‘he’, in spite of the fact that ten out of the 27 teachers at Kawe were female.

When using LCP-associated activities, nevertheless, many teachers seemed to apply surface features of observable teaching techniques but without engaging with LCP principles. At Amani School Juma taught close to 50 pupils English phrases like 'so...that...', 'too...to...', and 'enough...to...'. In the middle of his lesson, the teacher directed pupils to form small groups. They were expected to form one sentence from two using the phrases 'so...that...' or 'too...to'. For instance, Juma wrote two short sentences: 'Asha is very young' and 'She cannot walk alone'. The task was to produce one sentence using the designated phrases, 'Asha is too young to walk alone'. By repeating 'Class, quiet, quiet', the teacher gave an instruction to *silently* read the sentences he drew on the blackboard. It was apparent that the pupils forming groups were confused about when and how to discuss. While the teacher was writing several sentences on the board, some pupils took notes whereas others were hardly engaged in any task. Few verbal discussions took place. Soon after finishing writing down the problems Juma asked one group to answer the first problem, assuming that they had already prepared their answer. The group was not ready. The teacher looked a little embarrassed but moved to another group to seek their response. A female pupil gave a correct answer, but she presented on behalf of herself and not her group.

Juma's colleague at Amani School, Aisha, had a similar command of her pupils. Aisha told them to solve maths problems in groups, whilst strongly admonishing them not to speak loudly. Phrases like 'shut up!' and 'hurry up!' were commonly used. This meant that the pupils whispered during the group work. In both cases of Juma and Aisha, the teachers ostensibly employed one observable act associated with LCP, 'group work'. However, few exchanges of ideas occurred. Being in a group thus meant little for the pupils. It can be said that the teachers applied some *observable* labels of LCP without engaging with its substance. Mtika and Gates (2010) also came across such an instance in Malawi. Their observation note states:

The student teacher sends pupils into groups. He continues to deal with individual pupils even though they are in groups. The groups do not seem to be for a particular purpose because they are not given activities to do. The instructions are not given to pupils apart from that of going in groups. (p. 400)

The purpose of the student teacher appeared to be just to organise pupils into groups. So long as groups were formed, his objective was achieved. It seemed not to matter to the student teacher how and what kind of learning took place in the groups. This observation led Mtika and Gates to conclude that the student teacher applied only surface characteristics of LCP unaccompanied by its tenets.

In addition to teachers' concentration on observable acts of teaching related to LCP, the cases of Juma and Aisha in my study manifest one weakness of structured observation. This research method concentrates on directly observable behaviour and

may not capture the quality of and intentions behind the behaviour (Bryman, 2016). Additionally, the observations are likely to show the influence of my presence on the practice of the teachers. Juma and Aisha might have acted in a 'desired' way because I, an outside foreign researcher, came to observe or evaluate their lessons. One scene recorded in my field notes epitomises this issue. When Aisha was told by the deputy head teacher that I would like to observe her mathematics lesson:

She looked hesitant to be observed, which Manyama later told me that she felt like as if I was going to 'assess' her. The female teacher looked to be occupied, as if she was trying to delay the 'assessment'. (Field note, 12 October 2015)

Although I was aware of the weakness of classroom observation in this respect, following the definition of 'group work' (Appendix 8) I classified group activities of any form into this category as long as the pupils 'discussed or worked with peers to solve problems'. Considering this pitfall of direct observation, genuine group work may have taken up a proportion of time less than 4% in total.

Not all group work was silent however. At another urban public school in Mwenge, noisy discussions took place in Chane's mathematics class. The teacher spent the second longest time on LCP-related activities of all the teachers, of which Chane allotted 11% of class time to group work. After 20 minutes of Q&A on coordinate geometry, the teacher arranged 80 pupils into small groups. He wrote on the blackboard seven sets of X and Y, like '(4, 2)', and told the pupils to draw a coordinate on their notebook and put the dots on the coordinate. The class got noisy, with Chane's repeated encouragement of 'discuss in your group' and 'discuss and do the exercise'. The pupils got closer to each other physically in order to hear what others said, and actually interacted with them to find the dots on one person's notebook. Chane circulated the room and checked their work group by group. He sometimes gave suggestions about how to solve the problems, such as 'Make sure that when you read coordinate geometry, you should always start with which axis?' The class seemed accustomed to working in groups and presenting their work in front of others.

This vignette might illustrate two features of LCP discussed in Chapter 3: active roles played by learners (Ginnis, 2002; Schweisfurth, 2013) and collaborations and interactions (Vygotsky, 1978, 1986; McCombs & Whisler, 1997). Different from the lessons by Juma and Aisha, the pupils in Chane's class actively took part in discussion and interacted with one another to produce answers. This could be a manifestation of Vygotsky's (1978, 1986) social constructivist notion that learning happens through others, where peer-to-peer and pupil-to-teacher interactions are crucial. Chane's interview account of how he understood LCP corresponded to these concepts proposed by early LCP theorists. Chane viewed LCP as taking place where:

[S]tudents are the main participants [...] and the teacher can only be like a facilitator. [...] [S]tudents are collaborating together. They are sitting together in groups. They can discuss and then present what they have discussed.
(Interview with Chane, 22 October 2015)

Comparing the above interview reports and Chane's classroom practices, how the teacher acted was consistent with his description of LCP. In fact, Chane was one of the few teachers whose lesson activities matched their understanding of LCP, as captured in semi-structured interviews, because most teachers' LCP understandings were not actualised in their lessons.

Nonetheless, the methodological triangulation of observing lesson activities and analysing classroom interactions may pose a question as to whether Chane internalised LCP principles with learner-centred beliefs and with the constructivist view of knowledge. After a little more than ten minutes of small-group discussion, group presentation – another LCP-associated *observable* activity – followed. One representative from selected five groups demonstrated their work while the rest of the class was listening. The following interaction sets out an example presentation. Using a wooden stick, a female presenter indicated points A to G on the coordinate geometry drawn on the front board:

Girl:	A, we have got positive four.
Chane:	Where do you get positive four? Where do you get positive four? At which axis?
Girl:	X.
Chane:	Okay, X axis. Is it right?
Girl:	Y is positive two.
Chane:	Is she right or wrong?
All pupils:	She is right.
Chane:	Okay, proceed.
Girl:	B... B, we get positive two at X axis, and we've got negative four at Y.

After each presentation Chane asked the class, 'Is she right or wrong?' The whole class responded with 'yes' and congratulated the presenter with chanting. Because all groups solved the same questions to find points A to G on their coordinates during the group work activity, all presenters repeated the same answers. Toward the end of the lesson, the non-presenting pupils seemed to be bored of the repetitive activity, with hearing the same answers and congratulating the presenters.

The series of interactions above may exhibit a certain epistemological assumption Chane seemed to hold. What the teacher demanded of the pupils was reproduction of acquired knowledge. The pupils presented only the answer itself; they did not explain solving processes or underlying relationships, which constructivist teaching and learning encourage. The pupils became what Tabulawa (2013) calls 'answer producers, not thinkers' (p. 53). Checking how well pupils recall the right

answer corresponds to a teacher-centred practice epistemologically underpinned by rationalism. Detached from human conception, rationalism perceives fixed reality as existing independent of the knower (Kelly, 2009; Davis et al., 1993). In a classroom context learners are constantly searching for the one right answer that the teacher passes on. Even if Chane used an *observable* LCP-related activity of pupil demonstration, the purpose of the activity appeared to be based on the rationalist epistemology. Another quote from his interview suggests his emphasis on the observable practices. I asked whether executing LCP was easy or difficult for him:

It's easy. Easy. It is *just organising* students. They can sit in groups, and then I can distribute them questions they can try in groups. I will then mark their answers. (Interview with Chane, 23 October 2015, emphasis added)

I pointed out earlier that many interviewed teachers seemingly understood what LCP is with respect to observable LCP-related acts. Chane's narrative implies that, for him, implementing LCP meant the same as using LCP-related activities. This reflects, again, that the focus of LCP policy discourse on *observable practices* is vertically transferred from international and national levels to the local. Teachers adopted policy discourse only linguistically. Even for those who practised LCP-related activities in the classroom, their practices seem to be unaccompanied by LCP concepts. The root source of why they may not have internalised LCP beyond its related activities appears to lie in their epistemological viewpoint being distinctive from constructivism. To expand on the teachers' conceptual and epistemological bases of their teaching and learning practices, I now move on to an analysis of classroom interactions. The ways teachers and pupils communicated appear to embody the view of knowledge embedded in Tanzanian society historically while highlighting the co-construction of classroom reality between the two agents.

7.3 Classroom Interaction Patterns with Teacher Dominance

Results from classroom interaction analysis may be useful here to unpack the epistemological assumptions teachers may have possessed. Not only Chane at Mwenge but also other teachers in this research demonstrated a teacher-led style of interactions with their pupils. Table 7.2 presents the percentage of interaction types for all classes within the initiation-response-feedback (IRF) categories explained in Sections 4.6.3 and 5.5.1. In a nutshell, initiation prompted by teachers or pupils stimulates a certain response from either group, which may be followed by feedback. Each interaction type observed during lessons was counted, and each total was divided by the total interaction counts in the same IRF categories. Table 7.2 shows the average percentage of each interaction type for all 13 classes.

Table 7.2: Pupil–teacher interactions by IRF categories

IRF categories	Interaction types	Percentage (%)
Initiation	Teacher quest	32
	Teacher direct	16
	Teacher elicit	28
	Teacher check	20
	Pupil initiate	4
	TOTAL	100.0
Response	Individual response	32
	Whole-class response	68
	TOTAL	100.0
Feedback	Encouraging	23
	Neutral	69
	Discouraging	9
	TOTAL	100.0

Teacher-led initiation accounted for more than 95% of initiation moves compared to only 4% of pupil initiation. This implies the prevailing control of teachers over what and how classroom communications were carried out. The exchange detailed below which took place in Malika’s class typifies the most common initiation move, teacher questioning (32%):

Malika: Then what do we put?
 All pupils: Equal sign.
 Malika: It’s equal to how much?
 All pupils: Eighteen.
 Malika: Now, do we add or subtract three?
 Girl: We subtract.

Drawing upon aggregated data with respect to teacher questioning, the majority, or 69%, consisted of closed-questions, requiring the pupils to recall facts such as in the example above. It appears that Malika already had the ‘correct’ answers prior to her asking the questions. The pupil–teacher exchanges were a verification process of whether pupils could reproduce the exact answer Malika had in mind. Only one answer, and nothing else, could be uttered by all pupils. If pupils give the ‘right’ response, that can prove a successful transference of absolute knowledge from teacher to learners; hence, the teacher’s role as a transmitter-of-knowledge will be achieved. Such a transmission process, as Tabulawa (2013) asserts, would exacerbate teacher authority as the reference point of knowledge.

Another initiation move observed in classroom interactions involved teacher elicitation (28%), where teachers prompted pupils to respond in the form of a repetition or completion of a word or phrase. In the observed classes, rising intonation at the end of sentences elicited the pupils to respond mostly as a whole class. Teacher Rashid at

the private Islamia School in Kigoma went through how to calculate improper fractions by means of Q&A. Simple repetition of his words dominated pupil–teacher interactions:

- Rashid: So, in addition, we have...we said we have proper and improper what?
All pupils: Fraction.
Rashid: Proper fraction and improper what?
All pupils: Fractions.
Rashid: Fractions. Okay?
All pupils: Yes.
Rashid: So, we learn about proper what?
All pupils: Fraction.
Rashid: Fraction. I think we are given a number in improper what?
Fraction. It's improper what?
All pupils: Fraction.

In this chunk of communication the only word uttered by the pupils was 'fraction(s)'. From the outset of this exchange the answer was given beforehand, and the pupils did not engage in any thinking but merely repeated the same word. The teacher seemingly expected the pupils to complete his sentence, and the pupils knew when and what to say. At another private school, Highland in Dar es Salaam, verbal exchanges between teacher Okapi and his pupils mostly comprised cued elicitation. The teacher obviously added stress and raised intonation at the end, hinting to the pupils what to say to complete his sentence:

- Okapi: These types of angles are advised to go in?
All pupils: Order.
Okapi: From the smallest to the?
All pupils: Biggest.
Okapi: As somebody has said that the first angle can have...
All pupils: Straight.

As with Rashid, what Okapi wished his pupils to state was not an answer to a problem but general words such as 'order' and 'straight' in unison. Okapi sometimes gave the pupils a clue as to what should follow. He indicated the first part of answers, such as 'interse...?' and 'or...?' when he hoped to hear 'intersection' and 'order'.

In parallel with closed-questions, teacher elicitation also manifests the rationalist view of knowledge, or the belief that knowledge is detached from human observation or experience (Kelly, 2009; Davis et al., 1993). Reality is perceived as absolute and fixed, and to learn is to absorb and reproduce the fixed knowledge. According to Pontefract and Hardman (2005), teachers in sub-Saharan African nations commonly provoke repetition and completion of words and phrases by pupils. Wedin (2010) further claims that cued elicitation does not demand that learners engage in critical or higher-order thinking. Such accounts are discordant with policy ideals. UNESCO (2015) assumes that open-ended discussions and role playing should happen in a learner-centred classroom. Likewise, UNICEF (2009a) endorses allowing

children to experiment with their own ideas and to learn through self-discovery, which would bring about learners' 'joy of learning' (Chapter 6, p. 4). The findings from my research, in line with previous studies, show opposing results to these policy convictions. The pupils merely needed to repeat or utter obvious answers, hardly requiring them to discover or investigate unknown answers.

The discussion thus far has revealed the prevalence of TCP-related pupil–teacher interactions. Most interactions were initiated by teachers, but this teacher-led style of interactions was created *jointly* by both teachers and pupils. Chapter 3 accentuated that classroom reality is established not by teachers alone but by interactions between teachers and pupils (Fleming, 2015). Previous literature on the implementation of LCP in developing nations has overlooked the nature of classroom interactions, scrutinising them mostly from teachers' standpoints (Tabulawa, 2013). Its exclusive focus on teaching practices (e.g. Nakabugo & Siebörger, 2001; Harley et al., 2000) implies a supposition that it is teachers who determine and guide what and how lessons are conducted. However, in reality pupils also participate in constructing classroom ambience.

Another initiation category of teacher checking (21%) in my study would typify interactions co-constructed by teachers and pupils. The observed teachers often surveyed pupil understanding by asking 'Do you understand?' and 'Are we together?' The pupil–teacher communication below was taken from a mathematics lesson led by Ikeno at the urban public Kwanza School. After appreciating one pupil's demonstration of the correct way of solving a mixed fraction, the teacher enquired of the whole class:

Ikeno:	Thank you [to the demonstrated pupil]. I think you understand, right?
All pupils:	Yes.
Ikeno:	Is there anyone who has a question here?
All pupils:	No.
Ikeno:	No one?
All pupils:	Yes.
Ikeno:	Now, let us proceed to the other topic. (Lesson continued.)

Instead of genuinely ensuring pupil comprehension, interactions like this sounded a ritual. Both Ikeno and his pupils seemingly expected a positive reaction from the latter, as if it was covertly agreed upon by both agents. Hardman, Abd-Kadir and Smith (2008) call it 'pseudo-checking', where students do not have a choice but are expected to give an affirmative answer.

This interaction pattern of teacher checking may represent a power relation rooted in rationalist epistemology (Pignatelli, 1993). The 'yes' answer would grant the teacher a credit that their knowledge transfer succeeded, which can in turn intensify their classroom authority. Correspondingly, the pupils should never utter 'no'. Expressing that they did not understand would challenge the value of the teacher as a

source of knowledge. It would also throw doubt on the efficiency of the teacher's means of transmitting knowledge. A negative response to teacher checking appeared outrageous or unacceptable in classroom communication in Tanzania. Countering such a classroom culture was avoided as much as possible in most cases, as I observed no occasions where the pupils declared that they did not understand, except for in teacher Abdu's class in the rural public Kisutu School.

Toward the end of Abdu's English lesson, the teacher gave the class an exercise to construct four sentences using the word 'for' to express time. He checked if the pupils understood the task, asking 'Are we together, class?' Some of them answered 'no'. Abdu's ears caught the word. Then he told the pupils five times to raise their hands if they understood. No one raised their hands at first, but as the teacher continued asking the same question more and more pupils gradually responded positively. Eventually the whole class expressed that they understood the task, allowing Abdu to conclude that there was no need for him to explain the task again. The teacher made an endeavour to ensure pupils' comprehension, and the pupils endeavoured to communicate their honest response that they did not understand. This might have threatened Abdu's authority, because his knowledge transference may not have completed successfully. In the end the pupils seemed to be forced to obey his authority. By obtaining the pupils' agreement that they understood the task, Abdu could maintain his control. This case was noteworthy because pupils were not mere passive listeners but voiced their nonunderstanding, although it represented an extremely rare instance.

The above examples of teacher checking, including Abdu's case, indicate both pupils and teachers acting on each other to produce a certain pattern of classroom interactions. Teachers would possess a higher social position as knowledge depositor than pupils as knowledge recipients. To 'save teacher's face' (Wedin, 2010; Hornberger & Chick, 2001) and maintain their authority, both agents acted *in collaboration* in the expected manner.

Another interactional situation where teachers and pupils collaboratively sustained teacher authority could be seen in the small percentage (4%) of pupil initiation (Table 7.2). Compared to the large proportion of teacher-led initiation (96%), the pupils barely posed questions to their teachers. It was also rare for them to convey their own ideas or to initiate a topic during lessons. Few teachers provided pupils a space with a sense of freedom to develop opinions or a given line of thought. The finding of little pupil initiation accords with studies in Kenya by Ngware, Oketch and Mutisya (2014) as well as by Ackers and Hardman (2001). Comparing their data with Ackers and Hardman (2001), Ngware et al. (2014) point out the unchanged teacher-directed classroom practices for the past decade. Raising questions to authoritative

knowledge might be seen as breaking classroom norms. The pupils in these previous studies and in my research seemed to perform their role as passive recipients, as suggested by rationalist epistemology.

Moving on to the response groups of the IRF categories (Table 7.2), the pupils replied to teacher initiation in unison more than two-thirds of the time (68%) in comparison with individual pupil–teacher interactions (32%). Despite the LCP recommendation to cater teaching and learning to individual children (Rousseau, 2007) or to learn through social interactions (Vygotsky, 1978), individual interactions took place far less often compared to one-to-mass communication. The prevalence of whole-class answering indicates a social purpose of pupil–teacher interactions for teachers to save face. The answers must be obvious for all pupils to respond at the same time. This would be another way to ensure successful knowledge transmission, thereby intensifying teacher authority.

Therefore, classroom interactional patterns with teacher dominance resulted from a joint project by teachers *and* pupils. Both agents seemed to hold a view of knowledge which contradicted constructivist epistemology. An account of a male pupil, obtained in the FGD at Kisutu School, embodies the rationalist epistemology. Because this pupil expressed his liking of Q&A activities, I asked why. He replied, ‘Teachers know better than us, so when we ask questions, we get a correction’. Teachers teach and pupils receive their knowledge. Right answers and correct responses from the pupils meant that the teacher performed their duties successfully to transfer knowledge to the pupils. These interactions also grant the teacher authority. Both agents participate to retain knowledge possessors’ social status.

The interactional processes of teacher questioning, eliciting and checking also demonstrate their social functions rather than their academic role. Wedin (2010), who analysed pupil–teacher interactions in a primary classroom in Tanzania, remarks that all pupils need to recognise is the interactional patterns. The observed interactions in my research manifested pupils’ knowledge as to *how they should act socially appropriately* to adhere to the collective expectation. They were not involved in academic thinking or solving problems. In accordance with Wedin’s (2010) results, the pupil–teacher interactions seemed to fulfil a social function to save teachers’ face and to ensure they remained in control.

7.4 Conclusion: Transversal Succession of Teaching Acts and Epistemology

The interviewed teachers recognised the observable features of LCP. Using terms including participation, activities and involvement, they described the kinds of

classroom activities they would employ in LCP classrooms. The LCP-related languages espoused by the international and national governments seem to have reached teachers as local policy actors. However, the word-level understanding of observable LCP activities was not accompanied by actual observed practices (Table 7.1). Teacher-directed activities and interactions dominated lesson times. Considering why this occurred, classroom interaction analysis implied an epistemological divergence between how Tanzania historically viewed knowledge and what LCP views as knowledge construction, plausibly leading to certain observable practices. The transversal axis examined in Chapter 6 could reveal how a certain way of viewing knowledge has emerged and been nurtured in Tanzania.

Transversally speaking, rationalist epistemology appeared to have been existent consistently throughout Tanzania's history, even during Nyerere's presidency. Education in indigenous Tanzania was supposed to pass on fixed, unchanging customs and traditions to the next generation (Cameron & Dodd, 1970; Coulson, 1982). Learners were not allowed to question or challenge existing knowledge because it was the absolute 'truth'. Even though the way children engaged in learning entailed some observable features of LCP – such as learning by doing and relevance to everyday lives – adults possessed privilege and power as 'all-knowing'.

Nyerere's educational philosophy appeared on the surface to be compatible with LCP principles. Hands-on-learning related to agriculture and democratisation through schooling occupied his educational agenda. In contrast, Nyerere grew up in a village that held on to a rationalist perspective. As indicated by the interview with Mr Madaraka, age hierarchy prevailed in his Zanaki village. Although Nyerere (1967, 2004c) encouraged democratisation through decision making by pupils and free discussion, his educational policy of ESR ended up being idealistic but not realistic. According to Mr Madalaka, Nyerere himself was aware of the incompatibility of his democratic claim with the school environments that existed at that time (as discussed in Chapter 6). Moreover, when ESR was enacted, its pedagogical dimensions did not successfully reach the then teachers (Cameron, 1980). This may explain why the teachers currently working in schools did not inherit Nyerere's educational prospects, which they implied through their ignorance of pedagogical dimensions when asked about their understandings of Nyerere. Thus, it is improbable that teachers historically embraced Nyerere's pedagogical policies.

Pedagogical ideas and practices have been passed on from generation to generation, as typified by one lesson scene from this research. When pupils came to the chalkboard to present their answers or to explain the process of solving problems, several of them acted similarly to their teachers, guiding the rest of their classes to the

answer. In Ikeno's mathematics lesson on fractional calculus, a male pupil was appointed to present the process of solving $4/5 + 2/3$:

Boy 1: The first step, what do we do here?
Boy 2: We find LCM.
Boy 1: We find what?
All pupils: LCM.
Boy 1: We find LCM. This denominator is the one which we will use to do what? To find what?
All pupils: LCM.
Boy 1: So, we find LCM of five and how many?
All pupils: And three.
Boy 1: Then, it will be how many? You?
Boy 3: Fifteen.
Boy 1: Fifteen. Is it correct?
All pupils: Yes.

This pupil interacted with the rest of the class with confidence and authority, in a very similar manner to Ikeno. The demonstrating pupil used tactics such as cued elicitation and checking of pupil understanding. All the questions posed consisted of close-ended, factual questions. Ikeno sometimes even asked pupil demonstrators to act like a teacher. At one point, Ikeno called for a pupil, 'Who can come to demonstrate on the board? They will talk like a teacher. Okay, talk like a teacher'. Barrett (2005) argues that teachers tend to teach in a similar way to how they were taught. As the above excerpt illustrates, teaching practice can be inherited from a teacher by pupils. This possibly prevents the implementation of LCP in countries where the 'chalk and talk' style has prevailed historically (Westbrook et al., 2009; Prophet & Rowell, 1993). A similar teaching approach between the teachers and pupils observed in my study implies that teachers pass on not only knowledge but also the way they transmit it. Future teachers are likely to preserve the culture of how they are taught. With the dominance of TCP-associated approaches using close-ended questions, repetitions and sentence completions, this could present one barrier to LCP implementation in Tanzania. It seems that unless a radical change in people's view of knowledge takes place, which hardly occurs according to Tabulawa (2013), the implementation of LCP may end up occurring only observably at best, and in most cases it will end in failure even at the observable level.

Chapter 8 Attendant Discourse of Pedagogy

This chapter extends a focus from *teachers* and *teaching* in the classroom realm to the attendant discourse of pedagogy spreading throughout the three domains of the conceptual framework (Figure 3.1). Alexander (2004, 2008) caveats that the attendant discourse in the outer stratum precedes what happens in the interior domains. The most exterior domain of the conceptual framework, culture and society, *locates* teaching in time, space and the social world. Any social phenomena and issues happening in the contemporary world have historical roots (Bartlett & Vavrus, 2017). The transversal investigation in Chapter 7 considered how history nurtures expected or 'appropriate' human relationships, customs, collective values and local attitudes over time. Communities and families pass on these cultural elements – while altering them to some extent – to the next generation. The inherited tradition, customs and appropriate behaviours inform how teachers and pupils act and relate to each other in school and the classroom.

The next layer of system/policy *legitimizes* teaching by enforcing national and local policies, setting up formal examinations and qualifications, putting the curriculum into effect, and providing infrastructure and staff training (Alexander, 2008). Schools are expected to apply the enacted policies and curricula; but various factors surrounding schools – such as facilities, teaching aids and environment – influence the appropriation of policies. The vertical axis of the TVH case study plays a useful role in this domain to trace the mutation process of LCP policies from international and national to local, explored in Chapter 6.

At the classroom level of the conceptual framework sit the first and most immediate components of pedagogy to *enable* teaching carried out by teachers (Alexander, 2004). These components include: (1) nature and facilitation of learning, as well as learning achievements and assessment; (2) scope, planning, practice and evaluation of teaching; (3) characteristics, differences, motivation and needs of students; and (4) curricula presenting ways of knowing and doing. These three layers of the conceptual framework indicate that teaching is legitimised by various factors of the attendant discourse. In other words, teaching happens as a result of the interplay of the above-mentioned pedagogical dimensions.

Chapter 7 extensively utilised the transversal axis of the TVH case study to unfold the possible influences of history on the observed phenomenon. This chapter brings in the horizontal axis to highlight current issues affecting LCP appropriation. Bartlett and Vavrus (2017) remind us that this axis unpicks dissimilar effects of the same LCP policies depending on locality. To briefly review the case selection process taken along the horizontal axis, I utilised maximum variation sampling (Patton, 2015).

In the two regions of Dar es Salaam and Kigoma chosen on the basis of the national examination results (Ngware, Mutisya, & Oketch, 2012), I discussed with district education officers (DEOs) my aim to purposefully select schools that fell into one of the four embedded multiple-case categories: urban public, rural public, urban private and rural private. From the list of schools supplied by the DEOs, I visited some schools spread across the categories that accommodated a large number of pupils for statistical analysis at the individual level. Chapter 5 notes that during the analysis phase, one rural private school, Kawe, was combined with three urban private schools due to similar features it demonstrated, producing a 'private school' group regardless of location. Horizontal juxtaposition of urban public, rural public and private schools suggested characteristics salient to them but different between them, and these were likely to be associated with LCP implementation.

The discussion in this chapter follows this path. In setting out a scene for horizontal comparisons, Section 8.1 presents the results with respect to differing levels of observed-LCP implementation by individual schools and by the three school categories. It also introduces the concept of perceived-LCP, or subjective experiences of LCP-related activities as identified by pupils. The section compares the extent of LCP implementation observed and perceived, prompting an enquiry into why distinctive differences were seen between observed- and perceived-LCP as well as between three school categories. I seek explanatory facets for these differences from the attendant discourse in the system/policy and culture/society strata of the conceptual framework. Sections 8.2 and 8.3 centre around environmental and academic issues respectively. These seemed to differently impact LCP implementation depending on school locations and types. Section 8.4 introduces the nature of pupil–teacher relationships as another influential aspect for LCP implementation. The section attends to all three strata of the conceptual framework. Lastly, the focus in Section 8.5 returns to the classroom domain to explore one remaining facet of the attendant discourse, namely *learning*. I draw on the implications for associations between LCP and learning outcomes, aiming to contribute to the scant literature on the effectiveness or ineffectiveness of LCP on pupil learning in a low-resource context.

8.1 Horizontal Comparison of Observed-LCP and Perceived-LCP

Chapter 7 presented the prevalence of TCP-related tasks and teacher-led interactions across all observed classes. Although LCP-related activities accounted for only 14% on average of 17 classes, individual teachers used their lesson time differently according to the data from the structured lesson observation. Figure 8.1 shows a binominal distribution for the percentage of the lesson time used on LCP, and Table 8.1 details

this by school. Five teachers (Abdu, Mosi, Hali, Rajabu, Zakia) did not use LCP-associated activities at all, and another four (Juma, Nyo, Malika, Okapi) spent less than 10% of the time on them. At the other end of the spectrum, Kito and Chane stood out with 44% and 35% of their lesson time used for LCP respectively.

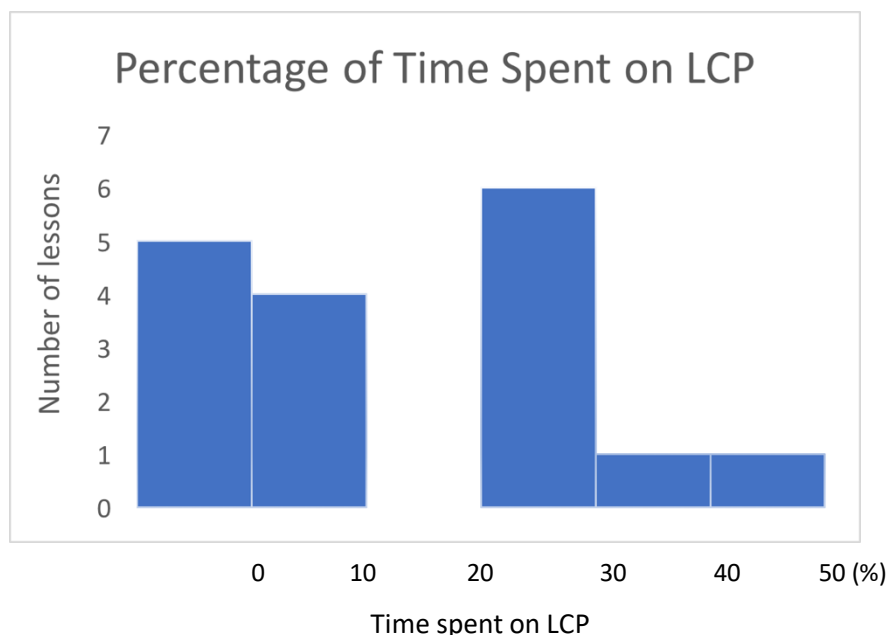


Figure 8.1: Percentage of time spent on LCP in 17 lessons

Table 8.1: Percentage of time spent on LCP by schools

Percentage of LCP (%)	School (Teacher Name)	School Category
0	Kisutu (Abdu)	Rural public
	Siha (Mosi)	Rural public
	Highland (Hali)	Private
	St. John (Rajabu)	Private
	Kawe (Zakia)	Private
0 – 10	Amani (Juma)	Urban public
	Umoja (Nyo)	Urban public
	Baraka (Malika)	Rural public
	Highland (Okapi)	Private
10 – 20	None	
20 – 30	Amani (Aisha)	Urban public
	Mwenge (Jamba)	Urban public
	Kwanza (Ikeno)	Urban public
	Green (Moyo)	Rural public
	St. John (Ayo)	Private
	Islamia (Rashid)	Private
30 – 40	Mwenge (Chane)	Urban public
40 – 50	Bunge (Kito)	Urban public

On average public schools ($M = .17$, $SD = .15$) employed LCP twice as much as private schools ($M = .08$, $SD = .11$). Comparing the classes in urban schools ($M = .17$,

SD = .15) to those in rural schools (M = .06, SD = .10), the former used more than twice the time for LCP as the latter. Although statistical significance could not be tested due to the small number of observed lessons (N = 17), public schools and urban schools tended to use LCP-related activities more than private and rural schools. Table 8.1 indicates corresponding results, that rural public and private schools occupied the lower end without any LCP-associated activity, whereas urban public dominated the higher-end.

The above results of structured observation did not accord with the questionnaire responses regarding what the teachers and head teachers thought happened in the classrooms in relation to LCP. The teacher questionnaire (Appendix 4, Question 17) asked teachers' confidence to: (a) answer students' questions; (b) show students a variety of problem-solving strategies; (c) provide challenging tasks for capable students; (d) adapt teaching to engage students' interest; and (e) help students appreciate the value of learning. The teachers suggested their responses by choosing 'very confident', 'somewhat confident' or 'not confident' to carry out such teachings. All but one answered that they were 'very confident' to perform these LCP-related approaches in the classroom. Specifically, they indicated a median score of (a) to (e) to be 'very confident', except for Rajabu at St John who showed 'somewhat confident'. Even though most teachers seemed to have relatively high confidence that they could act in a learner-centred manner, instances where they assigned problem-solving tasks or adjusted their teaching to individual students' abilities were rarely captured in the observation.

The observed LCP activities also did not show consistency with head teachers' views on how much they thought the teachers executed LCP-related activities. The school questionnaire (Appendix 14) enquired into several dimensions of learner-centredness at school. All but three head teachers except for Green, Baraka and Bunge 'agreed a lot' that their teachers tried to employ LCP at their schools (Question 26-e in Appendix 14). Besides, more than half of the head teachers – those at Amani, Highland, Kawe, Kisutu, Umoja, Islamia, Siha and Kwanza – 'agreed a lot' that their 'teachers encourage and promote cooperative and hands-on learning' (Question 26-b); but their responses did not suggest correspondence with Table 8.1. In the similar vein, although every head teacher 'agreed a lot' that 'students are encouraged to ask questions in the classroom (Question 26-a), this rarely occurred during the classroom observation. In particular Table 7.1 demonstrates the absence of learner-initiated Q&A in pupil-teacher classroom interactions.

The discrepancy between the questionnaire responses and observation data seem to present a discontinuity between policy and practice, as well as a methodological advantage of using multiple methods. As Mundy, Green, Lingard and

Verger (2016) and Steiner-Khamsi (2012) stress, power dynamics play a large role in policy transmission processes; the condition the international agencies place on exchange of aid determines to a remarkable extent the policy direction of individual nations. The global recommendation of LCP transferred from international and national to local may have become the 'ideal' classroom practices in Tanzania. The questionnaire responses of the teachers and head teachers conceivably indicate their adherence to this policy ideal, in that the former thought they executed LCP-related activities and that the latter thought they supported such teaching practices.

The observed practices nonetheless showed a divergence from the exemplary pedagogy in the eyes of the international donors. The discrepancy between different datasets may illustrate a methodological benefit of triangulating methods. One's report as to what they say they do may not always match with how they behave. Methodological triangulation exploring both beliefs/thoughts and behaviours would help ensure the validity of the collected data (McKernan, 2008; Bryman, 2016). In explaining why such an inconsistency between the transmitted ideals and observed practices occurred, later sections (8.2, 8.3, 8.4) will explore environmental and contextual factors seemingly prohibited the teachers' execution of LCP-related activities.

Apart from these results on *the observable act of teaching*, pedagogical elements that form a pair with *teaching* and *teachers* in the conceptual framework (Figure 3.1) involve *learning* and *students* within the classroom layer. While a later section deals with *learning*, here I bring the focus onto *students*. Classroom interaction analysis in Chapter 7 signifies the co-contractedness of classroom reality; students are not passive recipients of pedagogy, with both teachers and students engaging in and negotiating classroom practices and processes (Tabulawa, 2013). However, research on pedagogy, let alone on LCP, has not paid sufficient attention to students (Alexander 2008; Schweisfurth, 2013; Tabulawa, 2013). Little is known about their experiences and viewpoints with respect to ongoing LCP implementation in Tanzania. Observation by researchers or interviews with teachers are unlikely to represent or fully capture students' perspectives, as each group of people may well undergo different realities, according to constructivist ontology.

In an attempt to contribute to filling this knowledge gap, the present research aimed to understand pupils' subjective schooling experiences of LCP implementation. It enquired into their perceptions toward LCP-related activities in the classroom, denoted as 'perceived-LCP', to compare it with 'observed-LCP', or LCP-related activities and interactions observed in the classroom. In the pupil questionnaire, each pupil rated in a 5-point Likert scale the 14 questions asking for their views about what activities took place in lessons and how they felt about interacting with their teachers

(Questions 22-35 in Appendix 3). The questions were meant to quantitatively measure how much the pupils felt they experienced learner-centredness in the classroom.

Values were assigned to each response, such that 1 for 'Almost never', 2 for 'Seldom', 3 for 'Sometimes', 4 for 'Often', and 5 for 'Very often'. To obtain an 'overall' perceived-LCP score for each pupil, medians (a measure of central tendency for the ordinal data such as Likert-scale responses) of the 14 items were calculated. Figure 8.2 shows the percentages of pupils whose median score of the perceived-LCP falls within one of the five Likert-scale categories. On average, more than one-third of the respondents (39.6% or 399 pupils) answered that they 'sometimes' experienced LCP-related activities, while another one-third (35.3% or 355 pupils) stated that they 'often' engaged in such activities.

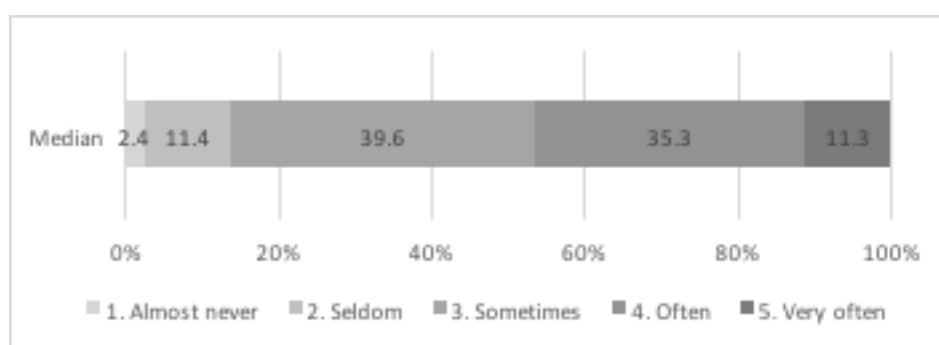


Figure 8.2: Median of perceived-LCP

Figure 8.3 illustrates pupils' responses to each of the Questions 22 to 35 (Appendix 3).

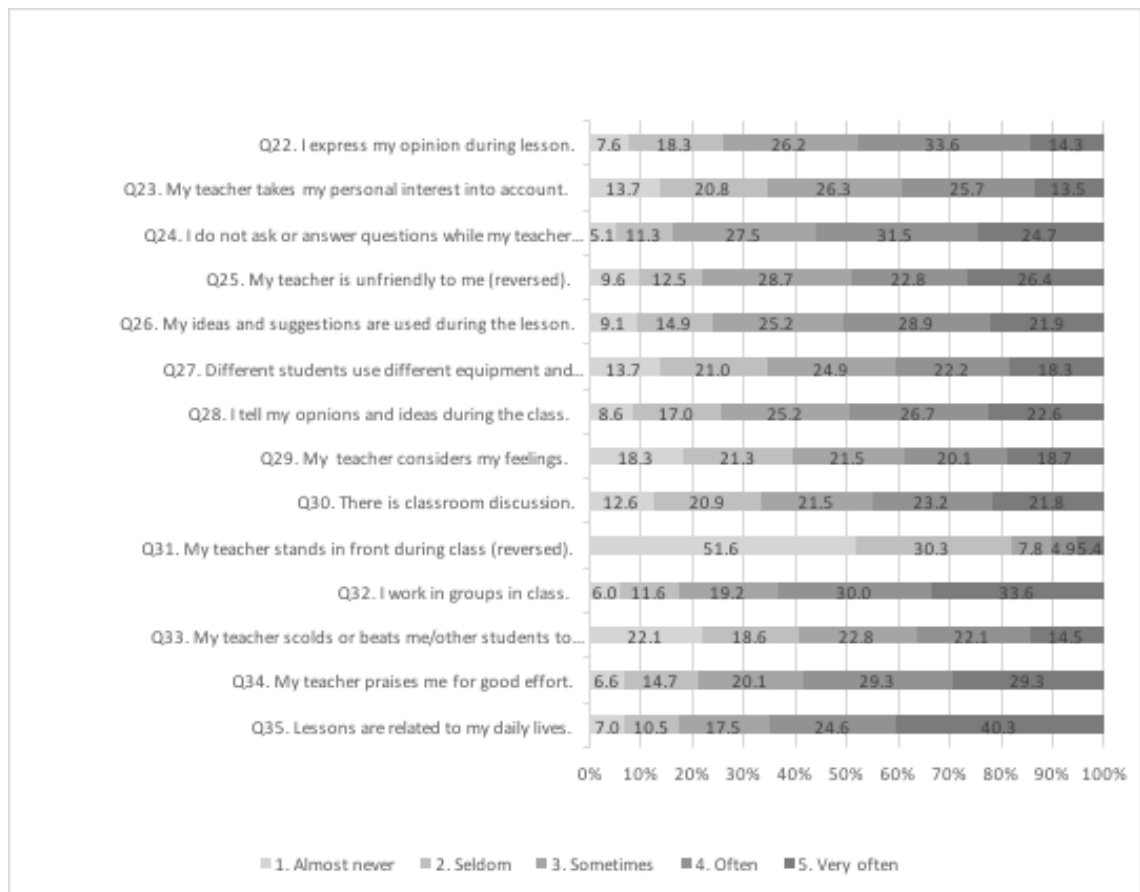


Figure 8.3: Pupil responses to each question on perceived-LCP (note: reversed questions include Questions 24, 25, 31 and 33).

To delve deeper into perceived-LCP, below I analyse this data using parametric tests. Parametric tests such as t-tests and analysis of variance (ANOVA) are usually used for interval data, with an assumption that the data is normally distributed; they are considered inappropriate for ordinal data including Likert-scale responses. However, recent discussions on appropriate statistical analysis for ordinal data claim the robustness of parametric tests even for ordinal data (see for example Norman, 2010; Sullivan & Artino, 2013).

An independent sample t-test compared the scores of different school categories. The pupils going to urban and rural schools differed significantly in the mean perceived-LCP score ($t = 4.87$, $df = 1,005$, $p < .001$). The mean of urban pupils ($M = 3.34$, $SD = .57$) was 0.19 points higher than rural pupils ($M = 3.15$, $SD = .62$), indicating an effect size (Cohen's d) of 0.32. The pupils at public schools in comparison with those at private school also reported perceived-LCP to be significantly low ($t = -2.91$, $df = 1,005$, $p < .001$).

Additionally, the categories of location and school type were combined, and one-way ANOVA tested the difference of perceived-LCP among three groups of urban

public, rural public and private schools. It obtained a significant overall difference in mean scores between the three categories ($F(2, 1,004) = 15.60, p < .001$). Pair-wise comparisons using Bonferroni post-hoc tests revealed multiple statistically-significant comparisons. Pupils in urban public schools ($M = 3.32, SD = .57$) and private schools ($M = 3.38, SD = .55$) rated significantly higher than those in rural public schools ($M = 3.12, SD = .63$). There was no statistical difference between urban public and private schools.

The above findings relating to perceived-LCP seemingly disagree with the results with respect to observed-LCP. Despite the *observed* small amount of time spent on group work, demonstration or pupil-initiated Q&A (Table 7.1), most pupils recalled rather frequent occurrences ('sometimes' or 'often') of LCP-related activities. One possible explanation for this discrepancy may derive from a limitation of the questionnaire as a research method attached to social desirability (Robson & McCartan, 2016; Bryman, 2016). People generally desire to look socially good and helpful for the researcher (Aldridge & Levine, 2001). Respondents often give different answers from those they may have given otherwise, if they know the researcher's interests (Backstrom & Hursh-César, 1981). In my research I informed the pupils beforehand that the research examines 'what kind of teaching methods primary teachers use in Tanzania, and how the methods might be related to your learning motivation and academic performance'. The knowledge the pupils had prior to answering the questionnaire, as well as the presence of the research assistant and me at the site, might have accelerated social desirability bias. It is also worth mentioning a disadvantage of the Likert-scale. People tend to choose mid-range options rather than extreme answers (Backstrom & Hursh-César, 1981). To deal with these biases apparent in self-administered questionnaires, Aldridge and Levine (2001) suggest triangulating data with multiple research strategies, which was the approach adopted in this study. The presentation and interpretation of the results should include consistencies and discrepancies of the results between different data sources. It should also seek explanations behind the discrepancies, to which the analysis now turns.

The inconsistent results between observed- and perceived-LCP imply a curious feature of the data. Rural public schools tended towards the lowest LCP implementation, both observed and perceived. In contrast pupils at private schools were relatively rarely engaged in LCP-related activities in the observed classes, but their perceived experiences of learner-centredness was as high as those at urban public schools. Even with few observable practices of LCP-related activities, private pupils seemed to feel that they were centred in the classroom. This result indicates that subjective classroom experiences of pupils may not depend on *observable acts of*

teaching, which most existing research on LCP implementation in low-income countries has been devoted to. The discrepancy between observed-LCP and perceived-LCP may suggest that LCP occurs not only as the observable form but is inevitably accompanied by its attendant discourse surrounding the act of teaching.

The relatively high perceived-LCP implied by the pupils arguably corresponded to the responses to the teacher and head teacher questionnaires. As presented earlier, most teachers suggested high confidence to appropriate LCP-associated approaches in the class. The head teachers also expressed their views that the teachers acted in a learner-centred manner. These results conceivably accorded with each other, in that pupils, teachers and head teachers might have perceived that LCP was taking place in the classroom. The views of the participants nonetheless showed inconsistency with the classroom observation data, with little amount of time spent on LCP-associated activities and teacher-dominated classroom interactions (Tables 7.1 & 7.2). The disparity between these two seems to signify policy as a social and cultural product (Levinson, Sutton, & Winstead, 2009; Hamann & Rosen, 2011); local policy actors including pupils and teachers interpret the normative form of LCP within their own context and may act accordingly based on their own understanding of LCP. This can result in 'a Tanzanian version' of LCP understanding, which may well not agree with the policy definition of what LCP should look like. A problem will arise when a researcher endeavours to study LCP implementation based on the normative conceptualisation of LCP.

The above reflection prompts a question regarding what might have contributed to producing the 'Tanzanian version of LCP understanding'. The LCP perceived by local actors may not necessarily accord with the LCP granted internationally or understood as 'LCP' by researchers. This infers the significance of examining *perceived-LCP* from the perspectives of the local people, and differentiating it from *observed-LCP* defined on the basis of normative understanding of LCP. The following discussion considers these two sets of LCP while centring on the attendant discourse of pedagogy. With a focus on pupil's perception of LCP, I ask *how and why they perceived learner-centredness at a relatively high level*, and *what pedagogical constituents might lead to a certain level of observed-LCP and perceived-LCP*. Thematic analysis of qualitative data (from semi-structured interviews with teachers, FGDs with pupils and unstructured lesson observations) complemented by quantitative data (from structured observations and questionnaires) identified three salient themes seemingly related to the two types of LCP. The themes are: resource-richness, degree of academic emphasis and pupil-teacher relationships. The first two sit within the system/policy realm of the conceptual framework (Figure 3.1), while the third entails both the system/policy and culture/society domains. An interrogation of the attendant

discourse across the three layers of the conceptual framework will help explain LCP implementation, both observed *and* perceived.

8.2 Material and Environmental Constraints

Material and environmental obstacles have commonly been cited in existing research as one hindrance to appropriating LCP in developing countries. Chapter 3 introduced the issues of overpopulated classrooms (Sifuna & Kaime, 2007; Abd-Kadir & Hardman, 2007), shortage of teaching aids (Pontefract & Hardman, 2005; Altinyelken, 2010b), and lack of adequately trained teachers (O'Sullivan, 2004; Vavrus, 2009; Lewin & Stuart, 2003), as identified by previous studies as LCP obstacles. While findings from this research accorded with the empirical evidence, my study seems to have brought a new insight to existing knowledge. Previous research investigating urban–rural or public–private discrepancies (e.g. Brodie, Lelliott, & Davis, 2002; Mtahabwa & Rao, 2010; Thompson, 2013) has tended to ascribe differences in applying LCP mostly to unequal resource richness and school conditions. Broodie et al. (2002) highlighted how poor, rural schools were under-resourced, and Thompson (2013) has advocated implementing LCP in urban, middle-class schools because they were better conditioned for it. My study scrutinised not only material and facility conditions but also other aspects conceivably related to LCP implementation, such as academic concentration and pupil–teacher relationships. Furthermore, few studies have explicitly compared the combination of both urban–rural and public–private schools. In this research, the horizontal juxtaposition of 13 schools, grouped into the three school categories – including urban public, rural public and private – enabled it to look for characteristics in common within the same categories but different between them. The analysis will bring to the fore the differential effects that some aspects of attendant discourse may have brought to different categories of schools.

Rural public schools including Green, Baraka, Kisutu and Siha stood out in their severe lack with respect to their physical and material environment compared to the other two school categories. Moyo's mathematics class at Green accommodated the largest number of pupils with more than 150. They shared approximately 40 connected desks and chairs with four to five peers. They had to squeeze past each other, and some pupils' legs protruded from their chairs. To manage the class and make sure his voice reached all pupils, Moyo had to speak loudly throughout his lesson. In the FGD with six pupils at Green, they complained about the overcrowded class, and requested that the class be split into two streams so that they could better concentrate. The pupils also asked for enough desks for fewer pupils to sit together.

At Baraka some classrooms were partially abandoned without roofs or floors, and no facility but piped water was available. On the dirt floors the desks could not stay balanced on the exposed ground. Kisutu even did not have its own school buildings, the head teacher told me in an informal conversation. The government started building Kisutu two to three kilometres away from where I visited. Ten years of construction work had not produced adequate buildings, and Kisutu had to rent some classrooms from the neighbouring school. The pupils and teachers had to travel further from their home, resulting in truancy on the part of some children. Furthermore, its school compound had a playground but not piped water or electricity.

Siha School demonstrated the harshest condition out of the four rural public schools. It did not have running water. Not only could the pupils not drink water at school, but also they could not clean the latrines. During the lesson Siha was the only school in which a few pupils sat on the floor. Over one-third of the pupils commented on the back of the pupil questionnaire that 'I do not have a desk (*Sina dawati*)'. Even the teachers did not have their own desks, so they used pupils' desks. Most surprisingly, the pupils at Siha told of their experience where teachers used school resources for their personal purposes. As I did not see any textbook during the lesson, I asked whether they possessed them:

- Girl: We have books. The books are very few, but they are enough. The teachers keep them in the office without distributing them in the classroom. Even if when they do that, they bring half of the books, and the half of the books remain in the office.
- Me: For what?
- Boy: Sometimes they take the books to their children.

The teachers took textbooks home with them instead of bringing them to the class. In addition, Chapter 7 reports on the scarcely legible chalk that teacher Mosi was using in the observed lesson. The head teacher at Siha, in an informal conversation, attributed this to a delay in government funding:

The government is supposed to pay TZS 9,500 per pupil as school fee [annually]. But we have not received the fund for the past one and a half years. [...] [As a result,] teachers are forced to buy equipment by themselves. (Informal conversation with head teacher at Siha, 12 November 2015)

Even the pupils in the FGD group recognised this reality. One male pupil complained, 'Chalks are not visible', and continued to explain that '[T]eachers have to buy it with their own money, because the government doesn't allocate money for that. So maybe that's why the teachers use poor chalk'. The lack of funding from the government forced the teachers to purchase teaching aids with their own money, conceivably resulting in their tendency to use affordable low-quality materials.

Such absolute minimalist teaching and learning conditions of rural public schools correspond with the findings of a number of studies documenting urban–rural disparities in sub-Saharan Africa (e.g. Brodie et al., 2002; Cleghorn & Prochner, 2003; Bar-on, 2004). In Tanzania specifically, Mtahabwa and Rao (2010) compared four pre-primary schools located in urban and rural regions, observing marked disadvantages in rural schools. They lacked desks and mats, compelling children to sit on the floor. Smaller classrooms accommodated more children than urban schools. The researchers concluded that unfavourable conditions had a negative influence on the quality of classroom practice and child–teacher interactions. Teachers spent most lesson time on classroom management – such as ordering classroom discipline, overseeing pupil behaviour and using time-out – than actual teaching and learning activities. They also had difficulty interacting with children individually (Mtahabwa & Rao, 2010). With the overpopulated classes and considerable resource shortage observed in rural schools during the present research, the relatively low percentage of time spent on LCP may have occurred partly due to the harsh teaching and learning environment.

In sharp contrast with their rural public counterparts, private schools (Highland, St. John, Islamia, Kawe) benefitted from considerably better material conditions. Located in the urban centre of Dar es Salaam, a Tanzanian businessman opened Highland School, similar to Kawe introduced in Chapter 7. Highland's guest waiting room accommodated leather chairs and sofas, and a big flat screen TV playing BBC News in Swahili. A Christian missionary school in Kigoma, St. John, had a vast playground and two-story, U-shaped buildings. Not all children there had a wealthy background, as 15% of parents were not able to pay tuition fees. With the funds from the Church, however, the school continued to enrol these children, provided they maintained their outstanding academic performance. Another religious private school of Islamia in Kigoma was characterised by colourfully-painted buildings and flourishing flowers in its school garden.

According to responses from the head teacher questionnaire, the four private schools owned at least seven items out of the nine facilities asked about (Appendix 14). All rural public schools had only one or two, and those owned by urban public schools ranged from one to six. Private schools also had dozens of computers utilised in lessons, in comparison with all the public schools which had none for pupil use. Classroom observations additionally revealed that pupils in private schools sat on individual seats, except for Rajabu's English class at St. John. This greatly differed from public schools where pupils shared one long bench with two to five peers.

With the relatively abundant resources, complaints about teaching and learning condition were much less evident in teacher interviews and pupil FGDs at private

schools. Rajabu at St. John and Zakia at Kawe were the only two teachers who reported the lack of textbooks and overcrowded classes respectively. Okapi expressed his satisfaction with the adequacy of the teaching aids at Highland, stating that he could practise whatever activities he hoped to implement and that he had few limitations to his teaching innovation. In parallel with these accounts made by the teachers, just one pupil at Highland in an FGD expressed his wish for a new whiteboard and charts to be installed. In addition, all four head teachers at private schools reported in the questionnaire that their schools needed no or minor repairs. Their responses diverged from most public schools wanting major repairs or complete rebuilding.

Urban public schools (Amani, Mwenge, Umoja, Kwanza, Bunge) stood somewhere in the middle of the other two categories; material conditions and facility availability were not as dire as rural public schools or as affluent as their private counterparts. Each school expressed their own problems. Juma and Aisha, both at Amani, said that crowded classrooms made classroom management difficult in terms of implementing LCP. Regarding teaching aids, Mwenge School did not have adequate desks to facilitate group work according to teacher Jamba. Aisha wished that the government would provide enough materials such as flash cards and TVs. Related to this was the absence of a computer as a teaching resource, noted by Chane at Mwenge and Ikeno at Kwanza.

The five urban public schools showed heterogeneous characteristics. Amani, Mwenge and Kwanza had four to six facilities of the nine asked about in the head teacher questionnaire, whereas Umoja and Bunge had up to two which was equivalent to rural public schools. Amani and Kwanza owned one computer for teachers to use, but the other three urban public schools had none. Thus, each school underwent somewhat difficult conditions, but all urban public schools at least had their own school compound and buildings.

Corresponding to several previous studies (e.g. Barrett, 2007; Abd-Kadir & Hardman, 2007; O'Sullivan, 2004; Vavrus, 2009), the above results may suggest resource scarcity as one of the reasons for low LCP implementation in Tanzania. Overwhelmingly populated classes and a lack of desks made it hard for the teachers at Green to manage the class. In need of desks and visible chalk, pupils faced difficulty to concentrating on lessons at Siha. LCP requires a lot of materials for learning through activities, creative work and arranging students into groups (Ginnis, 2002; Schweisfurth, 2013). This necessitates adequate paper, pens and desks for discussions and student demonstrations. Executing LCP may prove difficult without even these very basic facilities. With the crowded environment, peer interactions and group work recommended in LCP tenets (Vygotsky, 1978, 1986; McCombs & Whisler,

1997) placed a further burden on teachers. As such, material constraints are likely to hamper LCP implementation.

Nonetheless, such material and environmental problems seem to not adequately explain the differing levels of observed-LCP between the three school categories. Observed-LCP by individual schools (Table 8.1) showed that both rural public and private schools had a significantly smaller percentage of LCP-related activities in comparison to urban public schools. However, the former two school types exhibited distinguishing resource-richness. The extreme shortage of facilities may prohibit observed-LCP implementation at rural public schools. On the other hand, the private schools enjoyed the affluence of facilities and teaching aids from individual desks and chairs to computers. This nevertheless did not lead to a higher degree of observed-LCP during their lessons. Table 8.1 shows that half of private classes did not implement any LCP-associated activities, while the other half had less than 30% of time spent on such activities. In a similar vein, despite the fact that urban public schools possessed fewer educational resources than private schools, they leapt to the very top of the LCP-time scale. Additionally, all urban public classes spent at least some time on LCP-related tasks.

Comparison between distinctive school categories enabled this study to challenge existing literature. Thompson (2013) argues that private schools, economically more congruent with LCP exporting countries' schools and classrooms, are more conducive for adopting LCP. Lattimer and Kelly (2013) demonstrate the successful implementation of LCP in a relatively well-conditioned classroom in Kenya. However, their claim would seem inconsequential, as they base their evidence on a technicist approach, in that LCP implementation is possible as long as material conditions are met. The data from the present study indicates that even if a school has relatively enough materials as in the four private schools, LCP may not happen in classrooms at an observable level. Factors related to observed-LCP implementation should lie multi-dimensionally. What other factors may lead to the differing extent of LCP implementation, according to the horizontal juxtaposition?

8.3 Extent of Academic Concentration

LCP encourages learning through experience and discovery as well as through the five sensory systems. Living in the Enlightenment era with a focus on empirical observation and experiment, Rousseau stressed discovery learning. Darling (1994) remarks:

Instead of being taught other people's ideas, Emile is to draw his own conclusions from his own experience. For one thing, active use of one's mental

powers in making sense of things gives one an increasingly resourceful mind.
(p. 12)

This principle led Rousseau to argue for children to 'be free to move around, to play, and to explore' (Darling, 1994, p. 8). Ginnis (2002) follows Rousseau's notion to emphasise learning using different human senses. Pupils exploring things with their own hands based on their natural interests would aid in learning and the retention of knowledge. In the context of Tanzania's educational development, Nyerere (1967) urged learning in the real environment through self-reliant activities. Envisioning *ujamaa* villages where farmers would cooperate to sustain their own lives through agriculture, the then president wished to incorporate schools as part of the community. Education through self-reliant tasks would nurture future citizens equipped with cooperative attitudes and agricultural skills (Nyerere, 1967).

Contrary to these ideals of early theorists and Tanzania's influential past president, the researched private schools prominently lacked time and facilities for activities other than academic study. This feature seemingly resulted from their aspiration for their pupils' improved exam performance, leading to a certain school–parent relationship and a distinctively academic focus.

According to the pupils in the FGDs, Highland and St. John did not maintain a playground in a good condition. Because the former owned no playground in its compound, few physical activities took place. Once a week the pupils went to a field some distance from the main campus, where they took part in games and exercises, but the pupils wanted more time for playing outside. Teachers and pupils at three private schools, except for Islamia, reported longer periods of time for studying. The pupils moaned about there being few breaks in between classes, because teachers came in one after another. At Highland and Kawe, which had topped the national and regional league table, the pupils stayed in class until close to midnight and started morning classes from 8am. In the former case, they had to study even on weekends and during holidays. 'These days, maybe Sunday and Saturday, we are...we are coming to class just to study', a female pupil at Highland reported.

The excessive concentration on studying at private schools, especially in Dar es Salaam, aimed at obtaining high performance in the official exams. In an interview, teacher Hali at Highland expressed a dilemma between the responsibility to complete the syllabus and the use of LCP:

We are given a very short period of time to cover the syllabus. So, you'll find if you always use the participatory method in teaching, obviously you will have to use more than 40 minutes. (Interview with Hali, 15 November 2015)

The pupils understood the importance of completing the syllabus at the expense of their choosing what to study. A girl at Kawe explained, 'Most of the time, the teacher

has to complete the syllabus. So, we can't decide [the contents]. He says we must complete the syllabus'. Covering the whole syllabi is imperative for pupils' exceptional achievement in the exam, and the fee-paying schools seemed to fulfil their accountability to parents by means of the children's constant academic improvement.

Private schools in Dar es Salaam considered parents to be their customers while they provided the required services. When asked whether they collaborated with parents or the community, Hali and Zakia noted that their schools were run by themselves. Hali continued to say that 'what they [parents] do is only to pay school fees. [...] Then, they leave their children to us to look after them. That is all'. Hali's colleague Okapi emphasised the school's responsibility for children's performance. 'Whenever we meet them [the parents], we discuss how to make our school perform better [...] in terms of the national exam'. Furthermore, Highland and Kawe held a parents' visiting day. The parents came to observe lessons and received consultation individually on their children's performance. The visiting day was not mentioned in the private schools of Kigoma. The only teacher in the region who referred to examination during class was Rajabu at St. John. In his observed class, he reminded his pupils that Standard 7 just took the national exam, and encouraged his Standard 6 pupils to study hard in order to graduate.

Along the horizontal axis, public schools presented a stark difference in how they related to the parents. They saw the latter as partners who ran schools in collaboration with them. The schools asked for financial assistance from the parents due to a lack of government funds; hence they needed to maintain favourable relations with the parents. The parents should be informed about how the school was organised, teacher Jamba at Mwenge noted. Instead of a visiting day for academic monitoring purposes, as seen at their private counterparts, some public schools invited the parents to discuss a wide range of issues from pupil exam performance (Green) and their discipline (Amani, Mwenge) to remedial classes (Umoja, Baraka). Mwenge had a counselling service for both pupils and parents, and Baraka discussed how to arrange remedial classes with the parents. The teachers at Mwenge, Umoja, Kwanza and Bunge said that friendship should be nurtured with the pupils. Teachers Juma, Aisha and Nyo tried to understand family problems which the pupils were facing through informal conversations. It seems that schools' reliance on each family to continue their operation motivated public schools to nurture agreeable relations with parents.

The government of Tanzania sets national education policies adhering to globally-recommended LCP implementation. The vertical examination in Chapter 6 argues that its national policy documents for the past few decades (e.g. MoEVT, 2006; MoEVT, 2010b; MoEVT, 2013b; MoEST, 2016) embrace learner-centred approaches. The recently published and enacted Education and Training Policy (MoEVT, 2014)

urges the development of 'creativity, research and analytical skills' as a consequence of 'adopting different pedagogy' (HakiElimu, 2015, p. 22). However, what is measured in national tests contradicts what is expected as a result of LCP practices. Several authors have pointed out the dominance of factual knowledge tested in official examinations in Tanzania (Bartlett & Vavrus, 2013; Vavrus, 2005). The exams weigh memorisation of information rather than the ability to think critically or to solve problems through peer discussions or hands-on learning. A thorough analysis of secondary exams by Bartlett and Vavrus (2013) reveals prevalent test items with 'multiple-choice, matching, true or false and sentence-completion' (p. 98). These questions demand one 'correct' answer, thus falling into what Tabulawa (2013, p. 54) calls 'right-answerism'. Right-answerism is better aligned with rationalist epistemology which argues for the existence of absolute knowledge, as opposed to constructivist epistemology. Teacher-centred approaches based on rationalism seem a better fit to produce pupils capable of recalling correct answers in the national assessment.

For teachers in Tanzania, examination results would appear to be a more immediate and important concern than the international and national promotion of LCP policies. Exam results will determine school performance, on which parents base their decisions about which school to send their children to. Private schools must evince a value for tuition fees, and thus they displayed a marked tendency to attach importance to the examination. In addition, teachers in Tanzania could earn 'motivation money' if their pupils achieve outstanding exam performance (Bartlett & Vavrus, 2013). It can be said, therefore, that the national exams will bring more tangible outcomes to teachers than a broad consensus on LCP implementation among international and national bodies. Those who are trained in reproducing the correct answers would achieve higher exam marks than those who are good at analysis, evaluation and synthesis. It would be logical for teachers to utilise TCP, because it justifies and encourages the memorisation of fact-based knowledge.

In sum, the overall, averaged result of observed-LCP revealed its poor implementation with less than one-fifth of class time spent on LCP. A horizontal contrasting of the schools has elucidated differing implementation levels of the same LCP policy depending on locality. Urban public schools tended to practise more LCP-associated activities than their rural public or private counterparts. Although the latter two had a similar implementation level of LCP, distinctive factors of the attendant discourse seemed to influence them. Environmental constraints were a more apparent barrier to rural public schools, whereas excessive academic weight appears to be more influential in private schools. By the same token, how pupils interacted with their teachers at school and adults at home varied between the three school categories, and

the variation seemed to be related to *perceived* level of LCP, to which the discussion now turns.

8.4 Nature of Pupil–Teacher Interactions

Classroom interactions between teachers and pupils, as presented in Chapter 7, revealed to be teacher-dominated and captured teacher authority. Such behaviours might be rooted in people's ways of viewing knowledge, being based on rationalist epistemology that places the knowledge possessor in a socially higher position than the knowledge receiver (Pignatelli, 1993). The way a person interacts with others would not be relegated to the classroom; it is established and nurtured in schools, communities, families and society. In the conceptual framework (Figure 3.1), human relationships would present continuity across the three layers of classroom, system/policy and culture/society. How pupils interact with a class teacher in the classroom will reflect how they relate to other teachers outside classrooms to some extent. Furthermore, these could reflect how the children build relationships with adults beyond the school environment to a certain degree. In an attempt to unpack child–adult relationships in and outside school, this section deals with pupils' accounts of their perceived relationships with their teachers and parents gathered from the FGDs. A comparison of FGD data between 13 schools demonstrated the prevalence of corporal punishment in classrooms, which was supported by my observation of caning in one lesson at Umoja. Punishment seems to have a significant effect on how much and how comfortably pupils can express their views at school. Not only does physical punishment stifle children's voices, but it also runs counter to the spirit of LCP (UNICEF, 2009a). Beyond schools in the culture/society domain of the conceptual framework (Figure 3.1), pupil narratives suggest that the socioeconomic background of families could to some degree have a bearing on the extent to which children can express their opinions at home.

8.4.1 Corporal Punishment Hindering Children's Voice

Corporal punishment is common in school and home settings, especially in low income countries such as sub-Saharan African nations (UNICEF, 2010; Anderson & Payne, 1994). In Tanzania, the law does not prohibit corporal punishment at school (Global Initiative to End All Corporal Punishment of Children, 2018), and empirical research evinces its prevalence in the country. In a national survey on physical, sexual and emotional violence against children conducted in Tanzania (URT, 2011), approximately three-quarters of 3,739 young people aged 13–24 reported that they had experienced physical violence at home. Relatives, authoritative figures and intimate partners

slapped, pushed, hit and/or punched them. Feinstein and Mwahombela (2010) surveyed and interviewed students and teachers at Tanzanian secondary schools regarding their experience of caning. Fifty-six percent of the teacher respondents revealed that they had hit students with their hands and given strokes for their misbehaviour and poor academic performance. Interviews with the students further unveiled that the teachers violated the government regulation, which allowed only head teachers to give four strokes. In a quantitative survey focused on primary-aged children, Hecker, Hermenau, Isele and Elbert (2014) found that 95% of 409 participants reported their receipt of corporal punishment at school. Tao (2013) examined teachers' rationales for executing corporal punishment. For them punishment was necessary to discipline and manage the class, especially in a crowded room where some students disturbed others' learning. These studies all show the prevalence of corporal punishment against children at schools in Tanzania, leading the researchers to suggest its normative and culturally-expected nature (Hecker et al., 2014). The results discussed below substantiate the previous findings, and further illustrate pupil experiences with corporal punishment.

I did not set out to explore corporal punishment at the beginning of the research. I structured the questions for pupils in order to broadly understand the challenges they may face in the classroom and at school. In the FGDs I specifically asked, 'What do you like the least about lessons? What kind of lesson activities do you dislike?' and 'Imagine, if you could change one thing about your class, what would you like to change?' (Appendix 13) Twelve out of 17 groups – both public and private schools as well as both urban and rural schools – answered corporal punishment to these inquiries, while the other five classes – all located in the Kigoma region, including Kwanza, Bunge, Baraka and St. John Schools – did not refer to any issue of physical punishment in their FGDs. According to a boy at Mwenge, '[When] some students fail to do well that exercise, [...] they [the teachers] beat'. Another boy at Islamia informed me that the teachers would not listen to the pupils' explanations, but 'he just beats you'. 'Bad behaviours' that provoked teachers' punishment included: pupils' incomprehension; giving incorrect answers; poor exam performance; and making a noise. The teachers at Amani, Mwenge, Highland and Green often punished the whole class even if only a few people had committed these 'bad' behaviours, the pupils reported. The teachers also hit them without any reason, as they sometimes brought anger from home and hit the pupils, according to a female pupil at Kawe. Common forms of punishment involved beating hands, heads and other body parts with sticks (Umoja, Green, Kisutu, Siha, Highland). As Chapter 7 reported, teacher Nyo at Umoja hit several pupils' backs for their incorrect answers and disobedience during my observation. Teachers may also force pupils to do physical exercise, including hopping

and doing headstands (Mwenge, Green, Highland). During the FGD at Highland, the pupils showed me a pose with their hands on the floor lifting their entire body up. A female pupil explained, 'We stay like this even for ten minutes'.

These pupil accounts of corporal punishment contrasted with teacher views of pupil–teacher relations, suggesting that it was an advantage to gather data from different social groups based on constructivist ontology. When asked about how they interacted with the pupils outside classrooms, several teachers said that they were friendly with the pupils. For teachers Chane and Ikeno, it was important that the pupils recognised the teachers' love so that they would come to like the academic subject taught by the teachers. Hali ate meals with his pupils in the school canteen while talking about their hobbies and visions. Outside the classroom, teachers talked with pupils about their families (Aisha, Chane), academic subjects (Juma, Chane) and the challenges the pupils faced at home (Hali, Rashid). The contradiction between pupil and teacher narratives indicates the need to have multiple stances when investigating this phenomenon, because which social group people belong to determines what they report (Mitra, 2003).

Continuing the discussion of corporal punishment, a vast amount of research has demonstrated the various behavioural and psychological effects resulting from it. Corporal punishment can be strongly associated with externalising problems such as aggressive, antisocial and criminal behaviours (Hecker et al., 2014; Mulvaney & Mebert, 2007). Internalising problems including poor mental health and anxiety can also be provoked (Turner & Finkelhor, 1996). In addition, physical punishment can impair the child–adult relationship, as identified by Gershoff (2002). It is associated with negative feelings of fear and anxiety. If punishment persists, children avoid communicating and interacting with teachers. In the FGD at Kisutu School, a female pupil reported that a glimpse of a teacher with a stick made them 'become afraid [...and] not want to follow the teachers'. A fear of caning also interrupted their learning. Several pupils declared that they could not concentrate on the lesson due to thinking about punishment (Amani, Highland, Kawe). Two pupils at Mwenge also felt fearful of speaking up and saying that they did not understand or of asking questions because of possible punishment they might receive. Fearfulness toward teachers might explain why pupils hardly asked questions or consistently affirmed their content understanding during lessons, as reported in Chapter 7.

The negative effect of corporal punishment on pupil–teacher relationships permeated into the context beyond classrooms. Albeit that it was impossible to prove a causal relationship, pupils' fear seemed to halt their freedom of expression. According to the head teachers, all schools except for St. John held student associations as a mechanism to collect pupil views. Yet, these organisations did not function in the

manner intended, especially at rural public schools like Green and Siha. The leaders of the student organisations were not active at Green. A girl explained its reason, 'We are not free to give our views, because the teachers are so harsh', and a male pupil echoed her:

Some teachers are so harsh. Therefore, students are afraid of them. We are afraid to give our opinions. Even if we try to ask questions, we end up maybe getting strokes. (FGD at Green School, 19 October 2015).

Likewise, even though Siha had a student committee, it existed as a symbol and was not operating in practice. One of the male pupils explained:

We have a school government. But they are just there as a symbol and they are not working. Because even themselves, they are afraid. The prefects are afraid of facing the teachers on behalf of the students. Because when they go there, sometimes they are being shouted. (FGD at Siha School, 10 November 2015)

The student representatives were afraid of facing the teachers in case they were shouted at. International policies of LCP encourage children to be the decision makers regarding school management as well as with regards to what and how to learn (UNICEF, 2009a; UNESCO, 2004). They base their rationales on the early theorists like Rousseau (2007) – who prioritised children's experience and curiosity – and Dewey (1916) – who promoted democratic decision-making process at school. However, widespread punishment seemed to ensure the pupils kept a personal distance from their teachers. With their fear of the teachers, these policies would not work as expected in local schools.

Nevertheless, not all schools with corporal punishment silenced children's voices. Those who were at Amani could generally express their opinions or ask questions outside the class, although whether these were taken seriously varied from teacher to teacher. At Kawe, the pupils comfortably proposed what they would like to learn in remedial classes, or told the teachers what they did not understand. Furthermore, Umoja and Highland had mechanisms to collect pupil views through anonymous opinion papers and school meetings respectively, even though the two schools hardly made improvements. The pupils at Highland asked to install a playground and change the kinds of food served at the canteen, and at Umoja they reported absenteeism and lateness of their teachers; both schools observed no change.

At the same time, there were schools that indicated an absence of corporal punishment, including Kwanza, Bunge, St. John and Baraka, all of which were in Kigoma. Not mentioning occurrences of punishment does not necessarily indicate its complete absence from the school, but the pupils at these schools neither expressed their fear of their teachers nor showed their avoidance of them. Interestingly, however,

it was the norm at St. John and Baraka that they followed all the orders the teachers imposed. The former did not even have a student association, indicating that there was no space for the pupils to collectively express their views.

In contrast, pupils at two of the urban public schools of the four – Kwanza and Bunge – explicitly manifested positive views toward their teachers. They helped with learning in different subjects and listened to the pupils both inside and outside classes. Those who were at Bunge were willing to point out teachers' mistakes 'because no one is perfect', a female pupil stated. Peer discussions after classes to inform the teachers of problems were prominent at Kwanza. In addition to the nonexistence of accounts concerning caning, the pupils at these two schools never uttered complaints against the teachers or school governance, which did not happen at any other schools. Instead, they accused their peers of being noisy, late and playing truant as well as not cooperating in group work and disrespecting others. A female pupil in Bunge noted, 'I don't like self-centred students. They always like to be alone. That habit makes them not gain a lot of ideas from other friends'. These pupils seemed to have more responsibility for their learning compared to other schools. Comments by a boy at Kwanza exemplified this, 'They [peers] don't concentrate; and when the exam comes, they fail. And when they fail, they blame teachers that teachers don't teach [...] while the problem starts from themselves'.

In consonance with the literature on corporal punishment in Tanzania (e.g. Global Initiative to End All Corporal Punishment of Children, 2018; Hecker et al., 2014; Feinstein & Mwahombela, 2010), most schools in my study, regardless of the school types (public or private) or geographical locations (urban or rural), faced the problem of corporal punishment. Teachers often gave pupils strokes and compelled them to do physical exercise. The pupils were physically punished due to poor academic performance and discipline, or sometimes without any reason. Horizontal examination in my study further illustrates that the way the caning problem affected pupils' schooling experiences differed notably among the three school categories. Corporal punishment silenced pupil voice at rural public schools to a great degree. Those at Green and Siha were excessively afraid of asking questions or proposing their needs to the teachers, because they might be beaten. Their fear also turned the student association at Siha into a mere icon, whose leaders were afraid of the teachers shouting at them. Those at Kisutu and Siha always followed teacher orders and never gave their opinions. At urban public and private schools, the pupils complained about corporal punishment, but they appeared notably less frightened compared to their rural public counterparts. The teachers' attitudes toward the pupils varied at Amani and Mwenge. Some took pupils' opinions seriously, while others ignored them. Some talked with the pupils in a friendly manner, but others were harsh. The pupils were even

confident enough to point out teachers' mistakes at Bunge. At two private schools in Dar es Salaam, a few pupils posed their questions to the teachers in the middle of the class and submitted their wishes at school meetings, despite experiencing corporal punishment by the teachers. Why, then, did corporal punishment affect those at urban public and private schools less as compared to rural public schools?

8.4.2 Pupil–Teacher Relationships Reflecting Child–Adult Relationships in Society

Beyond the system/policy layer of the conceptual framework (Figure 3.1) there is the culture/society stratum. The embeddedness of the former in the latter suggests that child–adult relations practised in society may present human relationships at school to a certain extent. To investigate one dimension of human interactions, I asked the pupils in the FGDs about their family relationships and family life. They specifically responded to the questions, 'At home, what kind of things do you talk with your parents and siblings?'; 'When you discuss family matters and make decisions about something with your parents, do you express what you think to your parents? If so, do they take into account of your views?'; and 'With your older or younger siblings, do you share various things – such as foods, toys, books, etc. – equally? Or do any of you usually get more or less?' (Appendix 13). Among the explanations the pupils provided, how they communicated with their parents showed patterns along the horizontal line of school categories, and the families' socioeconomic status (SES) seemed to have implications for how they formed family relations, possibly affecting pupil–teacher relations.

The pupils attending private schools enjoyed the wealthiest lives, and their wealth appeared to allow the parents to fulfil their children's requests and offer tempting rewards. Two male pupils at Highland reported that their parents often agreed to their wishes. Other parents were willing to purchase various things, from stationery (Highland, St. John) and books (Islamia) to clothes (St. John) and a computer (Islamia). A girl at St. John described her story of negotiating a hope with her parents:

I used to go to a public school but wanted to move to a private school. I told this to my parents. They listened to me, my opinion, and they brought me here.
(FGD at St. John, 6 November 2015)

Those at Highland were motivated to study for valuable rewards. Their parents cared about their children's academic performance very much. If they finished primary schooling with good grades, the parents promised to take them abroad, including to South Africa, China or South Korea, for further study. Additionally, the children could sometimes propose to their parents which products to buy (Kawe) or where to go for family excursions when their schools had holidays (Highland). No pupils at private school mentioned their parents denying their requests. It seems that relatively high

SES could offer a space for these children to express and discuss their own desires and ideas with the adults at home.

At public schools in both urban and rural areas, the situation varied from family to family. Public schools often requested that families make a financial contribution due to the shortage of government funds, as opposed to their private counterparts where all costs were included in school fees. The children needed to ask their parents for money for examinations, remedial classes and the maintenance of school buildings. Several pupils at Amani, Mwenge, Umoja, Green and Siha reported that their parents were cooperative about spending money on education-related fees. However, other parents at Amani and Mwenge responded negatively to their financial requests. This sometime resulted in a caning, as a boy at Mwenge stated. Another male pupil at Kwanza shared an example of some parents refusing to give money for remedial classes, 'because [parents think] it is a waste of money'. Moreover, some pupils at Amani, Mwenge, Umoja and Baraka could get exercise books, textbooks and pens relatively easily, but other parents at Mwenge were hesitant to make a monetary contribution to the school. Varied responses thus characterised public schools with respect to how easily the children could negotiate their needs at home. The tentative nature of these findings must be acknowledged; it can be difficult to probe individual answers in an FGD involving multiple respondents, as opposed to when using other methods, such as one-to-one qualitative interviews (Morgan, 1997). Perhaps deeper probing of pupil narratives might have provided other reasons and/or conflicting priorities that parents had to adhere to.

In addition to the above accounts generally observed in both urban and rural public schools, the pupils at the latter schools had the least affluent and harshest lives, seemingly affecting their family relationships. Education carried importance for those sending their children to rural public schools as with families of the other school categories. Nonetheless, some parents at Baraka and Kisutu did not help with school work at all. A set of parents at Green blamed a girl for her bad exam score but were not capable of teaching her. Another female pupil at the same school was beaten by her parent because of her poor academic performance. Also, when I asked whether the pupils share toys, books and food equally with their siblings, a girl at Kisutu replied that her home did not have any books. One female pupil at Siha revealed that when she asked her parents to buy school-related equipment, '[t]hey just console me' because the family could not afford it. These narratives gained at rural public schools present a sharp contrast with private school pupils, who could get a computer and were offered opportunities to study abroad. Hence, pupils at urban and rural public schools shared a similar way of relating with adults at home on the one hand, while on the other, the

severe financial situation of rural public pupils to a certain extent forced them to comply with what their parents could afford.

Such pupils' narratives gathered during my study may imply that the more affluent families they came from, the more likely it seems that families were able to enter into dialogue with children in supporting their educational needs and wants. From the children's perspectives, being accustomed to having their needs considered by adults could give pupils from more affluent families the confidence to discuss these matters with adults. Private school pupils expressed their wishes most comfortably among the three school categories. Those at public schools often had to ask for money to participate in school activities, to which their parents reacted in various ways. Some children at rural public schools rarely interacted with their family members, let alone asked them for favours. How they communicated with adults at home may well have been similar to how they related with adult teachers at schools. This could partly account for the differing influence of corporal punishment on the pupils. Rural public pupils with rigid relationships with their parents may have retained somewhat similar relations with their teachers at school. They did not express their wishes or needs to their teachers due to a fear of being shouted at or struck. Private pupils by contrast may have been accustomed to expressing their opinions both at home and at school. It could be said that differing levels of 'fear toward teachers' may have to some degree derived from how they usually communicated with adults at their home, which is located in the culture/society domain of the conceptual framework (Figure 3.1) beyond the school compound.

It is interesting to remember that ANOVA on overall perceived-LCP (reported in Section 8.1) revealed significantly higher ratings obtained at private schools and urban public schools than rural public schools. This could imply that how pupils interacted with adults at home and school may be linked to their subjective perceptions of how much they felt they were centred in the classroom, although it would be difficult to determine a definite correlation between the two. To probe other associations that my research focuses on, the next section analyses relationships between LCP implementation and learning outcomes.

8.5 Implication for Associations between LCP and Learning Outcomes

The discussion of the act of teaching and the attendant discourse of pedagogy in Chapters 7 and 8 so far has explored several pedagogical elements in the conceptual framework (Figure 3.1). These include: culture, community and history in the culture/society realm; school, curriculum and assessment in the system/policy realm;

and students and teaching in the classroom realm. This section turns to one remaining pedagogical dimension, *learning* in the classroom stratum.

What pupils learn at school could be the result of their learning experiences at school and home. Though it may not be narrative, learning outcomes can express pupil views from a different angle, as the outcomes represent what children gain as a result of their schooling-related experiences. In spite of the rationale of LCP implementation that it will bring about better learning (Gallagher, 2003; APA, 1997), links between LCP and pupil performance have been arguable, as detailed in Chapter 3. Only scant literature (e.g. Ngware, Oketch, & Mutisya, 2014; Carnoy, Ngware, & Oketch, 2015; Layne, Jules, Kutnick, & Layne, 2008) explicitly examined such associations, and it has not found consistent results in terms of the effectiveness of LCP in relation to pupil learning. To facilitate empirical understanding as to whether LCP may translate into better learning, the present study aimed at examining the associations between observed-LCP, perceived-LCP and learning outcomes. The outcome measurement includes academic performance and attitudes toward learning. Even though it did not intend to deduce any causal relationship given the small number of classes observed, I sought to draw an implication for associations between these variables from the individual-level data of the 1,024 pupils, and to relate them to the analytical framework underpinning this study.

8.5.1 Descriptive Statistics

Before considering the associations among different variables, this section presents descriptive statistics of key variables, including academic test scores as well as questionnaire responses related to learning attitudes. The pupils took either a maths or English test (Appendices 5 and 2). Maths exam scores ($N = 656$) had a somewhat normal distribution ($M = 38.84$, $SD = 24.48$) (Figure 8.4). In contrast, the distribution of English scores ($N = 368$, $M = 39.48$, $SD = 30.37$) was positively skewed, although a high number of pupils achieved close to 100 scores (Figure 8.5).

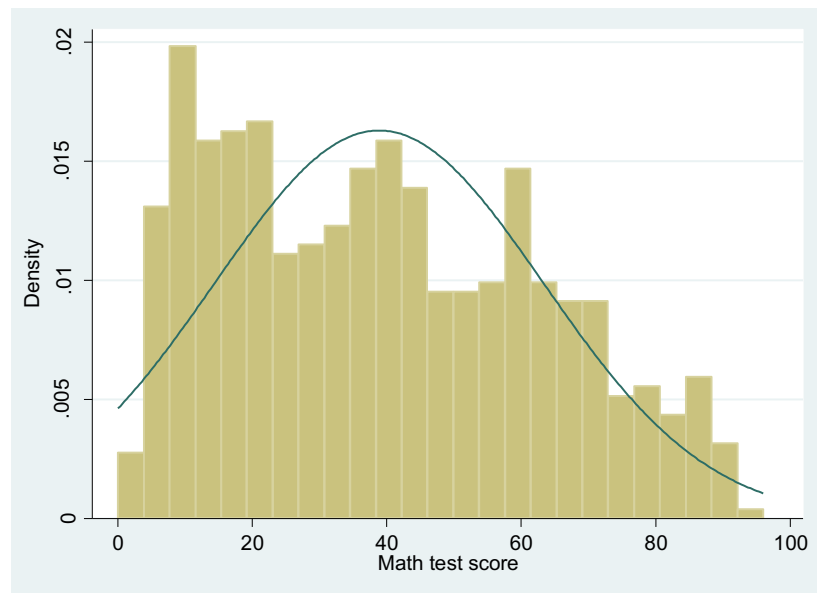


Figure 8.4: Distribution of maths scores

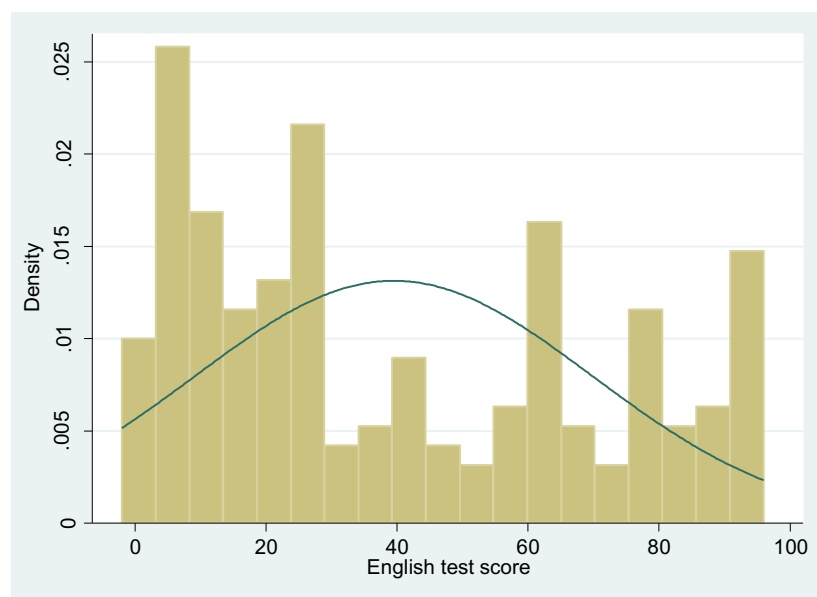


Figure 8.5: Distribution of English scores

In order to make the scores from different exams comparable to each other, maths and English scores were standardised into z-scores. *Figure 8-6* shows the distribution of the transformed data. The kernel density plot of the z-scores indicates a positively skewed curve (*Figure 8-7*). It demonstrates that more pupil scores fall toward the left tail, while some higher scores pull the overall mean toward the right tail. All analyses below use this standardised score.

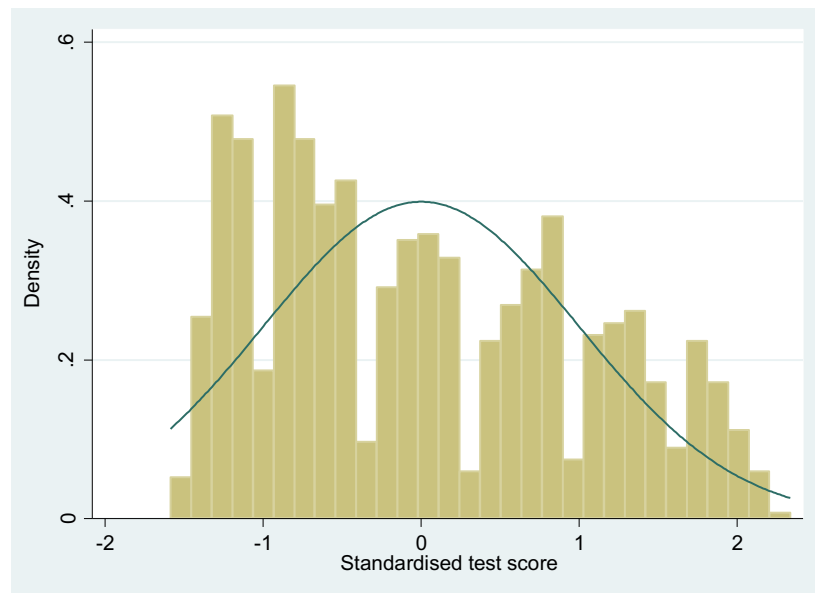


Figure 8.6: Distribution of standardised scores

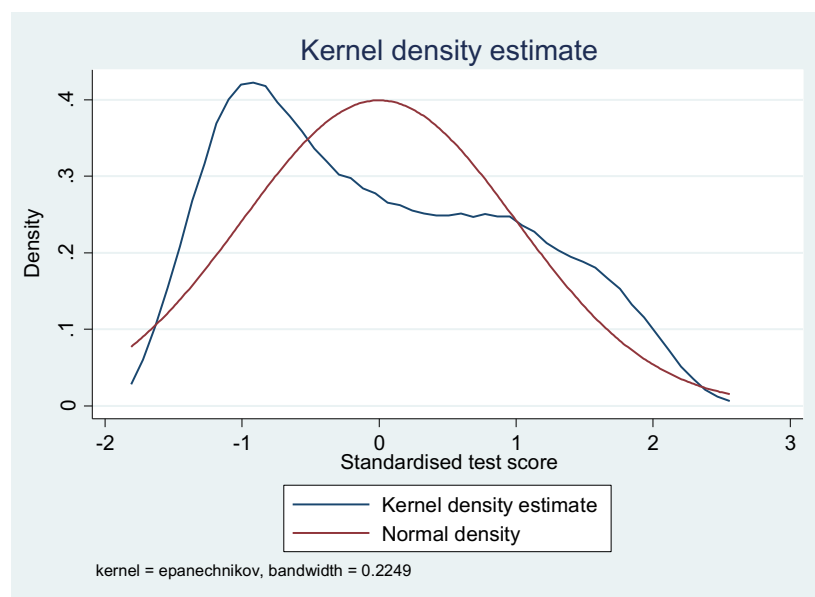


Figure 8.7: Karnel density estimate of standardised scores

In addition to academic performance tested in the exams, the pupil questionnaire (Appendix 3) measured learning attitudes. These outcomes include learning motivation (Question 36), interest (Question 37), confidence (Question 38), ownership (Question 39) and behaviour (Question 40). The four ordered statements of the Likert-scale – including ‘disagree a lot’, ‘disagree a little’, ‘agree a little’ and ‘agree a lot’ – were coded with values of 1, 2, 3 or 4 respectively. Questions 36 to 40 has five to six sub-questions, labelled as a) to f) in Appendix 3, making the total number of sub-questions 26. In order to obtain an ‘overall’ score for each dimension of motivation,

interest, confidence, ownership and behaviour, medians of the responses to the sub-questions a) to f) were calculated. In this way, each pupil got their median scores for questions 36 to 40.

Of the four Likert-scale statements, the pupils overwhelmingly chose 'agree a lot' that they achieved these outcomes, followed by the choice of 'agree a little'. These two together received more than 99% of overall responses ($N = 1,016$, $M = 3.59$, $Mdn = 4$, $SD = .52$) (Table 8.2, Figure 8.8). Specifically, the median for motivation, interest and behaviour lies in 'agree a lot', while confidence and ownership had 'agree a little' as their median. Comparisons of the data from observed-LCP, perceived-LCP, academic scores and learning attitudes between schools explore whether these variables are associated with each other.

Table 8.2: Descriptive statistics of learning attitudes

	Motivation		Interest		Confidence		Ownership		Behaviour		Average of all	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
	3.8	4	3.6	4	3.4	3	3.1	3	3.8	4	3.6	4
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Disagree a lot	6	0.6	3	0.3	1	0.1	3	0.3	4	0.4	2	0.2
Disagree a little	10	1.0	26	2.6	69	7.0	75	7.6	11	1.1	6	0.6
Agree a little	216	21.8	301	30.3	474	48.0	757	76.8	169	17.1	400	39.4
Agree a lot	761	76.6	662	66.7	443	44.9	151	15.3	804	81.4	608	59.8

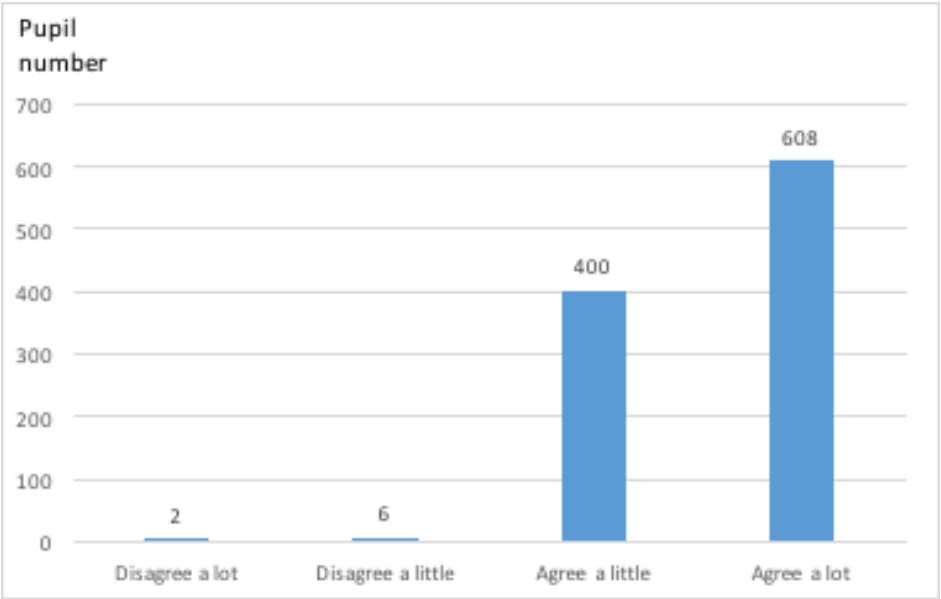


Figure 8.8: Average ratings for learning attitudes

8.5.2 Comparing Means of Observed-LCP, Perceived-LCP and Learning Outcomes

Based on the data on learning outcomes, this section first examines the significance of their mean difference by school category. It then compares these with the means of observed- and perceived-LCP presented in the earlier section, thereby exploring associations between these variables. Statistically significant differences of z-scores were observed between public and private schools ($t = -16.82$, $df = 1,022$, $p < .001$), as well as between urban and rural schools ($t = 13.96$, $df = 1,022$, $p < .001$). Urban public, rural public and private schools showed a statistically significant difference from each other, determined by one-way ANOVA ($F(2, 1,021) = 316.05$, $p < .001$). Pair-wise comparison based on Bonferroni tests indicated that private schools ($M = .98$, $SD = .81$) scored significantly higher than both urban public ($M = .14$, $SD = .89$) and rural public ($M = -.78$, $SD = .58$) schools. Between the latter two, urban public obtained significantly higher scores relative to their rural counterparts.

For the ordered variable of pupils' learning attitudes, chi-square tests examined the significance of relationships between these outcomes and school categories. A chi-square test requires at least five counts in each cell, but some cells in the obtained data had less than five due to the skewed distribution. Although the results presented below may not be conclusive, they give indications as to whether or not LCP is associated with these outcomes. As over 99% of the pupils answered 'agree a lot' or 'agree a little' on average, the report focuses on these two choices.

Between public and private schools, 41.6% of the respondents at public schools 'agree a little' with having positive attitudes toward learning, while 29.6% of their private counterparts did so. In contrast, only 57.4% of the former compared to 70.4% of the latter 'agree a lot' to possessing positive learning attitudes. The association between the school type and the outcomes was revealed to be significant, $\chi^2 = (3, N = 1,016) = 11.72$; $p < .01$. Likewise, a chi-square test between area (urban or rural) and learning attitudes obtained a significant relationship, $\chi^2 (3, N = 1,016) = 11.52$; $p < .01$. Overall 38.1% of urban pupils compared to 41.7% of rural pupils 'agree a little', but just 56.4% of rural pupils compared to 61.7% of urban pupils 'agree a lot'. Moreover, a significant association was obtained when comparing learning attitudes across the three school categories. On average between five types of outcomes, 40.0%, 44.1% and 30.0% of urban public, rural public and private schools respectively 'agree a little' that they had positive learning attitudes; and 59.8%, 53.7% and 70.4% of urban public, rural public and private schools respectively 'agree a lot', $\chi^2 = (6, N = 1,016) = 23.74$; $p < .01$. The box plot (Figure 8.9) and Table 8.3 combine the variables individually presented above and compare them between the schools.

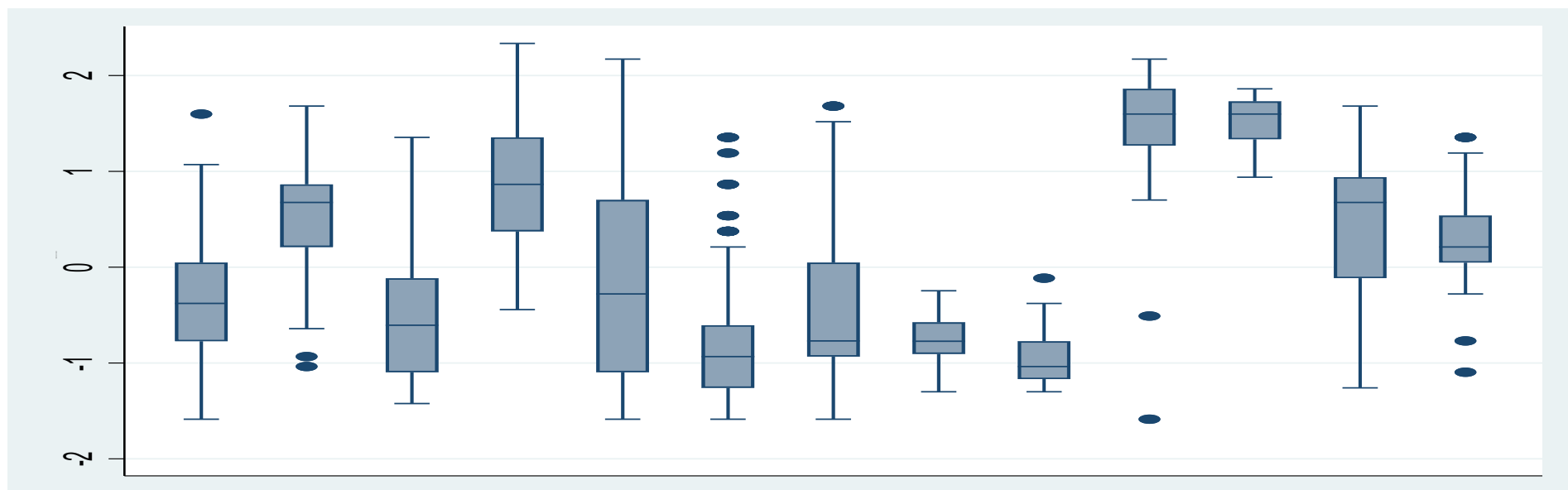


Figure 8.9: Box plot of z-score

Table 8.3: Averages of academic scores, attitudinal scores and LCP levels

Category	Urban Public					Rural Public				Private			
School	Amani	Mwenge	Uhuru	Kwanza	Bunge	Green	Baraka	Kisutu	Siha	Highland	Kawe	St. John	Islamia
Mean Z-score	-.35	.59	-.52	.88	-.11	-.82	-.33	-.75	-.97	1.49	1.56	.48	.25
SD of Z-score	.57	.57	.68	.67	1.06	.60	.92	.23	.28	.64	.26	.69	.65
Agree a little	49 40.8%	52 38.0%	32 44.4%	30 34.1%	39 44.3%	56 38.1%	16 40.0%	19 39.6%	51 58.6%	22 39.3%	8 21.1%	19 24.7%	7 38.9%
Agree a lot	71 59.2%	85 62.0%	39 54.2%	58 65.9%	49 55.7%	90 61.2%	23 57.5%	28 58.3%	32 36.8%	34 60.7%	30 79.0%	58 75.3%	11 61.1%
O-LCP	.11	.30	.05	.23	.44	.22	.10	.00	.00	.02	.00	.11	.23
P-LCP	3.11	3.34	3.31	3.34	2.94	3.09	3.26	2.94	2.83	3.25	3.37	3.47	3.17

Comparing the six variables, schools with no or very little observed-LCP implementation (Kisutu, Siha, Highland, Kawe) gained test scores at the extreme opposite end of the scale. Kawe ($M = 1.56$) and Highland ($M = 1.49$) achieved the highest performance, while Siha ($M = -.97$) gained the lowest score and Kisutu ($M = -.75$) the third lowest. On the other end of the observed-LCP spectrum, Bunge and Mwenge practised the most LCP-associated activities, yet no consistency of pupil achievement between the two was observed. Bunge ($M = -.11$) scored a little less than the mean of all schools, whereas Mwenge ($M = .59$) achieved relatively higher marks among the 13 schools. Likewise, Table 8.3 suggests little consistency between observed-LCP and perceived-LCP. Pupils at Kawe and Highland with almost no observed-LCP rated higher on perceived-LCP than any other schools. At the lower-end of perceived-LCP, Siha and Kisutu in their absence of observed-LCP as well as Bunge with the highest observed-LCP coexisted.

The variables of perceived-LCP and test score indicate some associations. The schools with the four highest perceived-LCP (St. John, Kawe, Kwanza, Mwenge) scored higher than the mean of all schools, whereas those with the four lowest perceived-LCP (Siha, Kisutu, Bunge, Green) gained lower than the average score. Both perceived-LCP and exam performance imply a correlation with the school categories of urban public, rural public and private. This also accords with the ANOVA results on both perceived-LCP and academic levels presented earlier. Private schools generally performed better in the test, and rural public schools did relatively poorly. Urban public schools fell between the two but with a greater spread of scores. Perceived-LCP level demonstrated a similar observation. Private and rural public schools dominated the higher and lower ends respectively, whereas urban public schools had varied experiences with learner-centredness (Table 8.3). In order to assess whether and to what extent perceived-LCP and academic achievement systematically covary, the Spearman Rho rank order correlation was carried out. The result showed a positive correlation between the two ($r_s(1,007) = .183, p < .001$), suggesting that a high rating of perceived-LCP correlated with a high exam score.

Similar to the comparison with academic performance, learning attitudes indicated some links with perceived-LCP but ambiguous relations with observed-LCP. The schools with the two highest perceived-LCP (3.47 for St. John and 3.37 for Kawe) saw over 70% of the pupils 'agree a lot' to having obtained positive attitudes toward learning. The next cohort with relatively higher perceived-LCP – Mwenge (3.34), Kwanza (3.34), Highland (3.25) and Islamia (3.17) – also had more than 60% of pupils choosing 'agree a lot' with respect to learning attitudes. In contrast with perceived-LCP, Table 8.3 demonstrates inconsistent associations between observed-LCP time and learning attitudes. St. John, Kawe and Highland had little or no LCP-related activities

during the lessons, although Mwenge and Kwanza achieved the second and third highest observed-LCP respectively. At the lower end of learning attitudes, Siha exhibited one of the lowest scores for all observed-LCP (.00), perceived-LCP (2.83) and the choice of 'agree a lot' for learning attitudes (36.8%). Bunge School, with the second lowest perceived-LCP (2.94) but with the highest observed-LCP (.44), had the third lowest proportion of the pupils (55.7%) 'agree a lot' with their achieving learning attitudes. These results also imply an indicative relation of learning attitudes with perceived-LCP but not with observed-LCP.

To substantiate this claim, statistical associations between perceived-LCP and different dimensions of learning attitudes were carried out. Spearman Rho rank order correlation tested associations between perceived-LCP and each aspect of learning attitudes. Among the five dimensions, all but one showed positive correlations with statistical significance: interest ($r_s(982) = .116, p < .001$); confidence ($r_s(979) = .278, p < .001$); ownership ($r_s(978) = .146, p < .001$); and behaviour ($r_s(977) = .120, p < .001$). There was insignificant correlation between perceived-LCP and motivation, $r_s(984) = .046, p > .149$. Bringing together the five aspects of learning attitudes by taking the median of all responses to questions 36-40, Spearman Rho rank-order correlation observed a significantly positive relationship between the perceived-LCP level and the learning attitudinal scores, ($r_s(1,003) = .153, p < .001$). These results imply a tendency that the more frequently pupils felt that they experienced LCP in classrooms, the more positive attitudes they possessed toward learning.

Relationships between observed-level of LCP and each of the five aspects of learning attitudes were also explored. Spearman Rho rank order correlation indicated insignificant relationships of observed-LCP with all five dimensions, specifically with: motivation ($r_s(993) = .04, p = .21$); interest ($r_s(992) = .06, p = .06$); confidence ($r_s(987) = .04, p = .24$); ownership ($r_s(986) = -.05, p = .13$); and behaviour ($r_s(988) = .03, p = .35$). Such results imply that higher observed-LCP does not necessarily contribute to positive learning attitudes. However, the 'overall' score of learning attitudes revealed a statistically positive correlation with observed-LCP, ($r_s(1,017) = .09, p < .01$). The discrepancy between the individual and overall scores of learning attitudes in their relationships with observed-LCP might imply inconsistent relationships between observed-LCP and learning attitudes.

Overall, there seems to be little consistency in observed-LCP in relation to achievement score, learning attitudes or perceived-LCP. On the contrary, a statistically significant correlation was consistently found between perceived-LCP and test score as well as between perceived-LCP and learning attitudes. However, the apparent non-existence or existence of statistical relationships may depend on a third variable. Given that both perceived-LCP and exam performance are seemingly related with the school

categories of urban public, rural public and private, variables associated with them – such as the socioeconomic backgrounds of pupils and teachers, availability of teaching materials and class size – may confound the relationship between the two variables. Multiple regression analyses sought for associations between these variables, while controlling for possible confounding factors.

8.5.3 Exploring Associations between Observed-LCP, Perceived-LCP and Academic Performance

A multiple linear regression analysis explored the associations between observed-LCP, perceived-LCP and pupils' academic performance. In order to estimate which individual factors among a number of school, classroom, teacher and pupil characteristics had stronger relationships with the standardised test scores, simple ordinary least squares (OLS) were first fitted between each independent variable and the test score. The aim was to see which variables to include and which not to include in multiple regression models. However, among the 53 independent variables (IVs), only five variables showed insignificance in relation to the exam score, including: pupil–teacher ratio at school; days of in-service training for teachers; teachers' absence days; pupils' attendance at preschool; and pupils' grade repetition. Given that a simpler regression model is preferred over a model with many IVs (Cohen, 1990), these results from simple OLS did not inform me much as to which variables should be added.

Alternatively, I introduced key explanatory variables pursuant to the research focus, and then added other seemingly important factors for pupils' achievement level. The measurement of LCP levels were first included as the key IVs, including: the percentage of time spent on learner-centred tasks compared to teacher-centred or off-task activities; the number of pupil–teacher interactions counted in one lesson; the percentage of open-ended questions compared to closed-ended questions; the percentage of pupil initiation compared to teacher initiation; the percentage of girls' answers compared to boys' answers; the percentage of individual responses compared to whole-class responses or chanting; and the percentage of encouraging follow-ups compared to neutral or discouraging follow-ups. In line with the categories within the embedded multiple-case design (Section 4.3.2), locations (urban or rural) and school types (public or private) were also included as essential school characteristics. I then added the major teacher and classroom variables that were considered to have significant effects on test scores. They involved: teaching years; teacher gender; teaching qualifications; and class size. Lastly, I introduced the major pupil factors to the model for dealing with within-school pupil variation, including: pupil gender; home assets; and the education levels of their parents. Each time a variable was added, the

adjusted R-squared was checked to see if the addition made a significant contribution to the model.

Table 8.4 presents the results of the final model. All the school-level factors indicated significant relationships with pupils' academic achievement. The pupils at urban schools in comparison with rural schools, at schools in Dar es Salaam as opposed to Kigoma, and at private schools compared to public schools scored more highly on average than their counterparts. The pupils taught by female teachers also achieved significantly higher scores than otherwise. However, teachers holding a teaching degree or diploma seemed to have the pupils with lower scores compared to the certificate holders. This might indicate low quality of teacher training, in that a higher qualification did not necessarily equip teachers with subject knowledge and/or effective teaching skills. None of the pupil variables – their gender, home assets or parental education – showed a significant association with the test score at the 0.05 level.

Adjusting for these school, teacher and pupil factors, the model tested the significance of several variables measuring the observed-LCP level. Each of the individual factors had differing effects on pupil performance. While open-ended questions, pupil initiation, gender balance and individual responses made a positive contribution, the time spent on LCP activities, the number of pupil–teacher interactions and encouraging follow-ups did not suggest any statistical significance at the 0.05 level.

Table 8.4: Relationship between observed-LCP and test score

Variable	Coefficient
Region (Dar es Salaam)	-1.77***
Area (Urban)	-1.26***
School type (Public)	2.85***
Years of teaching	-.01
Teacher gender (Male)	1.76***
Teacher's qualification (Certificate)	
Diploma	-2.94***
Degree	-1.31***
Class size	.03**
Pupil gender (Male)	-.09*
Home asset	-.01
Father's education level (Primary)	
O-level	-.12
A-level	.02
University	.05
None	-.21
Mother's education level (Primary)	
O-level	.00
A-level	.01
University	.08
None	-.09
% of time spent on LCP	-.19
Number of pupil–teacher interactions	-.00*
% of open-ended questions	2.27**
% of pupil initiation	5.69***
% of girls' answering	.99**
% of individual interaction	2.45***
% of encouraging feedback	-.85
Constant	-2.16*
Observations	631
Adj R-squared	.61

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.1$

Parenthesis: reference category

Assumptions about errors in the regression model were tested. The residuals plotted against the fitted values showed some indication of heteroscedasticity, with the amount of the residual spread shrinking with the predicted values (Appendix 18). This may suggest a violation of the constant variance assumed in a linear regression. However, the errors seemed to be roughly normally distributed.

Adding perceived-LCP as another major explanatory variable to the equation model above, its effect on the achievement level was tested (Table 8.5). Even with the introduction of the perceived-LCP implementation, the association of the observed-LCP with the exam score resembled the first model examining the relationship between observed-LCP and academic performance. School, teacher and pupil characteristics also indicated similar relationships with the first model. The perceived-LCP level had a positive relationship with academic achievement. The more the pupils felt they were experiencing learner-centredness in everyday classrooms, the higher their test scores.

Table 8.5: Relationship between observed- and perceived-LCP (IVs), and test score (DV)

Variable	Coefficient
Region (Dar es Salaam)	-1.74***
Area (Urban)	-1.26***
School type (Public)	2.81***
Years of teaching	-.01
Teacher gender (Male)	1.77***
Teacher's qualification (Certificate)	
Diploma	-2.89***
Degree	-1.28***
Class size	.03**
Pupil gender (Male)	-.06
Home asset	-.01
Father's education level (Primary)	
O-level	-.12
A-level	.00
University	.04
None	-.20
Mother's education level (Primary)	
O-level	-.00
A-level	.01
University	.08
None	-.07
% of time spent on LCP	-.30
Number of pupil–teacher interactions	-.00*
% of open-ended questions	2.20**
% of pupil initiation	5.43***
% of girls' answering	.95**
% of individual interaction	2.49***
% of encouraging feedback	-.90
Perceived-LCP	.13***
Constant	-2.54**
Observation	624
Adj R-squared	.62

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.1$

Parenthesis: reference category

The residuals indicated heteroscedasticity, somewhat violating the assumption of the regression model; yet the errors were normally distributed (Appendix 19). Multiple regression analyses therefore revealed significant associations of academic performance with perceived-LCP but not with observed-LCP. This shows consistency with the aforementioned results on mean comparison (Figure 8.9, Table 8.3).

To conclude the implications drawn from data on the level of LCP implementation and learning outcomes, pupils' academic outcome and learning attitudes varied between schools. The pupils at private schools outperformed those at public schools in English and mathematics exams. Among public schools, urban schools achieved significantly higher test scores than rural schools. Attitudes toward learning showed similar results. Private pupils compared to public pupils, as well as

urban pupils compared to rural pupils, significantly highly rated their learning motivation, interest, confidence, ownership and behaviour. The variability of these learning outcomes was statistically associated with perceived-LCP, which was suggested by the Spearman rho rank order correlation for academic performance and for learning attitudes. Conversely, observed-LCP showed inconsistent relationships with all types of learning outcomes. Multiple regression analyses also showed significant associations of exam scores with perceived-LCP, but not with time spent on LCP or encouraging feedback.

8.6 Conclusion of Attendant Discourse

This chapter has first sought to offer plausible explanations for *the act of teaching* and the accounts from *teachers* by focusing on the attendant discourse of relatively contemporary times, in contrast to the historical and epistemological arguments made in Chapter 7. The findings suggested the significance of resource-richness, the degree of academic concentration and pupil–teacher relationships in applying LCP in the classroom. Horizontal contrasting of three school categories indicated various factors affecting the extent of observed LCP implementation differently among the categories. The shortage of educational materials and severe environmental conditions appeared to influence the implementation of LCP at rural public schools the most. Private schools seemed to take academic matters and their accountability to parents more seriously than their public counterparts. It is likely that different factors play a larger or smaller role in obstructing observable acts of LCP depending on localities and school types.

The chapter has also brought to the fore the concept of perceived-LCP, or pupils' experiences with LCP implementation. Perceived-LCP implied associations especially with pupil–teacher and child–adult relationships fostered in spheres beyond classrooms. Specifically, learner-centredness in the classroom and at school may derive from human interactions and socio–economic family background embedded outside school entities. Rather than how much LCP-associated activities pupils are engaged in in the classroom, how teachers and pupils interacted outside the classroom and how children and adults interacted outside schools appeared to matter more to pupils' learner-centred experiences.

Additionally, perceived-LCP had indicative associations with academic achievement levels and learning attitudes. The higher perceived-LCP, the higher these learning outcomes. Conversely, observed-LCP was suggested not to be crucial either to pupils' schooling experiences or to their learning outcomes. These findings imply that LCP does not occur only within classrooms, but learner-centred experiences may derive from holistic schooling and social practices. The conceptual framework would

portray this notion; it is the constituents within culture/society and system/policy that could affect pupils' feeling of centredness in the classroom, and observed-LCP alone seems to play a nonsignificant role. It is the attendant discourse that justifies the teaching act, and not the other way around (Alexander, 2004, 2008). The results from the horizontal exploration have illuminated this cultural and social embeddedness of pedagogy. The next chapter integrates what is presented in Chapters 6 to 8. The findings and analysis situated across the three layers of the conceptual framework and across the three TVH axes will be reorganised, shedding light on how this study could move the field forward.

Chapter 9 Cross-Case and Cross-Axial Synthesis: Drawing Interpretations and Implications

Pulling together the findings and analyses discussed in Chapters 6 to 8, this chapter intends to demonstrate how my research could take the field forward. Chapter 6 transversally and vertically situates the research. It explores, across time and space, intersections between: legacies of indigenous education; legacies of educational development under Nyerere; policy diffusion of Western-oriented LCP; and the current international and national embracing of LCP in Tanzania. Chapter 7 utilises these transversal and vertical axes to provide historical and epistemological insights into data on *teachers* and *teaching*, as observed in the contemporary classrooms. Employing the horizontal axis, Chapter 8 compares the observed phenomena between different schools by centring on the attendant discourse of modern-day issues. The chapter also addresses the under-researched areas of pupil perceptions toward LCP (Schweisfurth, 2011; Tabulawa, 2013) and possible associations of LCP with learning outcomes (Ngware, Oketch, & Mutisya, 2014; Schweisfurth, 2013).

This chapter integrates these results and discussions. I first highlight the significance of pupils' perspectives when examining LCP implementation and, more broadly, in education research. After considering the importance of children's voices, I bring the research findings together while focusing on how their views may have contributed to producing the results and interpretations in this study. In doing so I incorporate the conceptual, methodological and analytical frameworks that were applied to the discourse used within this thesis. This integration and summarising of the findings will lead to a re-conceptualisation of the notion of 'pedagogy' and its conceptual framework. I emphasise the multidimensionality of pedagogy, which then prompts a discussion about how continuing global endeavour for implementing LCP (Mundy, 2016) should be pursued, or not.

9.1 Significance of Pupils' Experiences for Examining LCP Implementation

Throughout this thesis I have argued that existing knowledge of LCP implementation in developing countries has excluded children from its research (Schweisfurth, 2011; Tabulawa, 2013). This seems to partly result from a narrow conceptualisation of 'learner-centredness'. The dominant literature tends to equate the term 'learner-centred pedagogy' with only *the observable act of learner-centred practices*. This way of conceptualising LCP appears to have led most studies to explore only *teaching practice*, *factors related to observed-LCP* or the interpretation of research findings in

relation to observed-LCP. Furthermore, these facets were investigated prevalently only through one actor considered within LCP, the teachers.

Findings from prior research suggest implementation failure, leading researchers to criticise international efforts to spread LCP (Schweisfurth, 2011; Tabulawa, 2013); but the empirical evidence for desisting with LCP implementation has accumulated predominately at the observable level. Commonly cited barriers to observed-LCP, according to available evidence, include: resource shortage (e.g. Pontefract & Hardman, 2005; Altinyelken, 2010b); high-stake, memorisation-based exams (e.g. Frost & Little, 2014; Bartlett & Vavrus, 2013); and cultural differences (e.g. Harley, Barasa, Bertram, Mattson, & Pillay, 2000; Hardman, Abd-Kadir, & Smith, 2008). Consequently, the empirical claim as to why LCP has not been appropriated in low-income countries may have relevance only to the implementation of observable LCP. What this actually means is 'little implementation of observable LCP', while omitting perceptions and experiences particularly from pupils' standpoints.

An attempt to collect, analyse and interpret only directly observable behaviours would foster epistemological and methodological pitfalls. Norum (2008) claims that what a researcher observes and reports could bring only one perspective, and this perspective is not objective. Bryman (2016) adds to this point, stating that an overt behaviour does not necessarily express the meanings, reasons or intentions behind the behaviour. In the case of this study, what I as a researcher could observe within a preconceived framework of LCP and TCP would not capture the reality that the participants subjectively perceive and experience. In a policymaking context, a policymaker's understanding of LCP-related activities may not accurately represent teachers' or pupils' encounters with learner-centredness in the classroom.

Furthermore, seeking factors to explain and interpret *only* observable behaviours would face similar methodological and analytical problems. A researcher's endeavour to explain why a behaviour occurs would limit their empirical investigation so as to make it relevant only to the observed behaviour. For instance, Abd-Kadir and Hardman (2007) attributed reasons for scarce LCP implementation to the lack of facilities and traditional seating arrangements. Altinyelken (2011) cited inadequate teacher training and a rigid examination system to make sense of a similar phenomenon. These factors may explain why LCP-related practices were hardly observed in the classroom, but they may not provide interpretations for participants' experiences with LCP. How pupils were perceiving classroom teaching and learning, and why they perceived their experiences in a particular way, have scarcely been examined in existing research. Thus, the tendency to attend to observed-LCP alone seemed to have led the literature not to look for factors related to subjective experiences, particularly learners' experiences, of LCP implementation.

Having borrowed epistemological and ontological lenses from the constructivist paradigm (Chapter 3), I sought to uncover varied understandings of and experiences with LCP implementation by key beneficiaries of schooling, namely teachers *and* learners. Norum (2008) justifies the application of constructivism in research:

Those who participate in the study provide additional perspectives. Each person who participates in the study provides a different view on the topic being investigated. Each brings his or her own assumptions, beliefs and perspectives. (p. 739)

The constructivist paradigm supposes ontological relativism, such that people belonging to different social groups are seen to perceive the same phenomenon distinctively (Patton, 2015; Crotty, 1998). Absolute reality does not exist with truth being constructed socially and subjectively.

In accordance with the constructivist ontology, my study has been committed to ontological triangulation through gathering data from both teachers and pupils. Specifically aiming to add pupil viewpoints to existing knowledge on LCP implementation in developing countries, the research collected three forms of data from them: quantitatively measured perceived-LCP; qualitatively explored FGD accounts; and quantitatively tested academic performance and learning attitudes. The pupil questionnaire sought out pupils' subjective experiences of learner-centredness in the classroom. The research also pursued explanations for the results of both observed- and perceived-LCP with qualitative data from the FGDs. Lastly, it intended to uncover how and what pupils had learned under the ongoing LCP implementation.

The study, similar to prior research, found plausible obstacles to LCP implementation, including resource shortage, fact-based national exams and cultural and historical contingencies. By differentiating perceived-LCP from the observable practice of LCP, the thesis casts new light on the possibility that these barriers may have differently affected observed-LCP and perceived-LCP. Some aspects seemed to be associated more with observed-LCP but others more with perceived-LCP, which I explain in the next section. Moreover, some pedagogical elements depicted in the conceptual framework became accessible only through investigating pupils' perceptions. For example, many pupils in the FGDs (but no teachers in their interviews) reported corporal punishment happening at school. Familial communications and family situations were also investigated through discussions with pupils.

What follows is an integration of the conceptual framework (Figure 3.1), the TVH case study (Figure 4.1) and the embedded multiple case design (Figure 4.2). This integration summarises the findings presented in the previous three chapters. It also seeks to elucidate how conceptually separating observed-LCP from perceived-LCP

and focusing on children's voices in addition to teachers' viewpoints may add new insights to existing knowledge.

9.2 Integrating the Conceptual Framework, the TVH Case Study and the Embedded Multiple Case Design

The conceptual framework (Figure 3.1) has theoretically mapped out this thesis study. The outer stratum legitimates, or precedes, what happens in the interior domains. It is culture, community, self and history in the culture/society sphere that shape how school, curriculum, assessment and policies are organised in the system/policy layer; these elements then inform teaching and learning, as constructed through interactions between teachers and students in the classroom domain. To examine these various pedagogical elements sitting in each of the three strata of the conceptual framework, the thesis has applied the TVH case study as a methodological and analytical tool. Its transversal (situating cases historically), vertical (analysing policy implementation across scales) and horizontal (comparing cases between different locations) axes explored the traveling feature of LCP across time and space, with respect to various policy levels and localities.

Table 9.1 encapsulates the findings on characteristics of different case categories (urban public, rural public and private) in relation to the LCP principles. Arranged by the three domains of the conceptual framework and the three axes of the TVH case study, the table presents which TVH axis examined which pedagogical dimensions in each domain of the conceptual framework. This tabulation aims not to generalise the characteristics of each school in the case categories but to indicate their tendencies. Some characteristics hence may not apply to all schools within the same category. In addition, the characteristics under one category are stated relative to other categories. For example, the table suggests that private schools had 'high' academic emphasis. This means that they showed 'relatively higher' academic focus compared to their urban public and rural public counterparts. In each sphere of the conceptual framework, and particularly along the horizontal line of the TVH case study, the viewpoints and accounts of pupils illuminated pedagogical factors seemingly linked with observed-LCP and/or perceived-LCP.

Table 9.1: Summary of findings

Layers in conceptual framework	TVH axes	Pedagogical dimensions	Private	Urban public	Rural public	
Culture/ society (Culture, community, self, history)	Transversal	History	Educational development in Tanzania			
			Succession of epistemological standpoints			
	Horizontal	SES	High	Varied	Low	
		Child–adult relationships	More democratic, closer	Varied	Rigid, less communication	
System /policy (School, curriculum, assessment, other policies)	Vertical	Policy transfer	LCP policy framework transmitted from international to national			
		National examination	Stress on factual answers			
	Horizontal	Opinions on national exam	Responsible for pupil achievement	Relaxed		
		Academic emphasis	High	Low		
		School–parent relationships	Service provider and customer	Partner		
		Curriculum flexibility	Rigid	Sometimes negotiable	Unclearified	
		School activities	Few sports, no/small playground, few breaks, holiday lessons	Have playground, more teachers play with pupils outside classroom		
		School conditions	Well-facilitated, no/minor repair needed	Minor/maj or repair needed	Harshest condition (no building, extreme lack of toilet)	
		Teaching resources	Adequate	Varied	Minimalist	
		Pupil–teacher relationships	Less hesitation to express opinions	Varied	Pupils afraid of teachers	
		Corporal punishment	Prevalent regardless of school categories			
		Classroom (Students, learning, teaching, curriculum)	Observed-LCP	Middle-low	High	Middle-low
			Perceived-LCP	High	High	Low
			Academic achievement	High	Middle	Low
			Learning attitudes	High	High	Low

9.2.1 Transversal and Vertical Analyses in Culture/Society and System/Policy Strata

In the outermost layer of the conceptual framework, culture/society, the transversal axis of the TVH case study attended to the historical facets of pedagogy. This thesis began with the premise that Nyerere's *ujamaa* model and accompanying educational development under ESR would have offered a consonant base for LCP implementation. Learner-centred principles endorse democratic student–teacher relationships (Dewey, 1916; Schweisfurth, 2013; Biesta, 2006); individualised learning (Rousseau, 2007; McCombs & Whisler, 1997); learner independence (Brandes & Ginnis, 1986; Ginnis, 2002); learning through activities (Ginnis, 2002; Schweisfurth, 2013); and social interactions (Vygotsky, 1978, 1986; McCombs & Whisler, 1997). Nyerere endeavoured through ESR to break down boundaries between schools and communities and to make curricula relevant to everyday life (Lema, Mbilinyi, & Rajani, 2004). Learning by doing with peers as well as practising democracy through discussions and negotiations also topped his educational agenda (Nyerere, 2004c). As such, the *ujamaa* model initially on the surface may have appeared to be compatible with LCP beliefs.

How does this seemingly-consonant ideological base play out in the midst of international and national efforts to implement LCP today? In the system/policy row of Table 9.1, the vertical investigation explored policy diffusion processes of the LCP tenets throughout developing countries (Chapter 6). With the launch of EFA, the pedagogical reform supporting LCP and discouraging TCP has expanded across low-income nations. Terms such as 'participatory methods' (UNESCO, 2017, p. 18), 'active and collaborative pedagogical approach' (UNESCO et al, 2015, p. 8) and 'child-centred teaching and learning processes' (UNICEF EAPRO, 2006, p. 18) have gained popularity in policy documents. The vertical analysis of these documents recognised their narrow conceptualisation of pedagogy as relating only to the observable act of teaching. The major international educational frameworks – including EFA, CFS, MDGs and SDGs – outline how teachers should act, or at best how they should be trained. Few accounts are made of learning, learners, cultural values, customs, pupil–teacher relationships, and so on. The Tanzanian government, as the recipient of these vertically-transmitted global policies, pursues the international recommendations in its national agenda, with a prioritised focus on observable LCP practices. The LCP policy discourse at international and national levels does not engage substantially with the pedagogical elements attached to the attendant discourse, which involves a variety of pedagogical dimensions (Figure 3.1). The tendency of policymaking to reduce pedagogy to a mere teaching method may reflect their implicit assumption that as long

as LCP-related activities were *observed* in the classroom, LCP implementation would be successful.

The empirical findings from this study revealed rather contradictory results, with these policy expectations transversally and vertically diffused. In the classroom stratum of the conceptual framework, horizontal investigation did not capture the observable act of LCP-related teaching in the way aspired to by policymakers at both international and national levels. TCP-related activities dominated the lesson time across the 13 participating schools, with less than one-fifth of teaching time accounted for by LCP-related activities. The pupils mostly watched and listened to the teachers and were independently engaged in writing exercises. No activity adjusted to individual pupils took place. Hardly any pupils initiated talk or questioned teacher knowledge; they acted as passive recipients of knowledge, instead of knowledge constructors as advised by LCP proponents (Plato, 2005; Swardson, 2005). Thus, the study findings ran counter to international and national policy recommendations. They also fell short of my supposition outlined at the beginning, that Tanzania would have nurtured a consonant ideological base with learner-centredness.

The limited implementation of LCP revealed in my research would comply with existing research in Tanzania at the *observable* level. To compare teachers' beliefs about 'good teaching' with their actual classroom practices, Barrett (2007) observed and interviewed teachers at two schools in the Shinyanga and Pwani regions. Her findings suggest a disparity between the two. The teachers valued participation, personalisation and praise, but they did not apply the principles of good teaching to their lessons. Another ethnographic study, conducted by Vavrus (2009) at a teacher training college in Tanzania, observed a similar phenomenon to that seen in Barrett's (2007) and my research. The student teachers showed an understanding of the LCP principles after a series of teaching sessions on constructivist pedagogy. However, they did not execute their knowledge in the real world of the classroom, because they 'did not have a *cultural framework* in which to place the discourse and methods' (Vavrus, 2009, p. 306, emphasis added). A cultural framework, or the attendant discourse in Alexander's (2004, 2008) term, legitimates and supports teachers in applying LCP discourse and practices. It involves, for example, the teachers' own experiences of being taught with LCP, an education system requiring pupils to construct knowledge, adequate teacher training and necessary resources (Vavrus, 2009). Chapters 6 to 8 of this thesis have identified several dimensions that would disagree with the cultural framework of LCP. One such aspect crucial to all 13 schools involves a culturally appropriate view of knowledge and that of human relations in Tanzania, which the 'transversal' row in Table 9.1 indicates.

Tanzanian culture seems to possess a view of knowledge which differs from the constructivist epistemology viewpoint, as detailed in Chapters 6 and 7. The transversal inquiry illustrated that people in Tanzania have traditionally considered knowledge to be predetermined and unquestionable (Cameron & Dodd, 1970; Coulson, 1982). The values, beliefs and customs had to be passed on from generation to generation. This view aligns well with the rationalist epistemology underpinning TCP. Reality exists independently of the knower, whose experiences and perceptions do not count as knowledge (Davis, Jo McCarty, Shaw, & Sidani-Tabbaa, 1993). This rationalist view of knowledge has brought about a child–adult power imbalance stemming from hierarchical, as opposed to democratic, human relationships. In the learning settings of indigenous Tanzania, adults became knowledge possessors with authority and learners acted as knowledge recipients (Cameron & Dodd, 1970; Coulson, 1982). Although Nyerere encouraged the practice of democracy in schools, the literature suggests that the participation of pupils in curriculum planning or decision-making process did not happen (Lema, 2006; Cameron, 1980). Mr Madaraka, the son of Nyerere, also indicated that Nyerere himself was aware of the incompatibility of democratic student–teacher relationships with Tanzanian culture. His view relating to personal relationships could be derived from his childhood; Nyerere’s birthplace of the Zanaki village held a vertical view of age relationships with the oldest at the top as decision makers.

Classroom interactions in the current study appeared to reflect such transversally-inherited epistemology. Classroom processes represent a co-constructed reality between teachers and pupils. The teacher is not the sole controller of classroom ambience, but students’ expectations, attitudes and feelings towards their teacher influence how both agents act and interact within classrooms (Tabulawa, 2013). The analysis of classroom observation in this study incorporated the perspectives of both groups of agents. Few pupils posed questions to the teachers or initiated their own learning. Teachers’ checking of pupil understanding ended up as pseudo-checking, with few pupils expressing any incomprehension. Pupils frequently responded to teachers’ initiation by means of whole-class responses, as if the answers were made obvious to endorse successful knowledge transfer from teachers to learners. These exercises echo traditional practices of a master–learner relationship. Learners could never question or challenge the knowledge of adults and had to remember what the adults transmitted (Cameron & Dodd, 1970). The pupils and teachers may have acted according to their epistemological position and with respect to social norms about interactional patterns, sometimes in order to ‘sav[e] the face of teachers’ (Wedin, 2010, p. 148). When such a transversally-formed cultural framework meets vertically-transmitted LCP policies underpinned by constructivist epistemology, the latter would

result in a new, localised policy divergent from the original intention (Levinson, Sutton, & Winstead, 2009), to be horizontally examined.

9.2.2 Horizontal Examination across the Three Strata

Table 9.1 indicates that the transversal and vertical components can have certain relationships with the culture/society and system/policy realms *across* dispersed locations of urban public, rural public and private schools. Historical matters intermingle with contemporary activities. Horizontal comparison explores how historical and current processes may have come out distinctively depending on the localities (Bartlett & Vavrus, 2017). Along the horizontal axis this research juxtaposed the three school groups – including urban public, rural public and private schools – in terms of various pedagogical issues spreading across the three layers of the conceptual framework. Perspectives from learners were also telling in this process. The horizontal axis within the classroom stratum examined perceived-LCP and learning outcomes. In the culture/society stratum, pupils talked about their family lives and relationships with their parents, which suggested an implication of SES for pupils' relational patterns with adults (to be detailed later).

In the middle domain of system/policy, accounts from pupils and teachers sometimes conformed but at other times contradicted one another, implying a strength of ontological relativity. For instance, teachers at private schools expressed difficulty in diverging from set curricula, which pupils also talked about. Reports from both sides also corresponded when it came to the availability of teaching materials and school conditions, with rural public schools revealing resource shortage and private schools exhibiting resource adequacy. This agreement between pupils and teachers would substantiate the credibility of the data. On the other hand, accounts from the two positions sometimes revealed inconsistencies. When asked about pupil–teacher relationships at school, most teachers responded rather positively, while the majority of pupils talked about negative experiences of corporal punishment by their teachers. Chapter 8 reports that pupils at most schools regardless of their category disclosed instances of corporal punishment. Many expressed a fear of relaying their opinions to their teachers, or even talking with them. Complaints about school activities – that some private schools did not have enough physical activities and made students study at weekends – also would not be evidenced without pupils' FGD accounts. These examples of disagreements between pupils and teachers seem to support Mitra's (2003) claim that different social groups experience reality differently. This would indicate the robustness of using methodological triangulation within the constructivist ontology.

To further demonstrate the relevance of learner perspectives, Table 9.1 uncovers interesting features of the data in terms of observed-LCP and perceived-LCP across different pedagogical dimensions. The table implies that observed-LCP is particularly related to pedagogical elements examined in the system/policy realm. Shaded in grey on the table, these dimensions include: opinions on the national exam, academic emphasis, school–parent relationships, curriculum flexibility, school activities, school condition and teaching resources. Horizontal comparisons of these aspects between the three school categories suggest a further implication; each aspect seemed to affect LCP implementation distinctively depending on school type.

For private schools with scarce LCP-related practices, the first five dimensions – opinions on the national exam, academic emphasis, school–parent relationships, curriculum flexibility and school activities – appeared to be immediate and significant when it came to executing *observed* learner-centred practices. Too much academic emphasis was concentrated on pressuring teachers to complete syllabi without adjusting these to pupil needs or differences. A high academic focus could also motivate teachers to employ more teacher-directed styles of teaching because they consume less time and better meet the focus of national exams and parents’ expectations.

Rural public schools also had relatively less observed-LCP but for different reasons to private schools. A shortage of teaching facilities and materials seemed to be the most significant factor, while academic affairs carried less weight for not implementing LCP-related tasks. Crowded classrooms also appeared to make it difficult for rural public schools to organise groups and/or welcome questions from the floor. Urban public schools had varied experiences depending on individual schools, although overall they showed significantly higher observed-LCP. The study revealed the difficulty of untangling which factors might have had more or less influence on LCP implementation in this category. Between-school variability was most significant with urban public schools among others in terms of the pedagogical dimensions evident in the policy/society domain.

In contrast to observed-LCP, perceived-LCP implied an association with human relationships, shaded with horizontal lines in Table 9.1. Human relationships include how children and adults interacted in the culture/society stratum and how pupils and teachers interacted in the policy/system stratum. Private pupils reported that they had opportunities to discuss their demands with parents at home, which might have contributed to nurturing their democratic attitudes when interacting with adults. This might have allowed them to get used to building more equal, democratic relations with their parents and adults in general. More democratic child–adult relationships at home

could affect how they communicated with the teachers at school, gaining the confidence to pose questions in lessons and to express opinions at school meetings.

Many urban public pupils, whose perceived-LCP did not statistically differ from that of their private counterparts, lived with families with varied attitudes towards their children. They also encountered a variety of teachers at school in terms of how they interacted with and how much they listened to the pupils. On the one hand, there were teachers who ignored and harshly responded to the pupils; but on the other, some teachers cared about pupils' problems at home and others offered counselling services for parents and pupils. Pupils at Kwanza and Bunge in the Kigoma region, where there was no evidence of corporal punishment, had notably positive views of teachers. Quantitative results indicate that urban public pupils had as high perceived-LCP as private schools, and significantly higher perceived-LCP than rural public schools. Lastly in the rural public schools, the children experienced the most rigid hierarchical relationship both with the adults at home and with the teachers at school. They lived with the least affluent material domestic conditions, which appeared to result in their voices seldom being heard by their parents. Corporal punishment and daily communication with the teachers led the pupils to be too frightened to speak. Thus, Table 9.1 suggests that perceived-LCP may be associated with the way people interact with others across the three domains of the conceptual framework.

The above observation regarding perceived-LCP may offer an explanation for one of the rationales of LCP promotion in the Tanzanian context, that of the political desire to educate democratic citizens. Chapter 3 explicates that Dewey (1916) and Freire (2000) advocated democratisation of children through learner-centred education, which global LCP policies still use to justify LCP implementation (UNESCO et al., 2015; UNICEF, 2013). School is a microcosm of society, such that this democracy would not occur only within a school compound. Human interactions taking place in school should extend beyond and into society. Likewise, human interactions appropriate to schooling contexts should also be socially accepted. The four rows with horizontal lines in Table 9.1 (SES, child–adult relationships, pupil–teacher relationships and perceived-LCP) indicate that perceived-LCP might be related to how people interact within society, school and classrooms. Tanzanian culture, with its underlying rationalist epistemology, has transversally cultivated a rigid social order between adults and children (Cameron & Dodd, 1970; Coulson, 1982), which seems to have continued into the contemporary society. At the same time, culture is fluid and ever changing. The horizontal comparison revealed that some pupils, especially those at private schools, experienced more equal relations with their parents. The more democratic parents they had, the more likely they were to interact with other adults democratically. Contrarily, the more rigid relations children encountered at home, such as rural public school pupils

experienced, the more likely they were to keep relational distance from other adults. Therefore, Table 9.1 suggests a consistent association between SES, child–adult relationships at home and pupil–teacher relationships in school; such an association appears to be related to perceived-LCP, or how much the pupils felt that they were centred in the classroom.

Another justification for LCP implementation involves a cognitive dimension, upon which perceived-LCP also cast fresh light. LCP with higher-order thinking strategies (such as analysis, synthesis and evaluation) will enhance learners' skills in thinking critically and solving newly-encountered problems (Vavrus, Thomas, & Bartlett, 2011; Schweisfurth, 2013). LCP supporters at the policy level presume that learning improvement will take place as a result of the implementation of observed-LCP (UNICEF, 2009a). On the other hand, some scholars (e.g. Nguyen, Elliott, Terlouw, & Pilot, 2009; Guthrie, 2017) question the academic effectiveness of LCP, pointing out the inconsistent results of international examinations such as PISA, TIMSS and PIRLS with respect to the extent of LCP implementation. Both views might find validity for their claims, but their arguments are made on the basis of observed-LCP, or the act of LCP-related teaching, alone.

The associations implied between learning outcomes and the two types of LCP in this study indicated a new understanding with respect to cognitive justification. The findings on statistical relationships between observed-LCP and academic performance, as well as between observed-LCP and learning attitudes, suggested non-significant relationships. These results on observed-LCP correspond with the accounts of Nguyen et al. (2009) and Guthrie (2017). However, the focus on pupil views and their subjective perceptions of LCP implementation in my study suggests a different conception for the relationship between LCP and learning outcomes. Perceived-LCP showed significant associations with both pupil performance and learning attitudes. Higher perceived-LCP was correlated with higher learning outcomes, and lower perceived-LCP was correlated with lower learning outcomes. Such relationships may imply that LCP – though not *observed* but *perceived* – could contribute to pupil learning in support of the cognitive reasoning for promoting the pedagogy. A different conceptualisation of LCP may illuminate new aspects of LCP that have remained obscure within existing literature.

It should be cautioned, however, that statistical tests imply associations but not causations. Although regression analysis was adjusted for the observed confounders, in reality there are quantitatively-unmeasurable and inseparable elements (Tabachnick & Fidell, 2013) which affect pupils' school experiences. The findings only showed that perceived-LCP and learning outcomes co-vary systematically; whether higher perceived-LCP leads to higher learning outcomes, or vice versa, remains unanswered

in this research. Possible explanations for their positive correlation entail a third variable or a combination of different variables contributing to higher scores in both perceived-LCP and learning outcomes. What is still puzzling are questions surrounding specific components of perceived-LCP. The pupil questionnaire asked about the perceived frequency of *observed*-LCP taking place in the classroom; yet perceived-LCP was not related to observed-LCP but seemed to have associations with the broader schooling and social experiences of the children, as Table 9.1 indicates. There was a discrepancy between observed-LCP and perceived-LCP, which implies a discrepancy between the academic/policy understanding of LCP and pupils' understanding of centredness. What actually makes up perceived-LCP needs to be unpacked. As perceived-LCP and various learning outcomes co-varied, examining how perceived-LCP could be nurtured in schools and society could contribute to improved pupil learning.

Considering that observed-LCP is not related to perceived-LCP or learning outcomes, the former alone seemed neither to make the pupils feel centred nor to be conducive to better learning. The latter two are nurtured through various activities happening beyond the classroom, labelled 'the attendant discourse' by Alexander (2004, 2008). The degree of relational rigidity between children and adults formed in society permeates the school. This may affect how the pupils experience learner-centredness in the classroom, which may not accord with the act of teaching itself. In a similar manner, learning improvement does not occur solely as the result of teaching techniques in classrooms. Perhaps a more important impetus to facilitate pupil learning academically and attitudinally depends on support from both teachers and families. Academic concentration tailored to official exams will raise pupil scores efficiently. Resource availability and emotional support from parents could motivate and engage children in learning. It is attitudes, relationships and beliefs that pave the way for legitimating teaching practice; it is not the act of teaching that justifies the pedagogical ideas. With an emphasis on the multidimensionality of pedagogy spreading across the classroom, school and society, the next section revisits the conceptual framework and the TVH approach set out at the beginning of the research, seeking to reconceptualise them on the basis of the research process I undertook and the results I found.

9.3 Toward a Comprehensive Conceptualisation of Pedagogy

The theoretical and methodological framing of the thesis with the conceptual framework and the TVH case study has attempted to advance the discourse of LCP policy transfer in developing countries. The thesis has demonstrated the imbricated nature of various pedagogical dimensions situated within a sociocultural context. The

transversal, vertical and horizontal interplays of these dimensions would lead to a certain degree of observed- *and* perceived-LCP implementation. Such a multidimensionality of pedagogy calls for a more comprehensive and inclusive understanding of the concept of 'pedagogy' within educational policymaking.

Recognising the significance of the conceptual framework (Figure 3.1) and the TVH case study (Figure 4.1), I argue that their relevance should be employed in educational development research on pedagogy and/or policy borrowing, with some adjustments. By incorporating the two frameworks, I propose to add a fourth outer layer of culture/society at the international level as the attendant discourse in Figure 3.1, which could take forward our conceptualisation of pedagogy. The TVH investigation has made it clear that donor agencies execute overwhelming power on the policy formation of individual countries (Mundy, Green, Lingard, & Verger, 2016; Tabulawa, 2003). Steiner-Khamsi (2012) points to the transient nature of policy borrowing, arguing that a borrowed policy like LCP only exists due to the receipt of external aid. This exemplifies the absolute influence of international donors and unidirectional path taken by policy transfer. Culture is not static but fluid. Relations of power, negotiated vertically, can form and reformulate common sense in a nation (Bartlett & Vavrus, 2017). These internationally-enforced policies affect the forming of values, knowledge and thinking in a country. The extension into the fourth domain of pedagogy expresses these overt and covert negotiations, accompanied by a power imbalance between international and national governments. It highlights the embeddedness of the policy process within political, social and cultural particularities.

Figure 9.1 in the next page delineates a revised conceptual framework. It integrates the conceptual framework of pedagogy and the TVH case study, and encapsulates specific pedagogical aspects that my research has addressed.

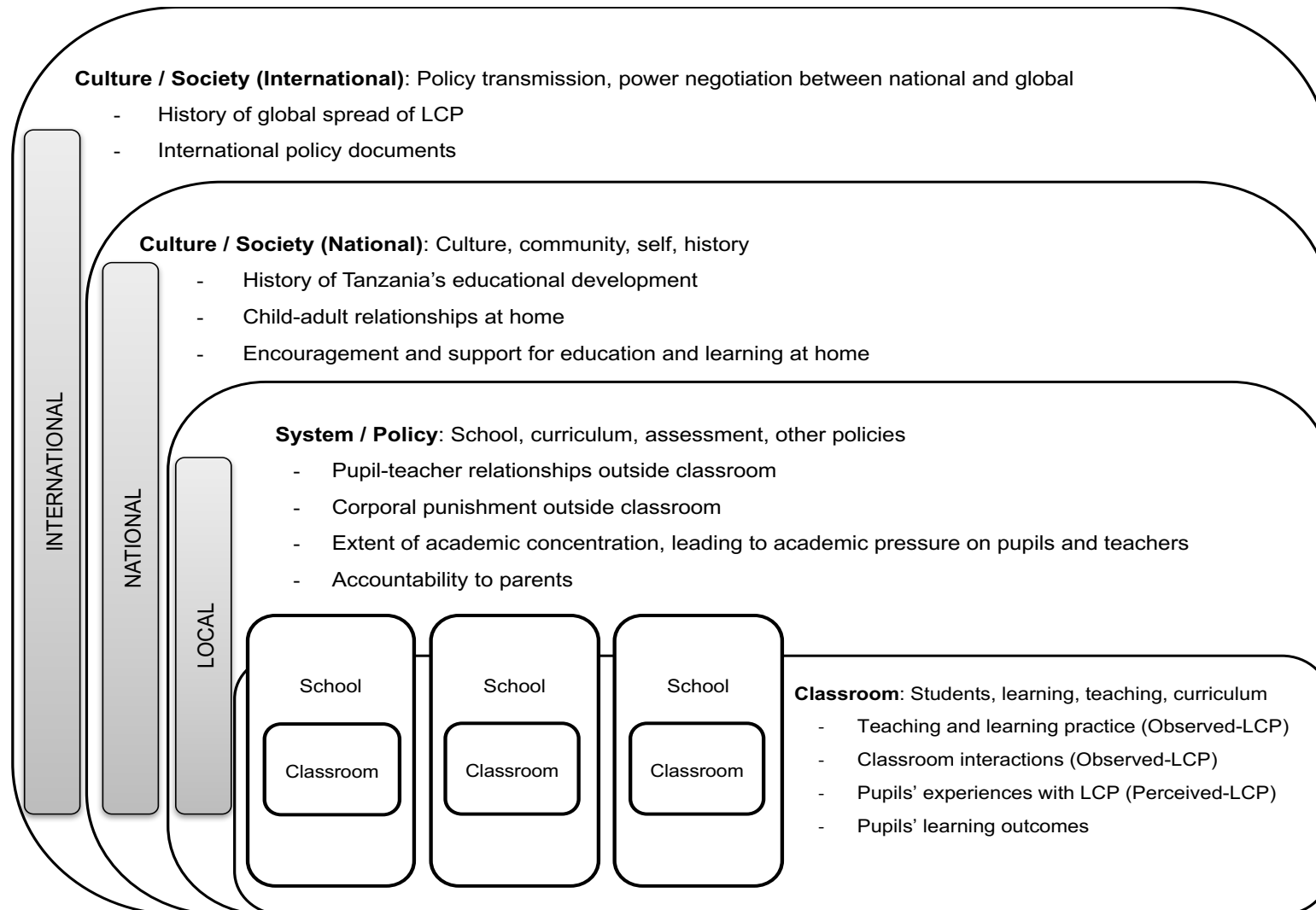


Figure 9.1: Revised conceptual framework of pedagogy

This re-conceptualisation of pedagogy suggests substantial domains of society that educational policy implementation needs to cover. The attendant discourse of pedagogy situated in the culture/society and system/policy layers precedes the act of teaching. If global players work towards successful LCP implementation at the *observable* level, the consonant environment for LCP in the outer strata should first be conditioned. Due to the multifaceted nature of pedagogy, successful policy implementation requires altering whole layers from the culture/society and system/policy to classroom spheres. This social-situatedness of pedagogy indicates that pedagogical alteration necessitates cultural alteration. Given that LCP is Western-oriented pedagogy spread by Western-led organisations, Carney (2008) and Tabulawa (2003) consider this travelling policy to be an example of 'cultural imperialism'. A problem remains as to whether this hegemonic nature of the global LCP spread is ethical and/or attainable. This leads to questions about what educational development policies should aim for in terms of practising learner-centredness in schools, and how they should be implemented. Below I position my argument regarding these questions within existing debates on the international policy direction of LCP implementation, arguing for the significance of examining pupils' schooling experiences.

9.4 A Way forward for LCP Implementation in Developing Countries

Several scholars have articulated varied standpoints towards the global spread of LCP. Given that LCP and TCP hold incongruent epistemologies, Tabulawa (2003, 2013) contends that a paradigm shift from one to the other would not be possible. Tanzania, with values and traditions aligned with rationalist epistemology, would not alter its pedagogy completely to adopt LCP based on constructivist epistemology. Tabulawa regards LCP implementation as ideological colonisation, in that it promotes Western values of individual autonomy, democracy and open-mindedness. Rather than seeking to forcefully implement Western-oriented pedagogy, the author calls for developing an 'indigenous pedagogy' that fits the cultural framework of developing countries (Tabulawa 2013, p. 157).

Vavrus (2009) and Schweisfurth (2013, 2015) take a different position from Tabulawa to promote a culturally appropriate model of LCP. Vavrus has coined the term 'contingent constructivism'. Drawing on an example from her experience of training student teachers in a learner-centred way, Vavrus proposes combining traditional teaching in Tanzania with learner-centred elements. Contingent constructivism acknowledges the resource conditions, local tradition and 'cultural politics' (p. 310) of teaching while encouraging the incorporation of LCP tenets in developing countries. Schweisfurth (2013, 2015) agrees with Vavrus's stance with

respect to contextualising LCP by taking cultural specificities into account. She proposes 'the universal minimum standards' for LCP (Schweisfurth, 2013 p. 143) based on its cognitive, political and economic justification. The seven standards include: learner engagement; children's rights; building on prior knowledge; the importance of dialogue; curriculum relevance; learning by doing; and skill assessment. Each appreciates the core principle of LCP but leaves room for local interpretation and adaptation. Schweisfurth's position credits the effectiveness of LCP and encourages developing countries to move towards learner-centred education.

Whereas the approaches suggested by Vavrus (2009) and Schweisfurth (2013, 2015) have their philosophical basis in constructivist learning theory, Tikly and Barrett (2011, 2013a) divert from LCP beliefs. LCP draws on human rights ideas constructed remotely from the lives of the people concerned, the authors claim. It is multilateral organisations that set the kinds of and ways in which rights are valued and realised, as exemplified by the UN Convention of the Rights of the Child (UN, 1989). Agreeing with Robeyns (2003), Tikly and Barrett point out that LCP essentially carries an individualistic understanding of learners which is inherent in Western values. This legitimises LCP's urging of children's participation in learning processes and decision-making as well as the democratic structure of educational settings, irrespective of context.

As an alternative approach to quality education, Tikly and Barrett (2011, 2013a) propose the social justice approach. Instead of international legislation on human rights formulated on the basis of Western values, the social justice approach starts from moral philosophy (Tikly & Barrett, 2013b). Nancy Fraser's (2008) understanding of social justice and Amartya Sen's (1999, 2009) capability approach underpin the social justice approach. Fraser claims that three dimensions of social justice are necessary for tackling institutional barriers, including redistribution, recognition and participation. Tikly and Barrett apply these concepts to the educational sphere, identifying three features imperative to quality of education. Inclusion refers to effectively distributing resources while being attentive to different needs of different social groups. The relevance perspective signifies socioeconomically relevant education in the eyes of both individuals and society. The participation dimension concerns public dialogue and advocacy in setting educational goals and in enacting them in educational processes. The three lenses offer an analytical framework for social justice, and the capability approach initiated by Sen provides a means to define education quality and to connect it to the larger concept of human development (Tikly & Barrett, 2013b). Capabilities are freedom or real opportunities to reach certain achievements, which Sen calls 'functionings' (Robeyns, 2006). Functionings constitute outcomes of actual doing and being, such as having enough nutrients, having shelter, having access to quality

education, and so on (Walker, 2006). Sen (1999; 2009) asserts that individuals need necessary capabilities in order to realise their functionings and freedom. Ensuring the aforementioned three dimensions of educational quality fosters the capabilities of individuals and society that they have reason to value. This necessitates the participation of different stakeholders in determining 'the *what*, the *who* and the *how* of education quality' (Tikly & Barrett, 2011, p. 12, emphasis in the original). The social justice approach is an extension of the rights-based approach, Tikly and Barrett assert. The authors acknowledge the overlaps between the moral basis of the social justice approach and LCP. The difference between the two lies in where the underpinning philosophy of their recommendation originates – from human rights for LCP or moral philosophy for the social justice approach – and how 'appropriate pedagogy' is determined – in a top-down manner in LCP or bottom-up in the social justice approach.

Following Tikly and Barrett's (2011, 2013a) proposition based on social justice and capability approaches, I argue that a policy attempt to achieve quality education should reflect the views and decisions made for the people by the people who practise the policy. If LCP principles continue to have the Western philosophical basis for quality education, pedagogical colonisation persists (Tabulawa, 2013). The findings from the current research crystallise that the pedagogy cannot be divided into either TCP or LCP, or more-TCP or more-LCP on a continuum. Practical learning, cooperation among peers, and rigid hierarchical relationships historically coexisted in Tanzania. The accounts from teachers Nyo and Zakia, as well as from the male pupil at Kisutsu, demonstrate their view of knowledge as something fixed that is to be transmitted. These statements signify the importance of what Tabulawa (2013) calls 'culturally responsive indigenous pedagogies' (p. 157); but I argue, in line with Tikly and Barrett (2011, 2013a), that the addition of moral philosophy is appropriate and necessary in the contemporary world when establishing education policies.

In defining 'the *what*, the *who* and the *how*' of improving the quality of education, I particularly emphasise that policy endeavour needs to incorporate children's perspectives. This thesis has especially highlighted one of the three dimensions of the social justice approach – participation, and in particular *children's participation*. Tikly and Barrett (2013b) accentuate the importance of participation in decision-making processes for quality education. Not only these authors but also Tabulawa (2013) and Schweisfurth (2013) promote examining learner viewpoints in any policymaking processes. This ideal nonetheless has not been widely practised within the literature on LCP implementation in developing countries, as Chapter 3 demonstrated. This study has underscored the value of local voices examined through children's lenses. To integrate local voices into policy needs for key beneficiaries of

education, policy research investigating how teachers *and* learners conceive of schooling experiences and what capabilities they have reason to value is imperative.

It is worth noting, however, that sensitivity to local cultural norms may sometimes conflict with normative views of social justice. One such instance my research epitomised relates to corporal punishment. The norm of the schools that I visited seemed to tolerate, or even accept, caning. Being sensitive to this school culture may mean that I should accept what was happening in front of me, which demonstrated a dilemma regarding the norm of what is just. How a social justice approach can overcome such a dilemma requires continuing debates in regards to how 'appropriate' pedagogy should be determined within a given culture.

9.5 Conclusion

As Alexander (2004, 2008) highlights, and as this thesis has emphasised, the attendant discourse precedes the act of teaching. Focusing only on observed-LCP and on dimensions surrounding it misses a vast territory of pedagogy that *locates*, *legitimises* and *enables* the act of teaching. The culture/society stratum surrounds the other two layers, with its role to *locate* teaching (Alexander, 2004). For a change in teaching practices to take place, consonant social, cultural and political foundations, as well as relevant policy and school environment, need to be constructed *prior to* the implementation of LCP practices in the classrooms of developing countries.

This thesis has problematised the dominant view of policymaking and literature to regard LCP as identical to the observable act of LCP; the research has introduced the concept of perceived-LCP to attend to how children subjectively experienced learner-centredness. Pupils' subjective experiences with LCP implementation and with their ways of living outside school compounds helped unpack several aspects of the attendant discourse delineated in the conceptual framework. The research findings suggested that pedagogical elements spreading throughout the three domains of the conceptual framework interact with each other to produce certain levels of *both* observed-LCP *and* perceived-LCP.

I argue that educational policy endeavours to improve children's learning and schooling experiences must reflect their perspectives. Allowing their participation in research on pedagogy and in educational policymaking can bring new insights as to how the attendant discourse of pedagogy, which spreads across the four layers of the revised conceptual framework (Figure 9.1), may interplay to produce locally appropriate pedagogy. This could elucidate the functionings and capabilities that children and adults have reason to value in living in their particular society, possibly

contributing to slowing down or ceasing the pedagogical colonisation of hegemonic policy transfer from donor organisations to low-resource countries.

Chapter 10 Conclusions and Recommendations

The thesis examined how and to what extent Tanzanian primary schools were implementing LCP within their own historical, social and cultural environments, and whether and how LCP might translate into pupil learning. It has adapted a comprehensive conceptualisation of pedagogy (Alexander, 2004, 2008) to an empirical enquiry on LCP implementation, as opposed to the existing norm viewing LCP only with respect to observable teaching. This research has attempted to inclusively understand pedagogy, taking into account the historical and sociocultural milieu of Tanzania. Engaging with the literature primarily investigating teachers and their teaching processes, the research has aimed to unfold pupils' experiences with LCP implementation. This concluding chapter specifies the potential contributions my study made in the field of pedagogical research and educational policy research. This will lead to a discussion of the possible application of my findings and analysis to policymaking and future research. The thesis closes by acknowledging its limitations, prompting suggestions for further study.

10.1 Contribution to the Field

Education is a contested concept. Its definition and purpose are manifold and vary from person to person. According to Durkheim (1956), education plays a social function 'by which society perpetually recreates the conditions of its very existence' (p. 123). Quite contrarily, for Freire (2000) education's purpose is to liberate and emancipate the oppressed. For Dewey (1916) it is to democratise children. Education should also prepare the young for the world of employment (Winch, 2002); at the same time it should allow one to explore humanity, i.e. what it means to be human (Pring, 2005).

Whatever the purposes of education are, one of its principal participants involves the learner. In the context of formal schooling, where the current study took place, this is the pupils concerned. What they experience at school and how they perceive their experiences constitutes the core of what they learn in schooling processes (Fielding, Fuller, & Loose, 2000). Despite children's educational experiences being crucial for their learning, their voices have been neglected by literature in education studies in general (Fielding, 2004; Southworth & Lincoln, 2000) and in education policy research specifically (Posti-Ahokas & Lehtomäki, 2014; Jones, 2011). Hajisoteriou and Angelides (2015) insist that an effort to examine educational policy implementation needs to involve students, because they are the main actors in schooling processes. Tangen (2008) states that there is an urgent need for education

research to involve pupils in order to understand their learning processes and problems.

Viewing the lack of children's voice among existing literature on LCP implementation in developing countries as problematic, this research set out to explore pupils' experiences with, and learning contribution possibly derived from, the globally-spread LCP recommendations. It has attempted to reveal the different realities that different social groups may experience by engaging in ontological relativism based on the constructivist paradigm (Crotty, 1998; Patton, 2015). The pupils discussed their perceptions of their teachers and their everyday lives at home in the FGDs. Pupils' views sometimes corresponded to what teachers talked about. Consensus from both agents with respect to the resource shortage in public schools and excessive academic emphasis at private schools corroborated the reliability of the accounts. In contrast, issues around corporal punishment and fear of teachers were unveiled only through pupils' narratives. These seemed to lead the pupils to distance themselves from the teachers, albeit to a different degree depending on their home and schooling environments. The pupils also discussed how they lived and talked with their parents and siblings, which contributed to the research in increasing the understanding of the links between pupils' experiences inside and outside school. How they communicated with their parents at home and with teachers at school showed some consistency. Thus, the research focus on pupils' views has illuminated the multifaceted nature of pedagogy that may have remained obscure if investigated solely from adults' viewpoints.

The application of a concept 'perceived-LCP' as opposed to observed-LCP highlighted another dimension of pupils' schooling experiences. The term signifies their perceptions of learner-centredness in the classroom. Rather than regarding LCP as merely observable acts, the study attended to LCP as subjectively experienced by one of the key beneficiaries of education, namely the learners. The findings accorded with existing research in terms of observed-LCP, in that I observed scarce LCP implementation in the classroom. However, data on perceived-LCP showed a rather contrasting result; the majority of pupils felt that they 'sometimes' or 'often' experienced LCP in the classroom. Despite the limited LCP implementation *observed*, the pupils seemed to *perceive* learner-centredness to some extent. The discrepant results between observed- and perceived-LCP may suggest that even though LCP implementation has failed at the observable level, LCP could work at the perceived level. Whether perceived-LCP could be implemented in Tanzania and other developing nations requires more empirical investigation.

Further examination of perceived-LCP would be interesting and necessary, especially because it indicated associations with pupils' academic performance and

learning attitudes, one of the prominent reasons why aid agencies embrace LCP. LCP has been criticised for its ambiguous academic effectiveness (Guthrie, 2017; Nguyen, Elliott, Terlouw, & Pilot, 2009), but this criticism is based only on observed-LCP. The data on perceived-LCP implied positive correlations with learning outcomes, although this particular research alone could not offer any causal or conclusive arguments with respect to associations between observed-LCP, perceived-LCP and learning outcomes. Whether or how perceived-LCP may contribute to pupil learning, which could justify the cognitive reasoning for implementing LCP, calls for more empirical evidence. This study could claim to be breaking new ground by conceptualising LCP differently from the dominant view of existing literature, and by proposing an alternative form of LCP that might translate into improved pupil learning.

Another dimension to which this thesis has applied a broader conceptualisation than that conventionally available in the literature pertains to the term ‘pedagogy’. Policy discourse and previous research on LCP implementation in low-resource contexts tend to reduce pedagogy to mere teaching practices. Borrowing Alexander’s (2004, 2008) definition of pedagogy, my research has extended its conceptual emphasis on pedagogy to the attendant discourse – entailing culture, history, view of knowledge and school conditions sitting across and permeating through classrooms, school and society – in addition to observable acts of pedagogy. One aspect of pedagogy – history in the culture/society realm (Figure 3.1) – has been a particular focus of this study. By tracing Tanzania’s educational history from the indigenous era and Nyerere’s political philosophy to the present, continuities and discontinuities between past and present were brought to light. A juxtaposition of the educational trajectory with the narratives from contemporary teachers in Chapter 6 has portrayed the complexity of *ujamaa* philosophy and policy, which initially appeared to chime with the LCP tenets but in reality was not practised at the time of its enactment. The thesis has drawn on the rationalist view of knowledge as a prevalent epistemological assumption in Tanzania. This has demonstrated why the seemingly consonant ideological/historical base of LCP in Tanzania is not conducive to the current LCP implementation. Comparison of the historical path Tanzania has taken with narratives from current teachers unpacks the aspects of ‘tradition’ that disagree with the global advocacy of LCP.

To further expand the concept of pedagogy, the conceptual framework (Figure 3.1) adapted from Alexander’s (2004, 2008) definition of pedagogy was incorporated into the TVH methodological framework (Figure 4.1). The revised conceptual framework (Figure 9.1) highlights donor influences and power relations within international society. It could serve as conceptual, methodological and/or analytical framework(s) in research on pedagogy and educational policy studies. Specifically,

Figure 9.1 could help identify what dimensions of pedagogy to investigate and how to do so using the transversal, vertical and horizontal axes. Paying attention only to classroom practices from teacher perspectives – a tendency widespread in existing research – misses out on the significant territory that the term ‘pedagogy’ covers. Any policy research on pedagogy must entail a thorough investigation of various pedagogical aspects spread throughout the school compound, community, and national and international society, as depicted in Figure 9.1.

Methodologically, this research exemplified the usefulness of the TVH case study and the potential for it to be employed alongside mixed methods. The TVH case study is a powerful methodological tool for exploring policy trajectories and appropriation. Interweaving the triple axial analysis – (1) horizontal comparison across multiple sites; (2) vertical examination across multiple scales; and (3) transversal investigation to provide historical insights to the horizontal and vertical connections spatially and over time – can help reveal the underlying mechanism as to how and why policy is made locally (Bartlett & Vavrus, 2017). As I pointed out in Chapter 4, however, most researchers utilising the TVH model conducted their case studies within a qualitative, anthropological strand. Although Bartlett and Vavrus imply the usefulness and possibility of mixed methods to be practised in their TVH framework (2017, p. 7), specific guidance as to how to do so was not sufficiently given. This thesis demonstrates an empirical example of introducing mixed methods into the TVH case study approach. Synthesising the TVH framework with the strengths of mixed methods would further enhance the methodological rigour of case-based research.

The application of mixed methods itself could show another aspect of knowledge contribution. Previous research on LCP implementation in low-income nations has seldom employed a mixed methods or quantitative methodology, resulting in disproportionate empirical dependence on qualitative findings (Schweisfurth, 2011; Frost & Little, 2014). The present study has addressed this methodological imbalance by employing mixed methods research. Accumulating its results could triangulate methodological applications in the literature, and this could enhance the validity and reliability of the overall findings made previously (Firestone, 1987). Thus, the thesis has attempted to stretch methodological applications in existing literature on LCP implementation in developing countries, as well as enhancing the applicability of the TVH case study in educational policy research.

Lastly, I have been committed to transparent and detailed engagement with the messiness of the research process. Valentine (2001) acknowledges a crucial feature of fieldwork that most fieldwork entails changes to the pre-planned schedule, methods, research design and research focus. This could require (sometimes major) adjustments to the theory and epistemology carefully thought through in advance of

fieldwork (Billo & Hiemstra, 2013). However, published textbooks and articles often suggest linear, cumulative research processes, which misrepresents the messy aspects of research. My research required several adjustments due to discrepancies between my prior expectations and the reality of data gathering. Chapter 4 reports in detail how and why the initial fieldwork plan including case selection criteria and research design needed on-the-spot amendments. It also discloses how these changes subsequently led to further adjustments to the research questions and my epistemological standpoints in order to coalesce with the adjusted methodological approach. Thus, the research provided detailed, transparent discussions on research process. This could offer helpful examples of methodological challenges and how to deal with them. Given the above contribution to knowledge that this study can claim to have made, I now specify implications for policy and future research based on the research findings and interpretations.

10.2 Implications for Policy and Research

The transversal and vertical analysis employed in this thesis has highlighted the traveling nature of LCP policies. Considered as a 'best practice' or 'universal panacea' in education reforms, LCP has been widely borrowed and lent from one culture to another (Steiner-Khamsi, 2012). Mundy (2016) maintains that this global collective effort to ensure the right to education is continuing and will continue under the aid architecture of EFA, CFS and SDGs. However, the transferred policies of LCP do not simply converge toward an 'international mode of education' as predicted by development players (Mundy, Green, Lingard, & Verger, 2016). Scholars underscore the local meaning, political and economic settings, agencies and historical contingencies playing out and affecting each other (Waldow & Steiner-Khamsi, 2012; Carney, 2009, 2012).

The findings from my research have also raised doubts about the policy expectations of LCP implementation in developing nations. The vertical investigation has elucidated an exclusive policy focus on teaching practice, implying a technist assumption that LCP as a mere teaching method could be easily imported to and adopted in developing countries regardless of their sociocultural and environmental conditions. However, pedagogical policies ignoring historical, cultural and epistemological contingencies are unlikely to achieve their ambitions. Local policy actors adjust, refine and mutate the original and internationalised policies in a particular setting (Levinson, Sutton, & Winstead, 2009). The horizontal exploration in this thesis highlighted the significance of resource adequacy, academic weight and pupil–teacher relationships affecting the extent and arrangement of LCP appropriation. The

transversal investigation further illuminated that merely implementing observable-LCP would not develop epistemology consonant with LCP or democratic pupil–teacher relationships. Making a paradigm shift and practising democracy at school would require cultural values and human interactions that justify them. In Tanzania, the view of knowledge as fixed and transmitted has given the knower social privilege and power to be respected by the learner. This notion is so deeply rooted in the history and culture of the country that it is implausible to assume that a mere teaching practice could alter culturally-appropriate epistemology (Tabulawa, 2013). The interrelationships of multiple factors developed in the past and present seemed to produce a rather unexpected form of observed practices in the local classrooms.

The technist approach of LCP as a ‘best practice’ also takes it for granted that observable LCP acts would automatically produce teachers’ belief in LCP, as well as contributing to cognitive, political and economic outcomes. Despite this, my research appeared to reveal the uselessness of this assumption. The varied academic achievements and learning attitudes implied correlations not with observable activities but with pupils’ perceived learner-centredness. Pupils’ perceptions of classroom experiences, which significantly differed between schools, seemed to be associated with the societal and cultural milieu surrounding the pupils, such as their SES and accustomed ways to interact with adults. Teachers’ observable practices in the classroom seemed to play a somewhat less significant role in pupil learning. If international agencies envisage pupils’ better academic achievement and positive attitudes toward learning as part of the end goals of LCP implementation, advocating LCP only with respect to teaching acts will not bring about the intended consequence.

These flaws seemingly happening in policymaking processes indicate that a policy on pedagogy, or more broadly educational policy implementation, requires empirical research with a comprehensive framing of the concept of ‘pedagogy’ and a methodology that could pursue its comprehensiveness. The revised conceptual framework (Figure 9.1) could offer a conceptual and methodological tool for this endeavour. It captures various dimensions of pedagogy (Alexander, 2004, 2008) while shedding light on policy negotiations between international, national and local scales. The TVH case study will provide helpful methodological axes in order to connect the past and present (transversal tracing), to follow the policy transmission process (vertical examination), and to compare the policy implementation within different contexts (horizontal investigation).

Educational policy research also needs to involve key stakeholders in education, especially children whose voices have been largely neglected in the empirical literature (Hajisoteriou & Angelides, 2015; Tangen, 2008). The results from this study, as well as the original and revised conceptual framework (Figures 3.1 &

9.1), indicate the crucial role pupils play in co-constructing classroom reality. The significant association of perceived-LCP with pupil learning also reveals the value of their viewpoints. Examining learner experiences will provide information on the meaningfulness and effectiveness of education for its key beneficiary (Chamberlain, Golden, & Bergeron, 2011). The constructivist paradigm with ontological relativity necessitates an investigation of the local voices that different social groups may possess.

This study has thus demonstrated the value of local reality investigated through a lens otherwise hidden, such as that relating to learners. Adopting Western-oriented LCP as a universal panacea to improving education quality has been suggested as unlikely to make a real difference. Culture shapes pedagogy (Alexander, 2008), and pedagogy also affects the forming of culture. To integrate local voices into policy needs, it is imperative to explore different facets of pedagogy from the perspectives of different social groups. The multidimensionality of pedagogy bespeaks a consideration of the historical, social and cultural ambience in search of a 'best practice' which is not universal but unique to a specific context.

10.3 Limitations and Suggestions for Future Research

The study has some methodological limitations, indicating possible areas for further research. Within the transversal axis of the TVH framework, bringing this axis to the study of contemporary phenomena entailed some difficulties. History does not possess a starting or end point in itself. This infinite aspect of history may prompt a question as to where to begin and end historical research. However, research focus and accompanying research questions would help a researcher set a timeframe. The scope of my transversal investigation was guided by my particular interest in the work of President Nyerere. My preliminary literature review and fieldwork experiences before and during this research identified Nyerere as the prominent and indispensable figure in any discussion of educational development in Tanzania (Tao, 2013), specifically in reference to LCP's tenets (Lema, Mbilinyi, & Rajani, 2004). This led me to start my transversal examination with a focus on Nyerere. Several policy documents enacted by him and literature about him demonstrated that Nyerere made many references to indigenous education when promoting his social and educational ideas (Molony, 2014). I thus examined how education has been developed in Tanzania from the indigenous era. In regard to the end point of my transversal investigation, a transversal examination aims to enquire into a contemporary issue using a historical lens (Bartlett & Vavrus, 2017). This necessitated a discussion on the recent literature available at the time of my writing. I therefore drew on recent accounts by international and national

governments in relation to education quality and pedagogical approaches (e.g. UNESCO et al., 2015; UNESCO, 2017; MoEST, 2016).

Another concern for transversal exploration involves ascribing historical influence on contemporary phenomena retrospectively. Unlike the horizontal investigation where I collected primary data in the field to examine LCP implementation as it exists today, the past does not exist anymore. Chapter 7 in this thesis demonstrates how and why the observed lesson activities and pupil–teacher interactions may embody historical and epistemological contingencies to implement LCP in Tanzania. It asserts that the view of knowledge which Tanzania has historically cultivated seems to explain the way teachers and pupils acted on each other in the observed classrooms. The reliability and validity of my claim could be questioned given that there is no ‘firm evidence’ to justify the historical connection; it depends on the credibility of the document sources referenced. Related to this issue is the difficulty to check the reliability of witness accounts. To get a sense of how Nyerere personally conceived his social and educational policies, I interviewed one of Nyerere’s sons. Nevertheless, few ways exist to verify whether the interview accounts match how Nyerere genuinely considered his policies. As such, transversal investigation necessarily involves difficulties in terms of setting the time frame, attributing historical influence retrospectively and confirming the reliability of witness reports.

Bartlett and Vavrus (2017, p. 96) acknowledge this incomplete aspect of documents and archives, in that they are contested and never neutral. To address this issue, I triangulated data sources when reviewing the literature related to Nyerere and his education policies presented in Chapter 6. I searched for other references to corroborate the accounts made in one source. Even with these limitations attached to the transversal axis in the TVH approach, its value would surpass the difficulties. Existing studies on LCP implementation in developing nations have seldom paid attention to historical elements. As Bartlett and Vavrus argue, what is happening today has inextricable links with what happened in the past; analysing the former through a historical lens ‘opens up alternative explanations for phenomena that may seem self-evident if examined only from a contemporary perspective’ (p. 94).

Along the horizontal line, the number of schools visited and classrooms observed did not generate enough variability between schools or between classrooms. This limited the statistical power to provide conclusive relationships between the extent of LCP implementation and learning outcomes. It also restricted the current study from generalising its findings statistically. Despite its original aim of analytical generalisation, the study could have offered interpretation and arguments applicable to a wider population if a larger number of schools had been observed. Sufficient numbers of

observations would enable future research to imply a pathway or causal mechanism underlying the level of LCP implementation to improve (or not) learning outcomes.

Another methodological limitation in relation to the quantitative strand involves the variability that existed at classroom and school levels. It should be acknowledged that my methodological decision to include different subjects – English and mathematics – may have confounded a variability in pedagogical approaches. The two subjects would require varied activities and interactions due to the distinctive nature of the contents being taught and learned. Maths usually has uniform, fixed answers, whereas a language lesson may entail communications with others, thereby its pedagogical approach is more likely to be interaction-based. These subject-specific differences may have produced differences in the use of pedagogy between both classes. Likewise, each school exhibited substantial differences with respect to school intake (*Table 4-1*), which may have had confounding effects on pupils' learning outcomes. Teachers of a large class may need to adopt a different pedagogical approach from those who teach a smaller number of pupils; hence, the differences in school enrolments and/or teacher–pupil ratio may confound the associations between how teachers teach their classes and what the pupils get out of their teaching.

Within the qualitative strand along the horizontal axis, I visited the 13 schools for only one or two days. This did not provide enough time to build close and natural relationships with the teachers and pupils. Longer stays at each school would have enabled me to nurture trust and develop closer relationships. This could have reduced the observer effect in both structured and unstructured observations (Robson, 2002). It could also have led to extracting more detailed, honest answers in interviews and FGDs. Additionally, immersing myself in the settings for longer periods would have increased my familiarity with them (Bryman, 2016). Observing the everyday conduct of the participants inside and outside the classroom would help check the consistency between participant behaviour and their narrative accounts. In the case of a mixed methods design involving a large number of schools, it might prove difficult to spend several months at each school. Some months of stay at some schools, if not all, might generate more trusting relationships with the participants and potentially facilitate more detailed discussions with them.

Related to this issue pertains to the extent to which a school may represent a 'case' in itself. A research design with a case study approach usually expects the researcher to commit to a rich, 'in-depth' investigation of cases (Patton, 2015; Flyvbjerg, 2009). This implies a use of qualitative methodology and research design (Creswell, 2013). Yin (2014) nonetheless acknowledges that a case study may employ a quantitative design with, for example, surveys and/or secondary data, to capture the general characteristics of the cases. My TVH case study with mixed methods was

intended to obtain both the depth and breadth of data that each case might demonstrate. The research followed the definition of 'case' adopted by Bartlett and Vavrus (2017, p. 27) in that cases within the TVH framework should be both 'similar enough and separate enough' (Ragin, 1992, p. 1) to enable comparisons between them. Adhering to this definition, my study aimed to collect data comparable between each case as well as between the school categories, sitting along the horizontal axis. I analysed each school case separately and holistically using both qualitative and quantitative data strands, which is presented in particular in Chapter 7 and in Appendix 17. The unique characteristics of each school make it a case along the horizontal axis. The data from the horizontal comparisons were then knitted together with the transversal and vertical axes, aiming to make this research a case study of Tanzania within the TVH framework, incorporating school case studies across the horizontal axis. As such, the study has sought to design a case study following the aim of the TVH approach that was intended to 'achieve cultural understanding of the production and appropriation of policy by doing shorter-term periods of research in multiple sites across different scales to create a case study attentive to horizontal, vertical and temporal comparisons' (Bartlett & Vavrus, 2017, p. 40).

As indicated in Chapters 8 and 9, although the research has demonstrated the likely link between perceived-LCP and human relations beyond the school compound, it did not uncover specific constituents of perceived-LCP. The questionnaire on perceived-LCP asked about pupils' perceptions of lesson activities and interactions with teachers, which did not correlate with observed-LCP. Instead, perceived-LCP manifested a likely association with other components of society such as child–adult relationships and fear of teachers. The study indicated that pupils' perceptions of learner-centredness come from their experiences beyond classrooms and schools. What constitutes perceived-LCP is thus a potential area to be investigated, which could contribute to higher learning outcomes and more positive schooling experiences of pupils.

Lastly, a reflection regarding the ethics of over-gathering data needs to be made, as a vast amount of data was collected in the field, but not all data was analysed. From the schools' perspective, providing a large amount of data within one or two days of my visits might have interrupted their daily schedule and placed a heavy burden on the participants. This was especially significant because I did not bring rewards or material contributions in return for their participation, which was made clear in the informed consent. Although I had considered presenting school equipment before the fieldwork, this could have changed participants' responses and attitudes in their prediction of receiving such materials. The participants' involvement in the research therefore was purely voluntary and there were no immediate benefits to the

teachers or pupils in return for their participation. In hindsight, I could have limited the amount of data to gather by considering more thoroughly its relevance in relation to the research focus. Making some material contributions, without notifying it until the end of the research, could be another way to show my gratitude to the participants.

That said, I intend to further explore the data that was not analysed for this thesis. Pupils' family background, teachers' views regarding their occupation and/or head teachers' views concerning teachers' work – all of which were sought through the questionnaires – could be investigated for their relationships with perceived-LCP and learning outcomes. Narratives from teacher interviews and pupil FGDs may also be used to explore the dimensions of the attendant discourse.

10.4 Conclusion

Employing the constructivist view of knowledge alongside relativist ontology, this thesis appreciates the multiple realities existent in different groups of pupils and teachers. Figure 9.1 represents the nature of pedagogy, not only with respect to the cognitive and educational but also the political, cultural and historical. Teaching is legitimised by various factors of the attendant discourse; without the appropriate values, theories, beliefs and evidence in culture and society that accord with the LCP concepts, learner-centredness as the act of teaching would not happen in the classrooms. Observed-LCP is just the tip of an iceberg; below its surface is the rest of the iceberg and the ocean. Culture and society can be compared to the ocean surrounding and encompassing the iceberg, embodying the nested structure of pedagogy within the social, cultural and historical spheres.

Considering the inextricable link between the layers of pedagogy and sociocultural environments, what should pedagogical policies endeavour to do and how should they be appropriated? As Tikly and Barret (2015) argue, LCP manifests human rights and cultural beliefs deemed 'appropriate' by the Western-led agencies. Holding LCP principles as a philosophical basis of pedagogical reform cannot be free of the process of Westernisation, or ideological colonialism (Tabulawa, 2013) as enacted through pedagogy. As an alternative to LCP, a social justice approach could act as a promising means to pedagogical policy formation. People in the country concerned should have the right and opportunities to decide the most appropriate pedagogy in their own sociocultural contexts in order to develop their nation in a way they envision. In this process, the participation of local policy actors can unpack the functionings and capabilities which they (and not the policymakers) prioritise.

This study places its central focus on the voices of local policy actors, especially those of children who have been neglected in LCP policy discourse. Their narratives

and the quantitative measurement of perceived classroom experiences offered some policy implications. Furthermore, children's voices have been revealed to be essential to understanding how policy is implemented at the local level (Hajisoteriou & Angelides, 2015). In this process of exploring the attendant discourse, understanding how pupils make meaning out of the observed classroom practices and how they form their experiences could provide useful insights. Thus, the views of pupils and teachers, as well as examining historical and social contingencies, can inform an appropriate pedagogy that can pave the way to nurturing what the people living in the given culture have reason to value.

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Appendices

Appendix 1: Pilot Study and Instrument Adjustment

The school for the pilot study was located in one of the three districts of the Dar es Salaam region, which was excluded from the main study. I chose this district on the basis of the DEO's method of choosing schools. Different from the other two districts in Dar es Salaam, the DEO in the piloted district did not approximate which school applied LCP relatively more or less. Even though the level of LCP implementation was not a decisive selection criterion, an attempt to include varied levels of LCP practice was still crucial; and the guidance from the DEOs, who oversaw school inspection of the districts, was the most reliable source I could access. Among the four schools granted me for my research visits in the district, a public school located in an urban area was chosen as the pilot school. The relative proximity from the ESRF office and simpler access by public transportation made it easier for me to conduct the pilot study. Because the final analysis would not include the data from the pilot, I did not need to take the school category into account in selecting the pilot school.

At this school Manyama and I first greeted the head teacher and explained the purpose and procedure of the research. I handed him the government permissions and consent letter (Appendix 1) which the head teacher signed. After handing the head teacher questionnaire (Appendix 2) to him, the deputy head took us to the Standard 6 English class. I described in English the aims and detailed process of the study to the female English teacher. She agreed to participate in the study, signed the consent letter (Appendix 3), and gave me written permission for her pupils' participation. I then introduced myself and gave an overview of my research in simple Swahili to the pupils, after which Manyama gave a detailed explanation and called for any queries or concerns from them. I also distributed the child assent form, explaining what the research was about and how it would be carried out.

The teacher let us sit at the front and video-record her class. After her 20-minute lesson, I distributed a booklet with the English exam (Appendix 4) and questionnaire (Appendix 5) to the pupils. During their completion of the booklet, Manyama circulated around the class and answered several questions from individual pupils. Their queries helped me revise the wording of the tests for the main study. Every pupil finished the English exam within 24 minutes, faster than my approximation of 30 minutes. At the same time that the pupils were solving the exam problems, the English teacher completed the teacher questionnaire (Appendix 6). I went through the questions with her and welcomed any clarification from her to improve the wording of the questionnaire.

The pilot study proceeded to an FGD with three boys and three girls, whom the English teacher selected. Under a tree outside the classroom, I first explained in English what would be happening in the FGD and its purpose. Manyama translated it into Swahili. I recorded the discussion with my voice recorder after orally asking for their permission. There were few clarifications needed for the FGD questions (Appendix 7), and the whole discussion went relatively smoothly. I then came back to the English teacher and asked about her availability for an interview. Because she was almost fluent in English, I directly communicated with her without Manyama's help. The interview questions (Appendix 8) that mention Nyerere were revealed to be too broad, and I could not obtain meaningful answers, indicating a need for their revision.

Because the school had only one stream for Standard 6, after acquiring approval from the English teacher, Manyama and I went back to the same classroom and asked the pupils to take the maths test (Appendix 9). Most pupils took less than 20 minutes to complete this. Manyama and I thanked all the participants and left the school.

After the pilot study I analysed the obtained data and revised the research instruments. For the observation protocol (Appendices 10 and 11) and the interaction codebook (Appendices 12 and 13), I had Manyama and another research staff member at the ESRF separately watch the video and rate the activities and pupil-teacher interactions. This aimed at integrating third person perspectives on the general usage of the protocol and the codebook, as well as on the definitions for the activities and interactions specified in them. After explaining the purpose of this observation activity, Manyama and the other staff member reviewed the definitions and independently rated the activities and interactions based on their own understanding of the definitions. Their feedback included: to provide more specific definitions with examples; to take into account the context instead of concentrating on the moment of every 30 seconds; and to ensure the consistency of rating between two or more people at the analysis stage. On their advice, the definitions in the protocols were detailed, referring to the original research from which I adapted the definitions. The whole exercise also helped me to contextualise each activity and interaction within a continuous process of teaching and learning. A precise inter-rater reliability (to check consistency of ratings between different coders) was calculated between Manyama and myself at the analysis phase.

The revision of the questionnaires included changes of expressions and wordings in Swahili, new formatting, as well as addition of the title and instructional sentences. The research fellow at the ESRF, who also helped with checking the translated documents, reviewed the questionnaires for head teachers, teachers and pupils. He gave me advice on the wording and appropriateness of the questions in the Tanzanian context. He particularly pointed out that the expression of frequencies in the

questionnaire, where it asks the respondents to tick, was inappropriately worded. Based on his advice I revised words and sentences in English. I then asked the same translator to convert them into Swahili. Manyama and the research fellow double-checked all the revised translation.

In English (Appendix 4) and maths (Appendix 9) examinations, the pupils at the pilot school scored particularly low. Out of 100 points, the maths test had a mean of 29.7 and a standard deviation (SD) of 24.9, while the English test had a mean of 24.8 with an SD of 14.0. The English score especially skewed toward the left tail. I considered including the Standard 2-level test designed by the local NGO; yet the test necessitated a massive human resource as I explain in Section 4.6.8. The English teacher at the pilot school informed me that the pupils had relatively disadvantaged backgrounds. Given this I expected to observe higher scores and more variation once a large number of pupils in a variety of school categories took the exam. In both English and maths exams, I made amendments to the Swahili translation, the number of questions, and the format. The wording for the instruction, where the pupils expressed confusion, were corrected, although the questions themselves were not changed. Because the pupils completed the tests faster than my expected time of 30 minutes, I increased the number of questions from 12 to 25 in mathematics and from 20 to 25 in English by randomly selecting them from each section of the original government tests. More problems would bring variability in test scores, making regression analysis more meaningful.

The qualitative instruments also needed several adjustments. As for the interview schedule for teachers (Appendix 8), the overall instruction removed terms like 'social factors' and 'influence', which people were less likely to use in their everyday lives, as recommended by Robson and McCartan (2016). The time duration of the interview changed from 45 to 20-30 minutes as a result of the pilot study, where I learned the latter would be enough to acquire the responses I was looking for. I also underlined keywords in each question, so that only a quick glance during the interview could remind me of the whole question without reading word for word. This would make a flow of the verbalised sentences smoother.

In the moderator's guide for the FGDs (Appendix 7), the introductory instruction used more colloquial language by changing a sentence 'The purpose of this discussion is to find out how Tanzanian pupils spend time at school and at home, and how you feel about your experiences' into 'Through the discussion, I'd like to find out how you spend time at school and at home'. The former sounded too formal, whereas the latter employs more familiar language for the pupils, which would facilitate their understanding (Robson & McCartan,

Appendix 2: English Exam

A: Choose the appropriate word(s) from a) – d) to complete the sentences.

- (1) We _____ a lot of food yesterday.
a) are eating b) is eating c) ate d) eat
- (2) You _____ short verses of the song next Sunday.
a) will write b) wrote c) writing d) are write
- (3) The child _____ in Zenji.
a) has born b) was born c) were born d) borning
- (4) Normally pupils who _____ hard pass their examination.
a) works b) work c) working d) is working
- (5) Farming _____ our economy to grow.
a) help b) helps c) helping d) are helping
- (6) Last week, the president _____ in Zambia.
a) is touring b) has toured c) will tour d) toured

B: Change the following sentences into passive voice.

- (7) John cuts grass. _____
- (8) I carry a box. _____

C: Change the sentences into a question form.

- (9) She comes here every day. _____?
- (10) They will finish the exercise early. _____?

D: Change the noun in the sentences into plural form, and rewrite the whole sentences.

- (11) The book is mine.

- (12) This is my child.

- (13) This is a nice apple.

E: Write the opposite of the underlined words in the following sentences.

(14) Kenya is well known for her domestic game. _____

(15) I love hardworking pupils. _____

(16) Juma was present yesterday. _____

F: Choose a correct word from a) to e) to represent the underlined word.

a) adverb	b) preposition	c) noun	d) verb	e) adjective
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(17) She painted the picture beautifully. _____

(18) We need to eat well. _____

(19) Lions are fierce animals. _____

(20) The thief jumped through the window. _____

G: Read the passage below, and write true or false for the sentences (16) – (20).

An owl is a bird with big eyes that can function in the dark. It has a sharp beak and claws to catch its prey. It lives in grave yards and empty houses, and does not fly during the day. It flies at night to look for food.

Many people do not like owls; they believe that when an owl hoots, something bad will happen. Very few people know that owls are useful birds. They do not know that owls eat rats and mice, which steal their food. Owls also eat snakes.

(21) An owl looks for food during the day. _____

(22) A few people do not like owls. _____

(23) When an owl hoots, something bad will happen. _____

(24) Owls are useful birds. _____

(25) Owls are afraid of snakes. _____

Appendix 3: Pupil Questionnaire

Nozomi Sakata's PhD Research on Learner-centred Pedagogy

Pupil Questionnaire

In this booklet you will find (1) English exam; and (2) Questions about you, your family and home, and your learning experiences.

(1) English exam:

Read the instruction carefully and write your answers neatly. You will have 30 minutes to complete the exam. You can proceed to Section (2) (*Questions about you, your family and home, and your learning experiences*) if you finish the exam earlier.

(2) Questions about you, your family and home, and your learning experiences:

Please read each question carefully and answer as accurately as you can. You will normally answer by ticking a box or several boxes (✓). For a few questions you will need to write a short answer.

In this questionnaire, there are no right or wrong answers, so please answer each question as honestly as possible. You can ask for help if you do not understand something. The questionnaire is estimated to take about 30 minutes.

Your answers will be combined with answers from other students to calculate totals and averages. All information you provide may only be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose.

Thank you for your time and effort to complete this questionnaire.

For researcher's use:

Region	District	Subject	School	Class	Teacher	Pupil
_____	_____	_____	_____	_____	_____	_____

A. About Your Background

1. How old are you? ☐ 11 years old
☐ 12 years old
☐ 13 years old
☐ Other (please specify) _____
2. Are you female or male? ☐ Female
☐ Male
3. What language do you usually speak at home? ☐ Swahili
☐ English
☐ Other (please specify) _____
4. Do you have the following things at your home? (Tick all that apply.)
☐ Piped water
☐ Electric lighting
☐ Landline telephone
☐ Mobile phone
☐ Study desk
☐ Daily newspaper
☐ Television
☐ Radio
☐ Computer
☐ Internet
☐ Bicycle
☐ Motorcycle
☐ Car
☐ Fan
☐ Air conditioning
5. How many books do you have in your home? (Do not include magazines, newspapers, or your schoolbooks.) ☐ 0
☐ 1-10
☐ 11-25
☐ 26-50
☐ 51-100
☐ 101 or more
6. On average, how many times do you eat per day? _____ times
7. Did you go to pre-school or kindergarten? ☐ Yes
☐ No

- 8 Have you ever repeated a grade?
- ☐ Yes, in pre-school/kindergarten
 - ☐ Yes, in grades 1-3
 - ☐ Yes, in grades 4-6
 - ☐ Never

B. About Your Family

9. My father can write:
(*Tick all that apply.*)
- ☐ Swahili
 - ☐ English
 - ☐ Other (please specify) _____

10. What is your father's highest education level?
- ☐ Primary level
 - ☐ Secondary O-level
 - ☐ Secondary A-level
 - ☐ 3-year university level or higher
 - ☐ Don't know
 - ☐ None

11. What does your father do?
- _____

12. My mother can write:
(*Tick all that apply.*)
- ☐ Swahili
 - ☐ English
 - ☐ Other (please specify) _____

13. What is your mother's highest education level?
- ☐ Primary level
 - ☐ Secondary O-level
 - ☐ Secondary A-level
 - ☐ 3-year university level or higher
 - ☐ Don't know
 - ☐ None

14. What does your mother do?
- _____

15. How often do the following things happen at home? *Tick one box for each sentence.*

	Every day or almost everyday	Once or twice a week	Once or twice a month	Never
a) My parents check if I do my homework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) My parents help with the homework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My parents ask me what I am learning in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I talk about my schoolwork with my parents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. About Your School & Classes

16. What do you think about your school? Tell how much you agree with these statements. *Tick one box for each sentence.*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I like being in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I feel safe when I am at school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I feel like I belong to this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. During this year, how often have any of the following things happened to you at school? *Tick one box for each sentence.*

	At least once a week	Once or twice a month	A few times a year	Never
a) I was made fun of or called names.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I was left out of games or activities by other students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Someone spread lies about me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I was hit or hurt by other student(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I was made to do things I didn't want to do by other students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. Do you have your own textbooks for the following subjects?

English ☐ Yes
☐ No

Mathematics ☐ Yes
☐ No

19. How often in a week do you receive homework in English and mathematics?

English: _____ times per week

Mathematics: _____ times per week

20. How often does your teacher check your homework?

- ☐ Always/mostly
☐ Sometimes
☐ Never
☐ No homework given

21. How many days were you absent in the last month?

_____ days

D. Classroom Activities

Please indicate how often you practice the bellow activities in class. *Tick one box for each sentence.*

	Almost Never	Seldom	Some- times	Often	Very Often
22. I express my opinion during lesson.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. My teacher takes my personal interest into account.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I do not ask or answer questions while my teacher lectures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. My teacher is unfriendly to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. My ideas and suggestions are used during the lesson.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Different students use different equipment and materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I tell my opinions and ideas during the class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. My teacher considers my feelings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. There is classroom discussion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. My teacher stands in front during class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. I work in groups in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. My teacher scolds or beats me/other students to maintain classroom order.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. My teacher praises me for good effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Lessons are related to my daily lives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E. About Learning Experience

36. How much do you agree with these statements about learning? *Tick one box for each sentence.*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I enjoy learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I wish I did not have to study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Studying is boring.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I learn many interesting things in lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) It is important to do well in schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

37. How much do you agree with these statements about lessons? *Tick one box for each sentence.*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I know what my teacher expects me to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) During lessons, I think of things not related to the subject.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) My teacher is easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I am interested in what my teacher says.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) My teacher gives me interesting things to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

38. How much do you agree with these statements? *Tick one box for each sentence.*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I usually do well in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Learning is harder for me than for many of my classmates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I am just not good at learning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I learn things quickly in general.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I am good at working out difficult problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

39. To what extent do you agree with the following statements about learning? *Tick one box for each sentence.*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) If I put in enough effort, I can succeed in school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Whether or not I do well in school is completely up to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Family demands or other problems prevent me from putting a lot of time into my schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) If I had different teachers, I would try harder in doing schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) If I wanted to, I could do well in schoolwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) I do badly in schoolwork whether or not I study for my exams.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

40. To what extent do you agree with the following statements about studying for your school? *Tick one box for each sentence.*

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I have my homework finished in time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I work hard on my homework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I am prepared for my exams.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I keep studying until I understand material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I pay attention in class.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing the questionnaire.

Appendix 4: Teacher Questionnaire

Nozomi Sakata's PhD Research on Learner-centred Pedagogy

Teacher Questionnaire

This questionnaire asks about your academic and professional backgrounds, teaching practices, and attitudes toward teaching. Your responses are very important to help better understand conditions of primary teaching in Tanzania.

There are no right or wrong answers, so please answer each question as honestly as possible. The questionnaire should take about 30 minutes to complete.

Your answers will be combined with answers from other teachers to calculate totals and averages. All information you provide may only be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose.

Thank you for your time and effort to complete the questionnaire.

For researcher's use:

Region	District	Subject	School	Class	Teacher
_____	_____	_____	_____	_____	_____

A. About You

1. How many years in total have you taught at schools in your teaching career? _____ years
2. Are you female or male? ☐ Female
☐ Male
3. How old are you? ☐ Under 18 years old
☐ 19 – 25 years old
☐ 26 – 30 years old
☐ 31 – 35 years old
☐ 36 – 40 years old
☐ 41 – 45 years old
☐ 45 + years old
4. What subject(s) do you teach at this school? (*Tick all that apply.*) ☐ Mathematics
☐ English
☐ Reading/Kiswahili
☐ Science
☐ History
☐ Art/Music
☐ Other (please specify) _____
5. What language do you usually speak at home? ☐ Swahili
☐ English
☐ Other (please specify) _____
6. In what language do you teach in your class? (*Tick all that apply.*) ☐ Swahili
☐ English
☐ Other (please specify) _____

7. Do you have the following things at your home? (*Tick all that apply.*)
- ☐ Piped water
 - ☐ Electric lighting
 - ☐ Landline telephone
 - ☐ Mobile phone
 - ☐ Daily newspaper
 - ☐ Television
 - ☐ Radio
 - ☐ Computer
 - ☐ Internet
 - ☐ Bicycle
 - ☐ Motorcycle
 - ☐ Car
 - ☐ Fan
 - ☐ Air conditioning
8. What is your highest education level?
- ☐ Primary level
 - ☐ Secondary O-level
 - ☐ Secondary A-level
 - ☐ 3-year university level
 - ☐ Other (please specify) _____
9. Which teaching qualification do you have?
- ☐ Certification
 - ☐ Diploma
 - ☐ Degree
 - ☐ None of the above
 - ☐ Other (please specify) _____
10. How many years of pre-service teacher training did you complete? _____ years
11. Approximately how many days in a year do you receive in-service training? _____ days
12. How many days in last month were you absent from school? _____ days

B. About Your School

13. How would you characterise each of the following within your school?

	Very high	High	Medium	Low	Very low
a) Teachers' job satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Teachers' understanding of the school's curricular goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Teachers' degree of success in implementing the school's curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Teachers' expectations for student achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Parental support for student achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Parental involvement in school activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Students' desire to do well in school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Regarding the environment of your school, to what extent do you agree or disagree with each of the following statements.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) This school is located in a safe neighbourhood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I feel safe at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) This school's security policies and practices are sufficient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) The students behave in an orderly manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) The students are respectful of the teachers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. In your current school, how severe is each problem?

	Not a problem	Minor problem	Moderate problem	Serious problem
a) The school building needs significant repair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Classrooms are overcrowded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Teachers have too many teaching hours.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Teachers do not have adequate instructional materials and supplies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. About Teaching Classes

16. How many female and male
students are there in your class?

Female: _____ students

Male: _____ students

17. In teaching your class, how confident do you feel to do the following?

	Very confident	Somewhat confident	Not confident
a) Answer students' questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Show students a variety of problem solving strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Provide challenging tasks for capable students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Adapt my teaching to engage students' interest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Help students appreciate the value of learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. In your view, to what extent do the following limit how you teach your class?

	Not applicable	Not at all	Some	A lot
a) Students lacking prerequisite knowledge or skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Students suffering from lack of basic nutrition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Uninterested students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. For the typical student in this class, how often do you do these things?

	At least once a week	Once or twice a month	A few times a year	Never
Meet or talk individually with the student's parents to discuss his/her learning progress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Send home a progress report on the student's learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. About Being a Teacher

20. How often do you have the following types of interactions with other teachers?

	Never	2 or 3 times per month	1-3 times per week	Daily
a) Discuss how to teach a particular topic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Collaborate in planning and preparing instructional materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Share what I have learned about my teaching experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Visit another classroom to learn more about teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Work together to try out new ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. How much do you agree with the following statement?

	Agree a lot	Agree a little	Disagre e a little	Disagre e a lot
a) I am content with my profession as a teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) I am satisfied with being a teacher at this school.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) I had more enthusiasm when I began teaching than I have now.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) I do important work as a teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) I plan to continue as a teacher for as long as I can.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) I am frustrated as a teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E. Teaching Method

22. Have you heard of the following terms? (Tick all that apply.)
- ☐ Learner-centred method
 - ☐ Child-centred method
 - ☐ Participatory method
 - ☐ Synonyms of these (please specify)

- ☐ No (go to F)
23. Where have you heard the term(s)? (Tick all that apply.)
- ☐ During pre-service training
 - ☐ During in-service training
 - ☐ Daily conversation with other teachers
 - ☐ Other (please specify)

24. Please describe features of these teaching methods.

25. How difficult is it to practice them?
- ☐ Very easy
 - ☐ Easy
 - ☐ Neither easy nor difficult
 - ☐ Difficult
 - ☐ Very difficult
26. What are the challenges to practice them if any?

F. Homework

27. How often do you usually assign homework to the students?

- ☐ I do not assign homework (Go to G)
- ☐ Less than once a week
- ☐ 1 or 2 times a week
- ☐ 3 or 4 times a week
- ☐ Everyday

28. When you assign homework, about how many minutes do you usually assign? (*Consider the time it would take an average student in your class.*)

- ☐ 15 minutes or less
- ☐ 16-30 minutes
- ☐ 31-60 minutes
- ☐ more than 60 minutes

29. How often do you do the following with the homework assignments?

	Always or almost always	Sometimes	Never or almost never
a) Correct assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Monitor whether or not the homework was completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Give feedback to students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Discuss the homework in class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing the questionnaire.

Appendix 5: Mathematics Exam

(1) $264 + 1615 =$ _____

(2) $307 \times 447 =$ _____

(3) $6969 \div 69 =$ _____

(4) $3\frac{1}{4} - 2\frac{1}{3} =$ _____

(5) $4\frac{5}{6} + 5\frac{1}{3} =$ _____

(6) $\frac{11}{12} \div 2\frac{3}{4} =$ _____

(7) $9.2 - 4.112 =$ _____

(8) $3.14 \times 1.1 =$ _____

(9) $3.6 \div 0.04 =$ _____

(10) Change $\frac{4}{25}$ into a percentage. _____

(11) Find the square root of 64. _____

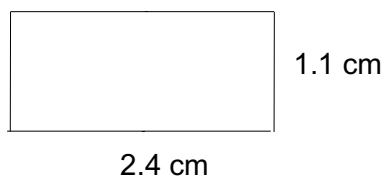
(12) $(-6) - (-10) =$ _____

(13) Find the value of y in the equation.

$4y + 11 = 27$ _____

(14) Simplify $12x^2y \div 4yx$ _____

(15) Find the area of the rectangle below.



(16) $(+20) \times (-5) =$ _____

(17) $(-36) \div (-3) =$ _____

(18) What is the radius of a circle whose diameter is 70cm? _____

- (19) Write eight million, forty-two thousand, five hundred and twenty-four in figures.

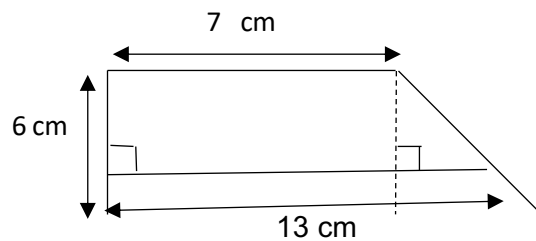
- (20) Asia had $23\frac{1}{4}$ kg of tea leaves. She packed it in $\frac{1}{4}$ kg packets. How many packets did she pack?

- (21) Write the next number in the sequence.

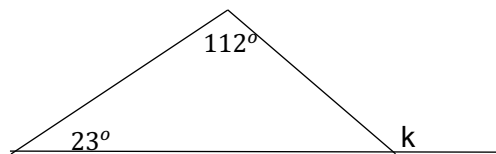
4, 9, 25, 36, _____

- (22) How many odd numbers are there between 30 and 42?

- (23) Find the area of the trapezium below.



- (24) Find the value of k.



- (25) Multiply 12kg 250g by 6.

Appendix 6: Process Issues of Case Selection

I employed slightly different procedures when selecting districts in Dar es Salaam and Kigoma. In the former region, where I conducted a pilot study and then the main study, I went to the education offices of all three districts within the region. I felt the need to familiarise myself with the selection procedure and to learn how the DEOs would select schools according to the initially-set three criteria (Section 4.3.2). Proximity between each district also made it possible to visit all the municipal councils in Dar es Salaam. On the other hand, in Kigoma with eight districts spreading all over the region, I chose prior to my arrival one urban district and one rural district located close to one another. This was due to time and cost constraints. Whereas all districts in Dar es Salaam have both urban and rural schools, the two selected districts in Kigoma are divided based on urban or rural area. Therefore all schools in one district were classified as urban schools, and all schools in the other were categorised as rural schools. Although district selection involved a slightly different process in the Dar es Salaam and Kigoma regions, I followed the same procedure to select schools in both regions.

From the lists of the schools that the DEOs in Dar es Salaam and Kigoma approved me to visit, I chose the schools that fit each category of the embedded-multiple case design (Table 4.1), including urban public, urban private, rural public and rural private. For instance, in one district of Dar es Salaam the DEO proposed six schools: Amani (urban public), another urban public school, Green (rural public), another rural public school, Highland (urban private) and Kawe (rural private). Highland and Kawe were chosen because they were the only private schools located in an urban or rural area. I selected Amani as it was the only high-LCP implementing public school according to the DEO. I chose Green among the two rural public schools due to its relative proximity to the ESRF compared to the other rural public school. The DEO agreed and gave me permission to carry out the research in the four schools. However, after visiting the four schools in this district of Dar es Salaam, the total number of pupils reached only 350. This required adding another one or two school(s) to obtain data from around 500 pupils in Dar es Salaam. This meant that I needed to go to another district in Dar es Salaam. From six schools in the list given by the DEO, I chose Mwenge (urban public), as it was a high-LCP implementing school. The literature suggests that Tanzania has not implemented LCP in the manner recommended by international bodies (Barrett, 2007; Vavrus & Bartlett, 2013). To find schools practising as high an LCP level as possible was crucial in order to include varied cases. Although this criterion was arbitrary, depending on the DEOs' subjective judgement, it was the only source of information regarding the LCP level.

In one of the districts of Kigoma, the two private schools (St. John and Islamia) granted were both visited because they were the only two private schools permitted for my visits in this district. Kwanza and Umoja Schools were chosen on the basis of high and low LCP implementation respectively. The other district in the Kigoma region had no private schools with Standard 6. There were only two private schools in this district, both of which were newly built and had grades lower than Standard 6. In addition, the DEO there did not have any idea concerning the level of LCP implementation in schools. I alternatively asked about the performance level, as it was the dependent variable I was looking for. I chose Baraka and Kisutsu to balance the performance level and for their proximity to the city centre. Bunge and Siha were added later to accomplish the pupil sample size of 500 in the Kigoma region.

Appendix 7: Structured Observation Protocol

Activities / Time (min)		0:00-0:29	0:30-0:59	1:00-1:29	1:30-1:59	2:00-2:29	2:30-2:59	3:00-3:29
LCP	Individualised activity (Frost & Little, 2014)							
	Group work (Frost & Little, 2014; Ackers & Hardman, 2001)							
	Pupil demonstration (Ackers & Hardman, 2001)							
	Learner-initiated Q&A (Hardman et al., 2008; Pontefract & Hardman, 2005)							
TCP	Watching/listening (Frost & Little, 2014)							
	Taking notes (Frost & Little, 2014)							
	Reading aloud (Ackers & Hardman, 2001)							
	Writing exercise (Ackers & Hardman, 2001)							
	Teacher-initiated Q&A (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001)							
Off-task	Teacher management (Frost & Little, 2014)							
	Transition (Ngware et al., 2012)							
	Pupil uninvolved (Frost & Little, 2014)							

* The minutes continue for 60 minutes.

Appendix 8: Definitions of Activities

Types of activities		Description
Learner-centred pedagogy (LCP)	Individualised activity (Frost & Little, 2014)	Each or pupil or group of pupils engages in different activities depending on their interests, abilities and experiences.
	Group work (Frost & Little, 2014; Ackers & Hardman, 2001)	Pupils discuss or work with peers to solve problems.
	Pupil demonstration (Ackers & Hardman, 2001)	Pupil(s) showing that something exists. A pupil explains his/her work to class.
	Learner-initiated Q&A (Hardman et al., 2008; Pontefract & Hardman, 2005)	Pupils ask questions; Pupils answer questions initiated by another pupil.
Teacher-centred pedagogy (TCP)	Watching/listening (Frost & Little, 2014)	Pupils listen to teacher's lecture and/or watch what teacher does.
	Taking notes (Frost & Little, 2014)	Pupils copy what teacher writes on blackboard.
	Reading aloud (Ackers & Hardman, 2001)	Pupil(s) read from a textbook or the blackboard to the whole class.
	Writing exercise (Ackers & Hardman, 2001)	Pupils work on writing exercises from the blackboard or textbooks individually.
	Teacher-initiated Q&A (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001)	Teachers ask questions of the whole class, to which an individual pupil is expected to give an answer.
Off-task	Teacher management (Frost & Little, 2014)	Time spent on class administration not related to task or learning contents.
	Transition (Ngware et al., 2012)	Pupils prepare for next task.
	Pupil uninvolved (Frost & Little, 2014)	Pupils are not engaged in on-task activities (e.g. waiting for teacher direction, talking with each other).

Appendix 9: Interaction Codebook

Interaction categories				Counts of interactions	Total counts	Percentage	
						Small category	All
Initiation (Flanders, 1970)	Teacher	Teacher question (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001) Giving directions (Hardman et al., 2008; Ackers & Hardman, 2001) Cued elicitation (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001) Checking (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001)	Open Closed				
	Pupil	B question (Hardman et al., 2008) G question (Hardman et al., 2008) B initiate talk (Hardman et al., 2008) G initiate talk (Hardman et al., 2008)					
	Teacher	T answer (Ackers & Hardman, 2001)					

Response (Flanders, 1970)	Pupil	<p>B answer (Hardman et al., 2008; Ackers & Hardman, 2001)</p> <p>G answer (Hardman et al., 2008; Ackers & Hardman, 2001)</p> <p>Whole-class response (Hardman et al., 2008; Pontefract & Hardman, 2005)</p> <p>Whole-class chanting (Frost & Little, 2014)</p>				
Feedback	Teacher	<p>Very encouraging (Ngware et al., 2012)</p> <p>Encouraging (Ngware et al., 2012)</p> <p>Neutral (Ngware et al., 2012)</p> <p>Discouraging (Ngware et al., 2012)</p> <p>Very discouraging (Ngware et al., 2012)</p>				

Appendix 10: Definitions of Interactions

Teacher initiation (Flanders, 1970)	Teacher question (closed or opened) (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001)	The teacher asks questions with the proviso that pupils will answer. Closed-ended questions are those where the teacher accepts a single answer, requiring pupils to recall facts. The question 'is she/he right?' falls into this category, because the teacher would not expect a pre-determined answer but simply asks what pupils think. Open-ended questions are those by which the teacher accepts more than one answer.
	Giving directions (Hardman et al., 2008; Ackers & Hardman, 2001)	The teacher gives directions, commands or orders, which the pupils are expected to follow. Rate as 'teacher question (closed or open)' if the teacher's intention is to ask questions, even if teacher speaks in the form of giving direction (i.e. ordering) or a statement.
	Cued elicitation (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001)	The teacher tries to elicit a response from the pupils in the form of a repetition or completion of a phrase or word. When an incomplete sentence ends with WH form, it is counted as 'cued elicitation', because the teacher would expect the pupils to complete the sentence.
	Checking (Hardman et al., 2008; Pontefract & Hardman, 2005; Ackers & Hardman, 2001)	The teacher asks whether the pupils understand content. Rather than a genuine check, it usually comprises 'pseudo-checking', where the teacher expects only affirmative answers.
Pupil initiation (Flanders, 1970)	Pupil question (Hardman et al., 2008)	The pupils ask questions either of the teacher or other pupils. Recorded by gender. For instance, when a pupil is demonstrating work in front of the blackboard and asks questions to the class, rate as 'B question' or 'G question'.
	Pupil initiating talk (Hardman et al., 2008)	The pupils express their own ideas or initiate a new topic. There is a sense of freedom to develop opinions and a line of thought. Recorded by gender.
Teacher response (Flanders, 1970)	Teacher answer (Ackers & Hardman, 2001)	The teacher answers a question raised by a pupil.
Pupil response (Flanders, 1970)	Pupil answer (Hardman et al., 2008; Ackers & Hardman, 2001)	One pupil answers a question. Recorded by gender. Count as pupil answer when a pupil is demonstrating his/her work.
	Whole-class response (Hardman et al., 2008; Pontefract & Hardman, 2005)	All or some pupils recite the same answer in response to the teacher's question or cued elicitation. Mostly, this takes the form of a repetition or completion of a phrase or word.

	Whole-class chanting (Frost & Little, 2014)	All or some pupils sing or clap together, mostly to praise other pupils.
Teacher feedback	Very encouraging (praise) (Ngware et al., 2012)	The teacher praises a pupil's response in words (e.g. very good, well done). The teacher tells other pupils to congratulate the pupil, mostly in the form of singing.
	Encouraging (affirmation) (Ngware et al., 2012)	The teacher simply affirms the answer (e.g. good, OK, that's it, fine, correct, right, yes, try again, thank you, thank you very much). This category includes 'no, thank you'.
	Neutral (Ngware et al., 2012)	The teacher probes or gives an answer. The teacher may repeat what is stated by pupils, or ask pupils to answer again (e.g. Eh? Pardon? Yes?). If the teacher asks a further question in response to the pupil's answer, it is rated as an open or closed question in the 'initiation' category.
	Discouraging (no reaction) (Ngware et al., 2012)	The teacher does not give any response to a pupil, and proceeds to another issue or task, or to ask another pupil to respond to the same question.
	Very discouraging (Ngware et al., 2012)	The teacher gives very discouraging response (e.g. incorrect, no, wrong).

Appendix 11: Classroom Resource Check Sheet

Region	District	Subject	School	Class	Teacher
_____	_____	_____	_____	_____	_____
Number of pupils		Girls: _____			
		Boys: _____			
Number of textbooks		_____			
Number of desks		_____			
Number of chairs		_____			
Seating arrangement		<input type="checkbox"/> Sitting in rows <input type="checkbox"/> Flexible to move <input type="checkbox"/> Sitting in groups all the time			
On wall (<i>tick all that apply</i>)		<input type="checkbox"/> Pupils' work <input type="checkbox"/> Teaching materials <input type="checkbox"/> Other (specify) _____			
Facilities		<input type="checkbox"/> A usable writing board <input type="checkbox"/> Chalk <input type="checkbox"/> Bookshelve(s) <input type="checkbox"/> A teacher table <input type="checkbox"/> A teacher chair			

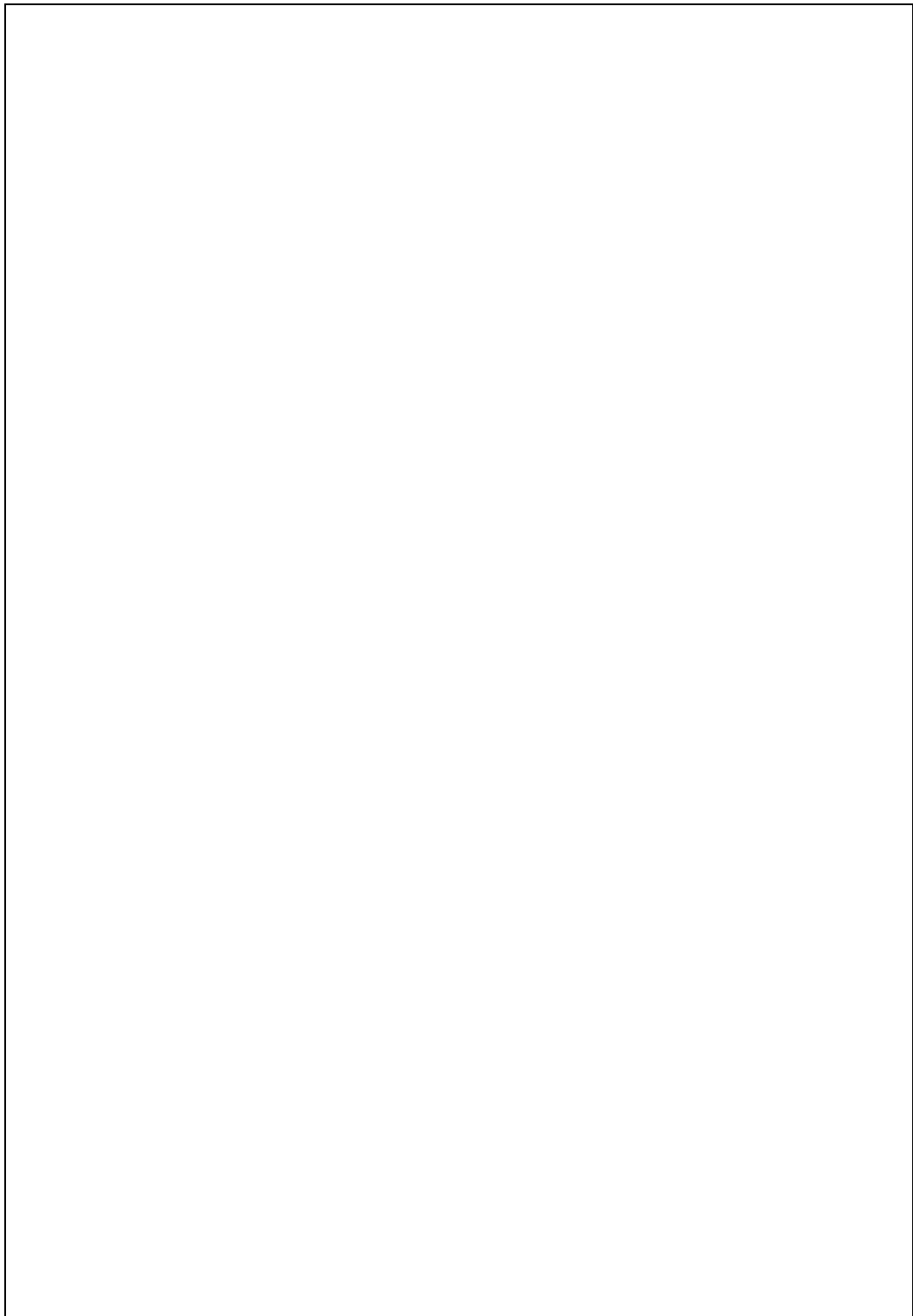
Diagram of classroom layout

Where appropriate, indicate where the girls and boys are seated.

Teacher: T

Girl: G

Boy: B



Appendix 12: Teacher Interview Schedule

[Introduction]

Thank you for your time and participation in this interview. Through the interview, I would like to know how you think about your job and about Tanzanian society. There are no right or wrong answers, so please tell me your views as honestly as possible. I will not share your responses with anybody – including other teachers or the head teacher at this school. I appreciate if you tell me your honest views.

The interview will take about 20 to 30 minutes. Before beginning the interview, may I ask if I could record the interview with this voice recorder?

Do you have any question before we begin? Ok, let's begin.

*** Recording begins ***

A. Questions about Teaching Practices

1. Can you first tell me how you usually teach your lesson? Please describe your everyday lesson from the beginning. (Probe on the flow of interviewee's teaching.)
2. You mentioned in the questionnaire that you have heard about _____. Can you explain your understanding of _____. (Probe until topic is exhausted.)
3. Is it easy for you to practice the teaching method in your lesson? (Ask in relation to all strategies mentioned in 2.)
 - If yes, what and how do you do it? Why do you think it is easy?
 - If no, what are the barriers to practice the good teaching?
4. Are there any learning activities that you would like to do in your lesson but cannot implement for some reason? What are they? Why is it difficult to do?
5. How do you usually interact with pupils? (Probe this and direct to topics on teacher–pupil power relationships. Ask whether pupils should respect and obey teachers.)
6. Do you talk with your pupils outside of the classes? What do you typically talk about?
7. Does your school work with parents and/or community in some way?
 - If yes, in what aspect(s) of school activities they are involved in? Is there any parental organisation?
 - If no, do you think it is important to work with them, or do you think it is not necessary? (If important, is there any concern/difficulty to work with parents?)

B. Questions about Social Aspects of Tanzania

Now I would like to shift a topic slightly and ask about social aspects of Tanzania.

8. Do you think Tanzanian society in general is socially cohesive? In other words, do you think ties/relationship among people are strong?
Could you give me any specific examples?
(Probe this and ask examples in relation to interviewee's everyday life – relationships with family members, friends, and colleagues.)
9. Do you think Tanzania is generally an equal society?
In what aspects of your daily life do you feel that way?
(Probe until topic is exhausted.)
10. I understand that in Tanzania, younger people have to respect and honour older people. Is this true at school as well?
Considering this culture of Tanzania, do you think teachers and pupils can have equal rights?
11. Have you heard the name Julius Nyerere?
 - If yes, what do you know about him? What is your understanding of Nyerere's idea?
Do you think Nyerere's ideas still exist in today's society? In what aspect do you see the ideas? (Probe this on ideas around *ujamaa* (i.e., social cohesion, equal society, active participation of citizens in nation building).)
 - If no, probe and move on to the end.
12. Do you think Nyerere's ideas you were talking about are reflected at school?
 - If yes, how are they reflected? When or in which aspects do you think XXX is present at your school? (Ask in relation to key phrases identified in 11.)
 - If no, probe and move on to ending remarks.
13. Do you think these ideas affect your teaching practice? How do you think so?
(Probe until topic exhausted.)

We are now close to the end of the interview. Do you have anything that you would like to add or any questions you would like to ask? Thank you very much for your contribution to the interview. This was a very successful discussion and your honest and forthright responses will be an enormous asset to the research.

*** Recording ends ***

Appendix 13: Topic Guide for Focus Group Discussions with Pupils

[Introduction]

Welcome and thank you for taking part in this focus group discussion. Through the discussion, I'd like to find out how you spend time at school and at home. This discussion is not a test, and there are no right or wrong answers, so please feel free to express your views.

There are some rules that I would like you to follow during the discussion. You may answer to my question whenever you want to say something. However, please do not speak while your friend is talking. Also, you do not need to agree with other people; I appreciate more if you tell me your own point of view.

I will not share your responses with anybody – including your teachers or your parents. The discussion will take about 20 to 30 minutes. Before beginning the interview, may I ask if I could record the interview with this voice recorder?

Do you have any question before we begin? Ok, let's begin.

*** Recording begins ***

A. Questions about School Experiences

1. First, I want to know your experience in activities. What do you like the most about lessons? In other words, what kind of classroom activities do you like the best?
(Allow free discussion first, and then direct topic to classroom activities during lessons. Ask what kind of classroom activities pupils enjoy.)
2. Then, what do you like the least about lessons? What kind of lesson activities do you dislike?
(Allow free discussion first, and then direct topic to classroom activities during lessons. Ask what kind of classroom activities pupils do not enjoy.)
3. Imagine, if you could change one thing about your class, what would you like to change?
(Follow up by asking reasons.)
4. About relationships with your teachers, do you always follow what he or she says? Or do you sometimes tell him/her your opinions and try to propose alternatives?
(Probe for reasons that reflect pupil perspectives on power relationships with their teachers.)

B. Questions about Social Relationships

Now I would like to change the topic a little and ask about your family life.

5. At home, what kind of things do you talk with your parents and siblings?
(Open up a conversation about family relationships. Probe on how they interact with their family members.)
6. When you discuss family matters and make decisions about something with your parents, do you express what you think to your parents? If so, do they take into account of your views?
7. With your older or younger siblings, do you share various things – such as foods, toys, books, etc. – equally? Or do any of you usually get more or less?

[Wrap-up]

We are now close to the end of the focus group discussion. Thank you very much for your contribution to the discussion. Is there anything that you want add or ask questions? This was a very successful discussion and your honest and forthright responses will be an enormous asset to the research. Again, I very much appreciate your involvement.

*** Recording ends ***

Appendix 14: Head Teacher Questionnaire

Nozomi Sakata's PhD Research on Learner-Centred Pedagogy

School Questionnaire

This questionnaire asks about head teachers' academic and professional backgrounds, structure and organisation of schools, the school's resources, the school climate, and the school's policies and practices. Your responses are very important to help better understand conditions of primary schools in Tanzania.

The questionnaire should be completed by the school head or their designee. For some questions, specific expertise may be needed. You may consult experts to help you answer these questions. If you do not know an answer, your best estimate will be adequate for the purpose of the study. The questionnaire should take about 30 minutes to complete.

Your answers will be combined with answers from other schools to calculate totals and averages. All information you provide may only be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose.

Thank you for your time and effort to complete this questionnaire.

For researcher's use:

Region District School

A. About You

1. Are you female or male? ☐ Female
☐ Male
2. How old are you? ☐ Under 35 years old
☐ 36 – 40 years old
☐ 41 – 45 years old
☐ 45 – 50 years old
☐ Over 50 years old
3. Which language do you usually speak at home? ☐ Swahili
☐ English
☐ Other (please specify) _____
4. How many years in total have you taught at schools in your teaching career? _____ years
5. How many years have you been the head teacher in your career? _____ years
6. What is your highest education level? ☐ Primary level
☐ Secondary O-level
☐ Secondary A-level
☐ 3-year university level
☐ Other (please specify) _____
7. Which teaching qualification do you have? ☐ Certification
☐ Diploma
☐ Degree
☐ None of the above
8. How many years of pre-service teacher training did you complete? _____ years
9. Approximately how many days in a year do you receive in-service training? _____ days
10. Have you received any training specifically targeted at head teachers? ☐ Yes
☐ No (go to B)

B. About Your School

11. How many female and male pupils are enrolled in this school?
Female: _____ pupils
Male: _____ pupils
12. How many female and male teachers work in this school?
Female: _____ teachers
Male: _____ teachers
13. What is the average teacher–pupil ratio of Grade 6 classes?
Teacher : Pupil = _____ : _____
14. How many pupils graduated from your school in the past three years?
2012: _____ pupils
2013: _____ pupils
2014: _____ pupils
15. How many pupils enter to secondary school in the past three years?
2012: _____ pupils
2013: _____ pupils
2014: _____ pupils

16. Which of the following facilities does your school have? (Tick all that apply.)

- ☐ Piped water
- ☐ Electricity
- ☐ Library
- ☐ Science laboratory
- ☐ Staff room
- ☐ Playground
- ☐ School garden
- ☐ Telephone
- ☐ Photocopier

17. How many computers does your school have? _____ computers

18. How many toilets are available for female and male pupils? Girls: _____

Boys: _____

For both sexes: _____

19. Approximately how many books does your school library have?
- ☐ 50 or less
 - ☐ 51 – 100
 - ☐ 101 – 300
 - ☐ 301 – 500
 - ☐ More than 500

20. In your current school, what is the condition of the following facilities?

	Need no repair	Need minor repair	Need major repair	Need rebuilding
a) Overall school buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Classrooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. Does your school have working student government? ☐ Yes
☐ No

C. About School Climate

22. How would you characterise each of the following within your school?

	Very high	High	Medium	Low	Very low
a) Teachers' job satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Teachers' understanding of the school's curricular goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Teachers' degree of success in implementing the school's curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Teachers' expectations for student achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Parental support for student achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Parental involvement in school activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Students' desire to do well in school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. How often do teachers at your school have the following types of interactions with other teachers?

	Never	2 or 3 times per month	1-3 times per week	Daily
a) Discuss how to teach a particular topic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Collaborate in planning and preparing instructional materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Share what teachers have learned about their teaching experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Visit another classroom to learn more about teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Work together to try out new ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. To what degree is each of the following a problem among pupils in your school?

	Not a problem	Minor problem	Moderate problem	Serious problem
a) Arriving late at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Absenteeism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Classroom disturbance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Cheating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Verbal abuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Vandalism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Theft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Fights with other pupils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Health problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. To what degree is each of the following a problem among teachers in your school?

	Not a problem	Minor problem	Moderate problem	Serious problem
a) Arriving late at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Absenteeism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Intimidation against pupils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Sexual harassment against teachers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Sexual harassment against pupils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Verbal abuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Health problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. To what degree do you agree with each statement?

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) Every teacher has at least one training each year to learn new teaching methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Students are encouraged to ask questions in the classroom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Students work on projects for and with their local community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) The students' work is regularly put on display.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Teachers try to use learner-centred methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Teachers have appropriate work and living facilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Teachers regularly prepare their lesson plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Teachers encourage and promote cooperative and hands-on learning (learning by doing).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Your school regularly sends news of school activities to parents and school committee members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. About Teaching Method

27. Have you heard of the following terms? (*Tick all that apply.*)

- ☐ Learner-centred method
- ☐ Child-centred method
- ☐ Participatory method
- ☐ Synonyms of these (please specify)

- ☐ No

28. Please describe features of these teaching methods.

29. Does your school provide in-service training on these methods?

- ☐ Yes
- ☐ No

30. If yes, how many training have you provided in the last 3 years?

_____ times

Thank you for completing the questionnaire.

Appendix 15: Informed Consent for Schools

Date

Head Teacher of XX School

RE: **Permission to Conduct Research Study**

I am writing to request permission to conduct a research study at your school. I am currently enrolled in a PhD program at UCL Institute of Education, University College London in Great Britain, and am supervised by Professor Moses Oketch. I am in the process of writing my doctoral thesis entitled “**Learner-centred pedagogy (LCP) in Tanzanian primary schools: A multilevel policy implementation analysis to investigate LCP’s effectiveness on pupil learning experiences and performance**”, for which this fieldwork forms a major component.

The purpose of the study is to examine how Tanzanian primary schools are implementing LCP, and how LCP might be associated with pupil learning experiences and performance. I hope to conduct my research at your school. Data collection technique will involve: school questionnaire; lesson observations; teacher questionnaire; teacher interviews; pupil exam and questionnaire; and pupil focus group discussions.

If approval is granted, I would first like to ask head teachers to fill out an 8-page questionnaire to investigate school climate and resource availability in this school and classrooms. I would then like to observe two English and two math classes of Grade 6. During the observations, I would wish to record the classes with a video camera, as well as to take notes focusing on pupil activities and pupil–teacher interactions. After the class, I will ask the observed teachers to anonymously complete a 9-page questionnaire, which asks their socioeconomic background, teaching experience, and views toward their own teaching practice. I will also invite them to 30-minute interviews to investigate their understanding of J. K. Nyerere’s philosophy and that of LCP. I would like to audio-record the interviews, for which I will seek the teachers’ permission beforehand.

At a convenient time, I would like to distribute to pupils an 11-page booklet that contains (1) English or math test, and (2) a questionnaire. The questionnaire asks the pupils’ socioeconomic status, their perception of classroom activities, and their learning motivation. The whole booklet will take approximately 60 minutes to complete. Finally, I will invite three girls and three boys in each class to focus group discussions on a voluntary basis. The discussion aims to observe how the pupils interact with each other and communicate with me. It will take approximately 30 minutes. The questions to be addressed include their most and least favourite aspects of the classes, and how they communicate with their parents outside school.

The identities and research records of the teachers and pupils will remain absolutely confidential and anonymous. In my thesis, pseudonyms will be used for the name of the participants as well as the school. The obtained data will not be used for any purpose other than my study, and will be destroyed once I complete and defend my research. If there is the need to store any of them, obviously identifying descriptions will be removed.

Your approval to conduct this study will be greatly appreciated. I would be happy to answer any questions or concerns that you may have. You may contact me by phone

(****-***-****) or email (*****), or you may contact Professor Moses Oketch ****-
-, *****).

If you agree, kindly sign below and return the signed form in the enclosed self-addressed envelope.

Sincerely,

Nozomi Sakata
Doctoral Student
UCL Institute of Education, University College London

Approved by:

Printed Name

Title

Signature

Date

Appendix 16: Informed Consent for Teachers

CONSENT TO PARTICIPATE IN RESEARCH

Learner-Centred Pedagogy (LCP) in Tanzania: LCP's Effectiveness on Pupil Learning Experiences and Performance

You are being asked to participate in a research study conducted by Nozomi Sakata under the supervision of Professor Moses Oketch, from the Department of Humanities and Social Sciences at UCL Institute of Education, University College London in Great Britain. The study is conducted as part of doctoral research. Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate.

PURPOSE OF THE STUDY

The purpose of the study is to investigate how Tanzanian primary schools are implementing a teaching method called learner-centred pedagogy, and how this method might be associated with pupil learning experiences and performance.

PROCEDURES

If you volunteer to participate in this study, the study will take the following procedure:

First, your class will be observed, and if you agree, the classes will be recorded with a video camera. I will sit at the back of the classroom, and take notes on what kind of activities the pupils engage in, and how you and the pupils interact with each other. The video camera will be set at the back of the classroom. If you do not wish to be recorded, I will turn the video off.

After the class, you will be asked to anonymously complete a 9-page survey about your background and your view on teaching practice. It will take about 20 minutes to complete. Finally, you will be invited to participate in an interview for approximately 30 minutes. I will ask about how you understand philosophy of J. K. Nyerere and learner-centred teaching method. If you agree, the interview will be audio-recorded with a voice recorder.

Throughout your participation, my research assistant will translate English and Swahili if necessary.

POTENTIAL RISKS AND DISCOMFORTS

During lesson observations, you might feel stress to be monitored. You may request me not to observe or turn off the video camera at any time during the observation. The survey and/or interview question(s) may cause you to feel discomfort. When this happens, you can skip or choose not to answer the question(s).

You might also worry whether your lessons and/or responses in the survey and interview are shared with the head teacher, other teachers, or regional/district education officers. However, information will not be released to any other party for any reason, and only the research assistant and I will use the information for data analysis purpose.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

You will not benefit directly from participation. However, the study potentially benefits wider society to improve education quality in Tanzania.

CONFIDENTIALITY

Any information that is obtained in this study and that can be identified with you will remain confidential. When this study is documented, any individually identifiable information will remain anonymised, and pseudonyms will be used to describe your lessons and responses.

The video and audio data from observations and interviews will be kept in an institutional hard drive at UCL Institute of education, to which only I can access. Research assistant(s) may access the audio- and video-recorded data at the analysis stage, but only if they agree to protect your confidentiality in a written form. The obtained data will not be used for any purpose other than my study, and will be destroyed once I complete and defend my research.

PARTICIPATION AND WITHDRAWAL

You can choose whether or not to be in this study. If you volunteer to be in the study, you may withdraw at any time without consequences of any kind or loss of benefits to which you are otherwise entitled. You may also refuse to answer any questions you do not want to answer.

If you agree, kindly sign below.

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Printed Name of Subject

Signature of Subject

Date

Appendix 17: Excerpts from School Case Studies

1 Amani School (Urban Public)

The concrete gate of Amani School was unreservedly open. As soon as I entered its compound, well-maintained trees caught my eye. Several potted plants and flowers enclosed the trees. Together they made up a mini garden, surrounded by colourfully painted fences. Next to the gate was the head teacher's office with a computer. Built in 2002 in the heart of Dar es Salaam, the buildings were carefully maintained with only minor repair needed. The head teacher's response in the questionnaire indicated that the school was the best facilitated of the public schools visited in this study. Of the nine facilities asked about (Appendix 8), Amani lacked only a library, a science laboratory and a photocopier. It also accommodated one computer, a rare case in a public school. A little over 900 pupils studied there, taught by 30 teachers. For three years from 2012, around 95% of the pupils progressed to secondary school on average, the second highest percentage among the researched public schools.

Juma's English Class (Stream A)

The English teacher Juma taught an equal number of male and female pupils, totalling close to 50. The classroom was packed with the pupils, and the 24 sets of desks and chairs were filled up with them. One light bulb hung down from the wooden roof; but the sunlight from the window made the room light so that Juma did not need to turn on the electrical light.

Juma started his lesson by introducing the topic of the English phrases 'so...that...', 'too...to...', and 'enough...to...'. The pupils sometimes took part in his explanation by completing Juma's sentences:

- | | |
|-------------|---|
| Juma: | Maybe you are given examples like, a sentence like 'John is clever'. Because of his being clever, he, this is John, cannot fail. John is? |
| All pupils: | Clever. |
| Juma: | He cannot? |
| All pupils: | Fail. |
| Juma: | These are two sentences. This one sentence, and this is the other sentence. |

The pupils knew when to speak because of Juma's rising intonation. After such interactions with the whole class lasting for five minutes, the teacher pointed at a small boy sitting in the front row. The teacher asked him his name, and urged the class to agree that the pupil was short. This prompted Juma to make a sentence using a phrase, 'He is too short to touch the ceiling'. The class verbally repeated the example several times.

In the middle of the lesson, Juma directed the pupils to form small groups. They were expected to join two sentences into one by using the phrases 'so...that...' or 'too...to'. For instance, Juma wrote two short sentences: 'Asha is very young' and 'She cannot walk alone'. The task was to produce one sentence using the designated phrases, 'Asha is too young to walk alone'. Yet, it was apparent that the pupils forming groups were confused about when and how to discuss. Juma instructed them to *quietly* read the sentences he drew on the blackboard. While the teacher was writing them on the board, some pupils took notes whereas others were barely engaged with any task. Few verbal discussions took place. After finishing writing down the four sentences, Juma asked one group to answer the first problem, assuming that they had already prepared their answer. The group was not ready. He looked a little embarrassed but moved to another group to answer his question. A female pupil gave a correct answer, but she presented on behalf of herself and not her group. Juma continued to call on two other pupils, each of whom correctly answered. The teacher directed the whole class to give these pupils a clap. Everyone in unison tapped their hands three times. After around fifteen minutes of such interactions, the teacher ended his class with a writing exercise. Juma copied questions from his textbook, and the pupils wrote down their answers in their exercise books until the time had come to end the lesson.

Aisha's Mathematics Class (Stream B)

One of the two female teachers observed, Aisha had taught for 30 years. She had around 50 pupils, two-thirds of whom were male. The classroom felt spacious enough for the number of pupils. There were 27 desks and chairs for a few pupils to sit together, three of which were left empty. The sunlight shone in through crevices in a galvanised sheet iron roof, held up by wooden pillars.

The observed lesson was a repetition of fractional calculus conducted in Kiswahili. Before the lesson, Aisha arranged the pupils into groups of five to seven so that they faced each other. The greetings with stand-up and sit-down followed. The teacher first called on three male pupils from different groups and told them to recite a multiplication table. She then introduced the lesson topic to review how to calculate fractions. Through individual Q&A the class went over the process of changing mixed fractions into improper fractions. Aisha posed questions at a quick tempo, to which the pupils seemed to pay attention as they tried to keep up with her fast pace.

The teacher transitioned to a group activity. However, it felt as if it was 'a pretend group discussion' without much exchange of ideas. Aisha told the pupils to solve maths problems on a piece of paper, but strongly admonished them not to speak loudly. She uttered phrases like 'shut up!' and 'hurry up!'. This meant that the pupils whispered during the group work. Groups which completed the task called Aisha, who came to the table to mark the answers.

After the group work followed a writing exercise. The teacher wrote down five questions on the blackboard. Aisha told them to stay in groups during the exercise, but the pupils hardly interacted with each other and independently worked on the questions. More than half of the class time, or about 20 minutes, was spent on this activity. Those who finished the exercise brought their notebooks to Aisha sitting in front; then the pupils became free to take a break.

2 Mwenge School (Urban Public)

Mwenge School in Dar es Salaam has a long history from its inception. The British Government established the school a decade before independence. It used to aim to educate African pupils as government servants and other white-collar workers, who could deliver and implement colonial policies. The historical legacy has remained; the head teacher reported that many parents of the pupils had white-collar jobs and seriously cared about the education of their children.

Albeit without any security personnel, a concrete wall and gate hid the school completely from the outside. This was uncommon at a public school; the gate at Amani was unreservedly open, and other public schools did not have any. Nonetheless, one push of the heavy gate easily opened it. As soon as I stepped into the school, a vast compound and well-painted buildings spread out in front me. Some classrooms were painted with animals, others decorated colourfully. School gardens scattered around the playground contained blooming flowers and garden plants in good shape. Mwenge also had a few water tanks visible in the playground. These views gave me an impression of affluence and adequacy as a public school. Responses to the head teacher questionnaire confirmed my impression. The school had five facilities out of the nine enquired about. It even had a counselling room. In the semi-structured interviews, both the English and the mathematics teachers mentioned that the pupils could discuss their personal problems with a specialist counsellor. With the relatively adequate equipment, the school accommodated the largest number of pupils, around 1,800, with an almost equal gender balance. Forty-five teachers looked after them. The transition rate to secondary education resembled Amani School with approximately 97% over the past three years.

Jamba's English Class (Stream A)

Holding a university degree, Jamba was almost fluent in English. Close to sixty pupils used 25 connected desks and chairs together, mostly with those of the same gender. An extra nine sets of desks and chairs at the back were left empty. Under the natural sunlight from the window, the pupils were quietly waiting for Jamba's lesson to begin.

After introducing the lesson topic of simple present tense, Jamba asked the class to explain its usage. A boy responded, and the teacher repeated and expanded as shown below:

- Jamba: That is happening every day, every time, every month, always. We do...we repeat every day. We use simple?
- Jamba & all pupils: Present.
- Jamba: For example, we mainly use I...
- Jamba & all pupils: Me, you, they, she, he, it.
- All pupils: We show a usage of simple?
- Jamba & all pupils: Present.

From Jamba's intonation and pitch, the pupils were aware of what to do – to continue Jamba's sentence. In the next chunk of interaction Jamba used the same verbal cues. The pupils replied appropriately as a whole class, which seemed to be the usual and natural manner. However, Jamba denied their response and unexpectedly sought individual answers:

- Jamba: When we use simple present, word changes. For example, if I use a word 'go', I, the first person, singular 'I, we, you, they', the word doesn't...does...the word change or remain infinity?
- All pupils: Infinity.
- Jamba: Oh, no no no no, I don't like general answer. I want someone to stand up and speak. What do you know the...about the changes here? Does it change or remain infinity? Anyone? Try.

Some pupils timidly raised their hands, and a girl answered, 'Infinity'. This communication sounded like the teacher was forcing the pupils to interact with him individually rather than using one-to-mass communication which appeared to be common in everyday lessons. This indicated that my presence may have affected how Jamba acted.

Jamba then sought for adverbial expressions used with the simple present. Words like 'normally', 'always' and 'sometimes' were heard from the floor. The class reviewed the change of verb forms, such that 'go' becomes 'goes'. Another occasion where Jamba implemented a seemingly-unexpected activity happened. The pupils looked blank:

- Jamba: Can anyone construct a sentence by using this 'watch'?
- Some pupils: Yes.
- Jamba: Try. [Silence of a few seconds.] In your groups, in your groups. Let's construct a sentence by using what?
- Jamba & a few pupils: Watch.
- Jamba: Okay, you may collaborate. This desk and this one, and this desk and that one.

The pupils followed Jamba's order, moving around and facing each other, but rather awkwardly. The teacher emphasised that, 'You have to cooperate. Everybody must...must participate. This is the group work'. Groups of four to five pupils discussed and constructed sentences using 'watches' and 'catches' for approximately five minutes. Pupil demonstration followed. Two groups presented their sentences on the blackboard, after which Jamba asked the class whether the answer was correct. Some pupils said 'yes' while others uttered 'no'. The teacher picked up on those who responded negatively and inquired of them the reason for the mistake, but because they could not answer, Jamba ended up explaining the reason himself.

After the pupil demonstration, Jamba introduced a new verb form ending in 'y'. He explained how verbs like 'fly' and 'cry' change into 'flies' and 'cries' through individual Q&A. To conclude the lesson, Jamba asked a few pupils to demonstrate other sentences with the simple present tense. One boy gave an example, 'I catch a thief stealing apple always'. Jamba explained the awkwardness of the sentence, pointing out that he could not catch a thief whenever he went to town. With this explanation the class ended.

Chane's Mathematics Class (Stream B)

Chane, a maths teacher at Mwenge, taught a total of 80 pupils in a classroom with a high ceiling but no electric light. Two to four pupils shared 48 desks as they sat in rows. Chane dealt with how to read points on coordinate geometry. He spent the first ten minutes reviewing related concepts. Through a mixture of Q&A and pupil demonstration, the pupils showed their understanding of X and Y axes as well as the positive and negative quadrants. Whenever they answered correctly, the class congratulated them with chants and claps. Even if a pupil gave a wrong answer, Chane appreciated the pupil's endeavour by saying 'good trial' and told the whole-class to congratulate the pupil.

The next activity involved another Q&A. Chane brought out a flip chart on which a coordinate and five dots were drawn. The teacher asked the class how to read a point on the coordinate. He then appointed several pupils to read the points. A few gave incorrect answers, but Chane followed with a compliment by saying, 'Okay, good trial. Maybe another one can help her'.

After 20 minutes of Q&A, Chane arranged the pupils into groups, telling them to draw some coordinate geometry on their notebooks. He wrote on the blackboard seven sets of X and Y, like '(4, 2)'. While discussing how to express the points in groups, the pupils drew a coordinate on their notebooks and put the dots on it. During the activity Chane circulated the room and checked their work, taking time to communicate with each group and explain the process for solving the questions. A little more than ten minutes of small-group discussion was followed by group presentation.

Representatives from five groups demonstrated their work while the rest of the class was listening. The following interaction shows an example presentation:

Girl: A, we have got positive four.
Chane: Where do you get positive four? Where do you get positive four? At which axis?
Girl: X.
Chane: Okay, X axis. Is it right?
Girl: Y is positive two.
Chane: Is she right or wrong?
All pupils: She is right.
Chane: Okay, proceed.
Girl: B... B, we get positive two at X axis, and we've got negative four at Y.

After each presentation, the teacher got all the pupils to congratulate the presenter. Chane ended the lesson by asking for questions from the floor. Nobody asked questions but replied that they understood the topic.

3 Umoja School (Urban Public)

Since before independence, Umoja School has had repeated mergers and separations with adjacent primary schools in Kigoma. Two schools – one built by parents and the other by the then British colonial government – used to adjoin each other. The independent government combined them into one, but the 2003 decentralisation of education divided it again into four. Umoja was one of them.

The school faced the major roads in the district. Without any gate or fence, children running around the playground were fully exposed to be viewed from the road. Dissimilar to the school condition of the two urban public schools presented above, Umoja had only piped water and a staff room out of the nine categories of school facilities asked about in the head teacher questionnaire. The number of latrines at eight was also the smallest among urban public schools. It accommodated roughly 600 pupils, taken care of by 18 teachers. For the past three years from 2012 to 2014, little more than 61% of the graduates went onto secondary schools.

Nyo's Mathematics Class

A maths teacher with 25 years of teaching experience, Nyo was one of the oldest teachers and had lived through Nyerere's presidency. His lesson was on calculating cubic volume with over 70 pupils. They filled the 23 sets of connected desks and chairs, facing the chalkboard throughout the lesson. Sunshine from the windows and open door acted as the light. In dead silence Nyo started drawing a cube on the blackboard. The pupils were carefully watching the teacher without a single word. Through whole class recitations and sentence completions, the pupils, led by Nyo, reviewed how to calculate the volumes of the cube and a rectangular prism. Looking at his precisely-drawn cube, Nyo uttered, 'You multiply eight for all three sides, height

times length times?’ The pupils followed, ‘Width’, as if it was their ritual. They appeared to know when their teacher wanted them to complete his sentence or to give particular answers. In the same manner, as Nyo calculated the cube on the blackboard, the pupils followed him by stating numbers:

Nyo: What do you write?
All pupils: Zero.
Nyo: How many will you have in your mind?
All pupils: Two.
Nyo: One times three?
All pupils: Three. Five. Nine, six, one. Seven, nine, eleven, two.
Nyo: So, we write it is equal to...
A few pupils: Three.

In the middle of the review, Nyo questioned the class about the meaning of surface, sides and edges. The pupils could not give any satisfactory answers, resulting in the teacher’s exemplar answers. Fifteen minutes passed and Nyo called on a male pupil for a demonstration. The pupil acted like a teacher. Turning his back to the rest of the class, the male pupil asked a few factual questions of his fellows, to which they replied in unison.

Nyo was the only teacher who unreservedly gave the pupils strokes during my observation. After the boy’s demonstration, Nyo allowed time for the pupils to copy his writing on the board into their notebooks, during which he paced the classroom with a stick. When he reached a male pupil who was not writing properly, he beat the pupil’s back three times. The teacher then wrote three problems for the class to solve, and again walked around the room to mark the pupils’ answers. He beat the backs of several pupils who made noise, who made mistakes in the exercise, and who did not follow the teacher’s order to collect the assignment. A few pupils screamed, but the teacher did not desist. The writing exercise lasted for nearly 40 minutes out of one hour, and the lesson ended without any greeting.

4 Kwanza School (Urban Public)

Kwanza School in Kigoma was originally started as a middle school for Standards 4 to 8 by the British government in 1954. At first glance, buildings were well-maintained and the windows were covered with nets, which was rare in other public schools in the Kigoma region where nothing covered windows. Kwanza had newly-built toilets, next to which was a new water tank. The head teacher told me that a commercial bank had funded these facilities. Computers and piped water were also funded by charity organisations. Kwanza School actively looked for sponsorship from NGOs as well as private companies. To attract funding it had tried to maintain a high performance in national exams. Nonetheless, the school still had empty classrooms with no desks or only a teacher desk. It also did not have a library, science laboratory, staff room, school

garden or telephone. Kwanza accommodated almost 1,000 pupils of equal gender balance but possessed only 108 desks where three children sat together; the school lacked 346 desks, as reported by the head teacher. A little fewer than 20 teachers taught at the school. The school had successfully transitioned about 72% of its graduates for three years since 2012.

Ikeno's Mathematics Class

Thirty-seven out of 40 desks and chairs were taken up by close to 90 pupils. They mostly sit with one other peer, giving relatively sufficient space between them. The wall made from mud had a brown colour. It reflected the sunlight from the window, making the classroom blight. Ikeno was young, in his early 20s. He had just graduated from a two-year teacher training college after O-level secondary education, and began teaching within the year of my research.

Ikeno taught fractional calculus to his pupils. The teacher introduced the topic and reviewed concepts related to fractions, such as denominator and numerator. Individual Q&A took place, where the pupils were highly engaged. Most pupils raised their hands and competed for the teacher's attention by tapping their fingers. When they were supposed to answer as a whole class, which the pupils knew from Ikeno's intonation, they did so loudly. After four minutes of this introduction, Ikeno wrote the reviewed contents on the board. The pupils quietly took notes. The class was very organised and controlled by the teacher.

Ikeno then demonstrated to the class how to add fractions. One aspect in which he stood out from the other observed teachers was the nature of his questions. He sometimes asked queries requiring the pupils to answer using reasoning and process, such as 'Why do we put plus?' and 'Now, what are we doing?' To these questions the pupils sometimes explained their answers in a few long sentences, in contrast to the one- or two-word answers common in other classes.

Following the teacher demonstration, a male pupil was appointed to present the process of solving $\frac{4}{5} + \frac{2}{3}$. Ikeno asked him to act like a teacher. The below excerpt shows that the demonstrating pupil used tactics such as cued elicitation and checking of pupil understanding as if he was a teacher:

Boy 1:	The first step, what do we do here?
Boy 2:	We find LCM.
Boy 1:	We find what?
All pupils:	LCM.
Boy 1:	We find LCM. This denominator is the one which we will use to do what? To find what?
All pupils:	LCM.
Boy 1:	So, we find LCM of five and how many?
All pupils:	And three.
Boy 1:	Then, it will be how many? You?
Boy 3:	Fifteen.

Boy 1: Fifteen. Is it correct?
All pupils: Yes.

The male pupil maintained authority and led the class in a similar way to Ikeno. After his demonstration Ikeno thanked the pupil and asked the class to congratulate him. Teacher explanation on how to subtract fractions followed. Ikeno then appointed two females to demonstrate subtraction and mixed fraction problems one by one. The teacher again advised them to talk like a teacher, to which the pupils adhered. The first female led the class as follows:

Girl 1: How many do we find? Dotinata?
Girl 2: We find six.
Girl 1: We take six divide by two. We are told that to start with the numbers of right hand. How many will it be? Latifa?
Girl 3: Three.
Girl 1: We find three. So, three times one?
All pupils: Three.

The pupil presenter mostly asked closed-ended questions but called on individual pupils rather than using whole-class answers all the time. It is interesting to note that the male pupil appointed male peers, whereas the two females were more likely to ask female fellows for their answers.

The last activity in Ikeno's lesson was a writing exercise. As the pupils were solving problems, the teacher simultaneously explained the connection between what they had learnt in the class and their everyday lives:

We may have an orange. When you divide that orange into pieces, you will have what? You may have a very big farm, but you cultivate a small portion of that farm. You will have what?

While the pupils were still engaged in the writing assignment, Ikeno asked the class if anyone had any questions about the whole lesson; but because nobody brought up any questions, the teacher ended the lesson.

5 Bunge School (Urban Public)

Bunge School is historically a government school. It was founded as part of the government's Primary Education Development Programme aiming at enrolment expansion in the 2000s. The children around the area used to go to another school prior to the establishment of Bunge. The school buildings and corridors looked old with paint coming off the walls, and only electricity was available in the nine facilities (Appendix 8). But the school was kept clean and tidy.

Bunge had the smallest number of pupils with the smallest pupil–teacher ratio among public schools in the urban area; 24 teachers taught a little fewer than 650 pupils. The transition rate for the past three years was the second lowest among the 13

schools at less than 10%. Upon my arrival, I saw a number of pupils energetically playing with balls and objects from nature (such as wood sticks) in the playground. With a bell ring the pupils punctually went into their classrooms.

Kito's Mathematics Class

Kito, a mathematics teacher in his early 30s, taught almost 100 pupils, two-thirds of whom were female. The lesson started with reviewing coordinate quadrants. Three to four pupils shared the 28 sets of connected desks and chairs, and no empty seat was left. The mud wall did not cover the bricks at the bottom, and the classroom felt a little dark due to the direction of the sun. The lesson on coordinate geometry started with a Q&A. Kito asked the pupils whether each quadrant has a positive or negative point on the X-axis and Y-axis. After the brief review came an exercise involving the whole class. Kito called one boy and two girls to come to the front and act as demonstrators. The rest became the coordinates. The three demonstrators selected Y-axis and X-axis using their classmates in certain rows and columns. They chose one colleague from anywhere in the classroom. Kito asked the whole class at what point on the coordinate geometry the selected pupil was sitting. The teacher illustrated the positive and negative concepts on the coordinate, using the pupils' names. In this activity, the whole class was involved in forming a coordinate geometry to learn how they should locate points on the coordinate.

The next activity was a small group discussion with three to four colleagues. They discussed how to read seven points on the coordinate which the teacher put up on the board. Different from group discussions in other observed classes, Kito encouraged the pupils to actually talk and make the class noisy by saying, 'I want to see people are discussing [...] [D]o not let one person do the work without discussing with others'. After that the teacher had them exchange their notebooks with neighbouring groups, so that they could mark each other's answers. The teacher gave a direction that the group had to collaborate in marking. The whole class then went through the maths problems together with Kito. The groups which gave incorrect marks were asked to stand up and dance by swinging their hips, while the rest of the class sang with 'Kataa kata kata... (Twist twist twist...)'. It was meant to 'punish' those who gave incorrect marking; but both those who danced and who watched the dancing laughed and seemed to enjoy the activity. This was repeated for the second question. From the third question onwards, the pupils waited to dance at the end of this learning activity. In his interview Kito elaborated the rationale of this 'punishment'. 'It makes those who have understood to enjoy the lesson', while at the same time, it 'make[s] those who are failed to...try to do well [next time], so that she or he doesn't have [to] play in front of the class'.

After correction of the maths problems followed the writing assignment. The pupils quietly worked on their exercise books. Kito went over to a group which made several mistakes on the previous exercise in order to individually teach them. After a few minutes, the teacher went around the classroom and marked the work of those who completed the task.

At the end, Kito concluded the lesson in a similar manner to Ikeno at Kwanza, linking the lesson topic to everyday life. He asked, 'How do you think coordinate geometry can be applied in our daily life? Or, when we are at home, in what aspect is coordinate geometry used?' No one answered for a few seconds. The teacher asked again by phrasing the problem differently, to which a girl replied, 'To direct to a place'. Kito then asked the pupil to elaborate her answer and she somewhat hesitantly added 'to direct to a place like inside the house'. Kito expanded her answer to direct people on the street and appreciated her attempt. Because no one could give any other example, the teacher assigned a task to the whole class to think about by the next day.

6 Green School (Rural Public)

Green School is located by a hill by the less maintained roads of rural Dar es Salaam. To reach it one has to walk through the bush for five minutes from the nearest bus stop. There were no visible schoolboards or gates. Without guidance from local people, it was hard to find the school. Prior to the establishment of the school, the surrounding community carried out education themselves to teach children how to read and write under trees. The government found out about how people educated children and supported building the primary school approximately a decade after Tanzania's independence.

Green accommodated a vast playground, but with no equipment like balls. Some classrooms were abandoned. The paint was peeling off, and the head teacher suggested that all buildings needed major repair. The school had piped water and a staff room, but nothing else from the list of the nine facilities asked about in the questionnaire. The government had recently built six latrines, but before that the pupils had to use the bush as a toilet. Six latrines were still not enough for the more than 1,100 pupils at Green. This was the second largest number among the participating 13 schools, and 31 teachers took care of them. A little more than 62% of the graduates had gone on to secondary school for the past three years.

Moyo's Mathematics Class

Because the mathematics teacher of Standard 6 had been absent from the school for two weeks due to sickness, the deputy head teacher Moyo taught the subject in my research. The class accommodated the largest number of pupils, with more than 150. They shared approximately 40 connected desks and chairs with four to five peers.

They had to squeeze past each other, and some pupils' legs protruded from their chairs. The painted walls with a few cracks had three bag hooks. Many pupils put their bags on their desks, making it hard to take notes. To manage the class and make sure his voice reached all pupils, Moyo had to speak loudly throughout his lesson. The teacher used a cube, triangle and cone to aid his teaching on the concepts of edge, side and surface.

Showing the cube that he had brought, he started his lesson by asking how many edges it had. Many pupils raised their hands, shouting 'teacher, teacher, teacher' to get his attention. They seemed to be keen to participate in the lesson. After several pupils verbally answered, a few got the chance to count the edges of the real cube. The pupils again competed to be called upon. Moyo then taught them about the concepts of sides and surfaces by means of Q&A. Most interactions were repetition or required yes or no answers, exemplified by the below exchange:

Moyo: How many sides are there?
Some pupils: Twelve.
Moyo: How many sides are there?
All pupils: Twelve.
Moyo: Okay. One of you said that there are twelve. Thus, how many
 sides do we have?
Some pupils: Twelve.

The Q&A on how to calculate the surface of the cube followed. A boy in the front row was asked to measure the length of one side. Then another boy demonstrated calculation of its area on the chalkboard, though silently.

The teacher moved to the next shapes of a triangle prism, a rectangular prism and a cone. In the same way as with the cube, Moyo asked individual pupils how many edges, sides and surfaces these shapes have. The teacher called for a variety of the pupils from different sections of the classroom. When teaching the formula for calculating volume, Moyo focused on an example where pupils could use the concept in their everyday lives:

You can help your mother at home to measure the volume of a water tank. The carrying capacity of your water tank. The carrying capacity. To find the volume, you take the base area times height.

He ended his lesson with a writing exercise for the last five minutes.

7 Baraka School (Rural Public)

Baraka School in Kigoma owned a vast compound shared by primary and secondary schools. Some classrooms were partially abandoned without roofs or floors, and no facility but piped water was available. The school nonetheless looked clean and tidy. A head teacher over 50 years old greeted me and took me to his office. It accommodated

a wooden desk for the head, a wooden table and an old sofa. Document files were put in order on a shelf, and the surface of the table was well-cleaned. The school appearance gave the impression that discipline was maintained under harsh conditions.

Baraka started as a Swedish missionary school but was nationalised soon after independence. Now it had an approximately equal number of Christian and Muslim children of nearly 700 in total, taught by a little more than 20 teachers. Baraka observed the lowest transition rate of all the schools at less than 5%.

Malika's Mathematics Class

The maths teacher Malika was another female teacher who participated in the research. In her late 20s, it had been four years since Malika started her teaching career. The class contained close to 40 pupils, with ten more females than male pupils. Twenty-four sets of desks and chairs were more than enough for the relatively small class size in a public school. Six sets were left empty. The earthlike-colour wall made from mud reflected the sunshine and lit up the classroom with its high ceiling.

In about 50 minutes of the lesson on how to calculate fractional equations, Malika retained her authority. The class began with pupils copying an example of a linear equation from the blackboard, during which the class fell completely silent. Malika then directed them in how to solve the maths problem using whole-class and individual Q&As. She kept the tempo fast and the pupils promptly followed her. At one point, a male pupil came to the front and demonstrated how to solve the equation, in a very similar manner to Malika:

- | | |
|-------------|--|
| Boy 1: | You write twelve F plus three. It is equal to twenty-seven. You take twelve F. It is equal to...this three here, which is added, will come to this side. Then it is subtracted. Do you understand? |
| All pupils: | Yes. |
| Boy 1: | It will be twenty-seven minus three. Twenty-seven minus three? Asha. |
| Girl 1: | Twenty-four. |
| Boy 1: | Therefore, it will be, twelve F is equal to twenty-four. We divide it by twelve, we divide it by twelve. This one and this one is finished. Twenty-four divided by twelve? Godida. |
| Boy 2: | Two. |
| Boy 1: | Therefore, F is equal to two. |

This was followed by a whole-class praise as requested by Malika. The pupils rubbed their hands for a few seconds and clapped them twice.

Then the teacher wrote five questions on the board for a writing exercise. The class became perfectly silent again, while the pupils seemed very focused on solving the problem. Malika went around the room to mark their work one by one, and individually taught pupils if they had incorrect answers. This writing exercise took more than 30 minutes out of her 50-minute lesson.

After Malika checked all pupils' work, the class reviewed some of the questions. She asked the pupils which question they had difficulty with. When a few pupils raised question numbers, the teacher repeatedly spotted the incapability of the pupils, such that:

He is saying that question number three is difficult. Okay, one of you may come and calculate the question number three. Hurry up. Question number three. Question number three is difficult. He's got a wrong answer. This is a difficult question.

To respond to the teacher, two pupils consecutively came to the front and demonstrated how to solve the problems. They acted like a teacher, posing questions to the rest of the class in the same manner as Malika. To conclude the lesson, Malika asked the whole class whether they understood and enjoyed her lesson. All pupils raised their hands. Malika lastly reminded the pupils to practice other algebra problems at home.

8 Kisutu School (Rural Public)

The school board and buildings of Kisutu in Kigoma looked fairly new, but it soon became clear that these did not belong to the school. The government started building Kisutu two to three kilometres away from where I visited. Ten years of construction work had not produced adequate school buildings, and Kisutu had to rent some classrooms from the neighbouring school. The pupils and teachers had to travel further from their home, resulting in truancy from some children. The school compound Kisutu rented had only a playground but no other facilities, including piped water or electricity. The head teacher at Kisutu had looked for sponsorship to continue the construction, but NGOs tend only to fund small fees such as books, desks and teacher training. Kisutu had not secured funding to construct seven to eight classrooms for roughly 230 pupils and twelve teachers. The past three years had seen about 86% of the graduates continuing to secondary education.

Abdu's English Class

Though the classroom did not belong to Kisutu, it offered enough space and equipment for about 50 pupils. They shared 25 connected chairs and desks with two or three peers to each sitting in rows. The room did not need light thanks to the bright sunlight. The English teacher Abdu had just started his teaching career, like teacher Ikeno at Kwanza. Abdu taught how to make past sentences using the pronoun 'for'. A period of silence of 1.5 minutes followed his greeting. Abdu wrote on the board, 'Using the word 'for' to express the time on the past'. This led him to verbally introduce the topic, followed by repetitions by the pupils:

Abdu: Right, today we are going to teach the usage of the word 'for'.
So, our topic...our main topic is expressing duration. Class,
what? Say expressing duration.

All pupils: Expressing duration.

Abdu: Expressing duration.

All pupils: Expressing duration.

Abdu: Loudly. Expressing duration.

All pupils: Expressing duration.

Abdu then explained the topic in more detail but in a quite confusing manner:

So, we are going to use the word 'for' to express a time. The word 'for' is used to express...to express the time or the known time. Or another word, we say to express the known...the known time. The word 'for' is used to express the noun time, the time which is known, but in the past. Class, are we together?

Pupils' affirmative answer in unison came next. Abdu demonstrated how to use the word 'for' to express the past. With an example sentence, 'Juma was waiting Asha for ten days ago', Abdu explained that 'ten days' is a 'noun time' that is countable. He then turned to the class and asked them to add more examples. A boy gave, 'I have eaten food, comma, for ten minutes ago'. Despite the awkwardness of this sentence, Abdu responded with praise, directing the rest of the class to congratulate him with chanting. A female pupil gave another example, 'Enjo has been studying Swahili, comma, for two seconds ago'. Abdu added an extended explanation that her sentence successfully expressed the past time using the word 'for'.

After having one more pupil present his sentence, the teacher gave the class an exercise to make four sentences using the word 'for' to express time. He checked if the pupils understood the task, to which some of them answered 'no'. Abdu's ears caught the word. He told them five times to raise their hands if they understood. No one raised their hands at first, but as the teacher continued asking the same question, more and more pupils gradually responded positively. At the end the whole class expressed that they understood the task, allowing the teacher to conclude that there was no need to explain the exercise again. Abdu intended to ensure their understanding, but the way he did so seemed to force the pupils to respond with 'yes'. Abdu gave eight minutes for the pupils to complete the sentences, and ended his lesson after he corrected the pupils' answers individually.

9 Siha School (Rural Public)

Only a privately-hired motorcycle could take me to Siha School in Kigoma as there was no public transport to the school. One would pass by the school signboard made from a stone, because the paint had mostly come off so it looked like a bare stone. The school had several unpruned trees here and there, and weeds were taking over a sloped playground. The classrooms were made of concrete, but their paint had peeled

off. Open windows and doors let air into the rooms. The head teacher indicated in the questionnaire that the school owned only piped water and a playground. However, next to its school building was a brand-new nursery school built by a donor agency.

A Swedish missionary opened Siha as a Sunday School in 1952. Only a few years later nationalisation by the colonial government occurred, wherein the school maintained religious secularity. At the time of my research, approximately 95% of the more than 600 pupils had a Muslim background, and the majority came from farming families. Around 25 teachers looked after these pupils. According to the head teacher, the female teachers tended to be absent and the male teachers had to cover their duties from time to time. A little less than one-third of Siha graduates had transitioned to secondary school for the past three years leading up to my visit.

Mosi's English Class

Teacher Mosi's English class was packed with nearly 90 pupils. They shared 24 desks and chairs with up to five peers squeezed together, except for three girls who sat on the floor in front of the chalkboard. No electricity was used, but the sun acted as the light in the classroom. The lesson on relative pronouns started without greetings. Mosi first copied phrases and sentences from his textbook on the board. Yet the quality of chalk was so poor that what he wrote was barely readable. In introducing the lesson topic, Mosi prompted the pupils to repeat. He then went on to explaining how to construct a sentence using the relative pronoun of 'who'. No pupils had a textbook. The teacher copied two examples from the teacher's book. He read aloud while writing, throughout which he faced the blackboard.

After a brief introduction of the relative pronoun came a whole-class exercise. In the same way as with the introduction, Mosi wrote down the questions on the board and read them out. The pupils watched and listened to him. Yet many pupils neither paid attention to Mosi nor seemed to understand the teacher's explanation in English. Some lay down on the desks, and others looked outside. In the middle of the exercise preparation, the teacher needed a duster but could not find any in the classroom. A girl stood up and went out to find one.

Mosi finished drawing a table with one column containing different types of occupation and another containing their descriptions. He then asked the class to choose phrases from each column. The pupils were expected to make a meaningful sentence by connecting two phrases with the relative pronoun 'who'. Mosi first read aloud the description, such as 'Someone who prepares food in a restaurant or hotel is called?' This was followed by a pupil choosing the relevant occupation from another column. The class was rather quiet. Only a few of the same pupils raised their hands. To those who answered correctly, Mosi uttered 'good' and repeated the whole sentence. When the pupils got a wrong answer, the teacher told them 'no thank you',

and called out another pupil. After repeating such interactions eight times, Mosi finished his short lesson in a little more than 13 minutes.

10 Highland School (Urban Private)

After passing through the gate of Highland School in the urban centre of Dar es Salaam, I saw a canteen on the right and a spacious chamber on the left. On the wall of the chamber, a big flat screen TV played BBC news in Kiswahili. Leather chairs and sofas were waiting for guests. Behind the chamber were partitioned-rooms for the head teacher, academic coordinators and a secretary.

A Tanzanian businessman started Highland about ten years ago. It provided nursery and primary education with the medium of instruction being English. It was one of the top performing schools regionally and nationally, and all graduates had continued their education at secondary school for at least three years prior to my research. To reach high levels of achievement the school held classes until midnight, as reported by both pupils and teachers. Highland kept the smallest pupil–teacher ratio among the 13 schools, with roughly 340 pupils taught by 22 teachers. Although the school had the most facilities, including 40 computers, its compound did not possess either a playground or a school garden.

Hali's English Class (Stream A)

The two teachers who participated in the study at Highland had higher qualifications than the other teachers in the research. The English teacher Hali, who taught Stream B, had graduated from a two-year diploma course, after which he had taught for six years. His class on relative pronouns had 36 pupils sitting on individual chairs. Other than the blackboard and chalk, the classroom accommodated a bookshelf, albeit without any books, a teacher's table and two teacher desks. The colourfully painted wall showed English time expressions and French vocabulary.

Greeting the class was followed by Hali's questioning on what a relative pronoun is. Nobody answered at first, and the teacher made the pupils repeat standing up and sitting down twice to wake their bodies up. A few pupils gradually started raising their hands, answering 'he', 'she' and 'it'. As these are pronouns but not relative pronouns, Hali asked the class what pronouns mean and directed them to construct sentences with pronouns. He then connected personal pronouns with relative pronouns by explaining 'Relative pronouns are pronouns which relate...which you relate a subject...which will relate a subject and other parts of the sentences'. A boy then answered 'who'. A girl followed him with 'which'. Then many hands were raised up. Given that the class seemed to understand what a relative pronoun was, Hali requested that they construct sentences using the relative pronouns 'who', 'which', 'whose', 'where' and 'when'. In calling on them he seemed to intentionally involve every

pupil in the classroom. He told the class, 'The same hands, I'm not happy'. He pointed out those who were quiet and sought for their answers. Even if they made a mistake, Hali followed up by thanking them for their contribution. At one point Hali said, 'Thank you for your try. Thank you for sharing what you have'.

The pupils appeared to be comfortable being taught by Hali, as they made jokes in constructing sentences to make fun of him:

Boy:	Mr Hali is a man who eats a lot.
Hali:	Me, a teacher eating a lot. Ah, ah...have you ever seen me eating?
All pupils:	Yes.
Hali:	So, I eat a lot?
All pupils:	Yes / No.
Hali:	You mean that I am a glutton?
All pupils:	Yes / No.
Hali:	Does that mean I am a glutton?
All pupils:	Yes / No.

Such an exchange occurred several times, after which the pupils laughed.

From the start of the lesson, the class spent 30 minutes on individual Q&A, mostly on pupils making sentences. The last ten minutes was spent on a writing exercise. Hali wrote eleven problems on the chalkboard and stated, 'I would like to get my books immediately after lunch'. While circulating around the classroom the teacher asked if the pupils understood everything, to which they all responded with 'yes'. Another teacher in charge of the next lesson came in, and Hali's class ended.

Okapi's Mathematics Class (Stream B)

The male mathematics teacher, Okapi, had been to university and completed a one-year teacher training course. Okapi had 34 pupils in his lesson on angles. They sat on individual seats. In addition to a blackboard and chalk, the classroom had a teacher's desk, a teacher's chair, one bookshelf and one computer for the teacher's use. Although it used the sunlight to make the room bright, a fan on the wall was in operation. The wall also had a sheet of pupils' test scores.

Okapi started his lesson on different types of angles with teacher-led Q&A. In verbal exchanges between Okapi and the pupils, cued elicitation was the most common form of communication. The pupils knew what to say to complete the teacher's sentences:

Okapi:	It can face downwards. So, if they draw it facing upwards or downwards, whichever wards. Don't get confused and say that this is a different type of what?
All pupils:	Angle.
Okapi:	Or it can face upwards. That's it. All those small diagrams represent an acute?
All pupils:	Angle.
Okapi:	Which ranges from zero degrees up to eighty-ninety?

All pupils: Degrees.
 Okapi: Let's note that...let's just note about...it ranges...it ranges...it ranges from zero degrees up to eighty-nine?
 Some pupils: Degrees.
 Okapi: But it's not bigger than eighty-ninety?
 Some pupils: Degrees.
 Okapi: Which means that, an acute angle is less than ninety?
 Some pupils: Degrees.

In this verbal exchange, what Okapi wished the pupils to state was not an answer but general words such as 'angle' and 'degree' in unison. Moreover, Okapi sometimes gave the pupils a hint as to what should follow. He indicated the first syllable of answers, such as 'interse...?' and 'or...?' when he hoped to hear 'intersection' and 'order'.

At the same time this class had pupils who raised questions without hesitation in the middle of teacher explanation. A female pupil inquired as to how many line segments were in a straight angle. Instead of answering her query straightaway Okapi sought an explanation from the floor. This created a space for pupil–pupil interaction. At the end of the lesson Okapi asked if anybody had questions. One male pupil raised his hand, which was observed only in this class. To his query of how many degrees an acute angle has, Okapi welcomed answers from the class. Another boy stated, 'He can say any angle but it must range from zero degrees up to 89 degrees'.

When Okapi was going through five types of angles – acute, right, obtuse, straight and reflex angles – he wrote the shapes on the blackboard. The pupils waited for the teacher's cue to copy them into their notebooks. For the remaining three minutes of the lesson Okapi wrote questions on the board and left, expecting the pupils to complete them during their break time.

11 St. John School (Urban Private)

Founded and owned by a denomination of Christianity, St. John School is a missionary school children could attend at a relatively low cost compared to average private schools. It had formally started about ten years before my visit, although the mission had launched a school in Kigoma several years before that. Not all children had a wealthy background, as 15% of parents were not able to pay tuition fees. With the funds from the Church, the school continues to enrol these children, provided their outstanding academic performance. St. John had sent all pupils graduated during the past three years to secondary schools. Headed by a female priest from India, the school taught close to 700 pupils looked after by about 30 teachers.

Once entering the school compound, a vast playground and two-story, U-shaped buildings were in front. The walls of the buildings had pictures of the founders as well as the missions and visions of the school. St. John had every facility asked

about in the head teacher questionnaire except for a science laboratory, and owned 64 computers, the largest number among the researched schools. The pupils and teachers offered a prayer and sang a song before class every morning. Besides, both classrooms I observed also contained drawings of religious tenets and of Christ.

Rajabu's English Class (Stream A)

Rajabu, the English teacher, was about to retire after teaching for 41 years. Sitting on connected chairs in a row, 40 pupils learned about English storytelling in his lesson. Three to four pupils at one desk shared one textbook. The wall was well-painted in dark brown and cream, and it had two chalkboards.

The first five minutes of Rajabu's lesson comprised of reviewing insect-related vocabulary. The teacher called on pupils one by one, who recalled the names of insects shown in the textbook. Checking with the rest of the class whether the responses were correct, Rajabu wrote the vocabulary on the blackboard.

The teacher transitioned to a reading activity. He demonstrated reading using the story of a man returning to his hometown. The pupils silently listened to him while visually following the story in the shared textbook. Around ten pupils sitting in front were then appointed to read aloud the passage divided into small chunks. After going over the same story three times, Rajabu dictated questions from the teacher's textbook. Because the teacher did not write the question sentences on the chalkboard, the pupils had to concentrate on what he said in order to write down the questions in their exercise books. The pupils orally repeated each question in exactly the same manner as the teacher, uttering 'comma' and 'question mark', as ordered by Rajabu:

Rajabu:	Repeat the question again.
All pupils:	How long has the writer stayed away from his village?
Rajabu:	It's what I said?
All pupils:	Yes.
Rajabu:	No!
Some pupils:	Question mark. Question mark.
Rajabu:	Question mark. Repeat again.
All pupils:	How long has the writer stayed away from his village? Question mark.

During such exchanges Rajabu asked about the spelling of some vocabularies. It took about 20 minutes to transfer the reading questions to the pupils, and the pupils started to write the answers in their exercise books. Rajabu circulated the classroom to check their work. When he found pupils answering incorrectly, the teacher gathered the attention of all pupils and corrected the sentences. He approached through this process with a harsh manner:

Rajabu:	Hasnaa, stand up. Read the question.
Girl:	How long has the writer stayed away from his village?
Rajabu:	Yes. How do you start?

Girl: The writer...
 Rajabu: The writer. We start with what?
 All pupils: The writer.
 Rajabu: Eh?
 All pupils: Writer.
 Rajabu: The writer?
 Girl: Stayed away.
 Rajabu: [In a loud voice] Read the question!
 Girl: The writer...how long has the writer stayed away from his village?
 Rajabu: Yes.
 Girl: The...the writer stayed away from his v...
 Rajabu: [Even in a louder voice] Read the question! Answer according to the question.
 Girl: How long has the writer stayed away from his village? The writer...has...has stayed...
 Rajabu: The writer has. Has done what?

On another occasion Rajabu spotted an incorrect tense that a boy had written in his exercise book. The teacher said to him, 'It seems you don't...you don't learn, is it?... You don't study. The family leave. It scares [me]'. To a girl who made a mistake in grammar, writing 'there was going', Rajabu asked, 'Is that English?'. Rajabu maintained a coercive manner throughout his lesson, of which the pupils appeared to be frightened.

Ayo's Mathematics Class (Stream B)

The maths teacher, Ayo, in his late 20s, had completed A-level education but had no formal pre-service teacher training. In his mathematics class for Stream B Ayo taught around 40 students how to read large numbers. As opposed to the English classroom, Ayo's classroom accommodated individual desks and chairs placed in rows. The teacher table was covered in fabric and a shelf was put in front.

I was late for Ayo's class due to miscommunication about which lesson to observe. When I came in, Ayo had already started his lesson, explaining what place values mean. He asked the pupils whether they could orally read the value of 1,804,625,139. The following dialogue illustrates Ayo's expectation that the pupils could not read it. His voice got louder and louder as it proceeded:

Ayo: Can you read it? Can you read this number?
 All pupils: Yes.
 Ayo: Who can try to read this number?
 All pupils: [Silence]
 Ayo: If you can, who can try to read this number?
 All pupils: [Silence]
 Ayo: No one can read this number. Eh? You don't know how to read this number.
 All pupils: Yes.
 Ayo: If you don't know, I can make you understand how to read this number.

With this note Ayo explained how to partition the number when reading it. After confirming that the pupils understood his demonstration, Ayo invited a female pupil to write how to read the number in words. She came up to the front and wrote it. The teacher then asked the class whether she answered correctly. Because the answer was wrong but the class agreed that it was right, Ayo told the whole class to read aloud the number. The first utterance he had after this was 'You are wrong. You're wrong'. He proceeded to search for someone who could correct the mistake. Although Ayo reminded the pupils not to be afraid to raise their hands, their hesitation to come to the front was apparent.

Ayo next posed a similar question. The pupils were asked to write the number 1,613,968,002 in words on the blackboard. After seconds of silence one girl raised her hand and demonstrated on the board. The lesson ended with the whole class verbally reading the numbers. Similar to Rajabu's class, the pupils of Ayo seemed to be terrified by the teacher.

12 Islamia School (Urban Private)

Another religious private school in Kigoma, Islamia, was set up at the end of the 20th century and follows Islam as its school policy. A security officer stood at the gate, but a brief explanation of my visit was enough for him to open it. As soon as I passed through a parking area, colourfully-painted buildings caught my eye. Flourishing flowers and plants in the school garden added liveliness to the school. Open-air corridors were carefully swept. Islamia did not have a telephone or photocopier but owned seven other facilities asked about in the head teacher questionnaire, besides 30 computers. The head teacher reported no need for repairing of school buildings.

The vast playground gave plenty of space for roughly 200 pupils – the smallest number among the researched schools – to play and move around. Nine tenths of these children had an Islamic background. In contrast, many of the teachers did not follow the religion, partly because half of them came from the neighbouring countries of Kenya and Uganda. Since some of these teachers spoke English but not Swahili, the pupils had to communicate with them in the former language most of the time at school. All graduates from 2012 to 2014 went onto secondary schools.

Rashid's Mathematics Class

A male mathematics teacher, Rashid, was one of the teachers from Uganda and did not speak Swahili. His class accommodated the smallest number of pupils compared to other classes observed, with less than 20. Their desks were designed for two pupils to share, but they sat on individually-separated chairs next to peers of the same gender. The walls in the classroom were painted in blue and white and contained a few teaching materials including a world map, a table of English tense, and pupils' exam

scores. Being held at the end of the term, Rashid's lesson reviewed how to calculate fractions.

The lesson started punctually with a bell. The teacher, calmly standing in front, went through how to calculate improper fractions by means of Q&A. Simple repetitions of his words occupied pupil–teacher interaction, as exemplified by the extract below:

- Rashid: So, in addition, we have...we said we have proper and improper what?
All pupils: Fraction.
Rashid: Proper fraction and improper what?
All pupils: Fractions.
Rashid: Fractions. Okay?
All pupils: Yes.
Rashid: So, we learn about proper what?
All pupils: Fraction.
Rashid: Fraction. I think we are given a number in improper what?
Fraction. It's improper what?
All pupils: Fraction.

In this chunk of communication the only word uttered by the pupils was 'fraction', where they did not engage in thinking, rather merely repeated what Rashid had stated. The teacher seemingly expected the pupils to complete his sentence, and the pupils knew when and what to say.

After Rashid explained what a fraction is and demonstrated how to calculate its addition, he called on a male pupil to solve an example in front of the class. In contrast to pupil demonstration at other schools, the pupil described the process by himself without interacting with other classmates. Rashid then checked with the class whether the pupil's answer was correct and moved on to focus on mixed fractions. He explained how to solve it in a similar manner to the above excerpt. In order to let a pupil present the calculation of mixed fraction, Rashid called on the same boy to demonstrate. In the middle of his solving the problem, the teacher gave a hint while the boy was explaining. Rashid then asked a female pupil to demonstrate another example, and she silently showed the solving process on the chalkboard.

The next activity was a writing exercise. Rashid copied a problem from his textbook and allowed five minutes for the pupils to complete the exercise. The pupils solved it in dead silence, and the teacher circulated to mark their answers. A boy who got a wrong answer was asked to calculate the problem in front of the class. As he could not reach the correct answer, even with the support of the teacher, Rashid took over and showed the solving process. At the end the teacher concluded with a simple review of the lesson, 'We have seen the addition fraction, improper fraction, proper fraction and mixed what? Fraction'. Throughout the class, there was no shouting or physical punishment observed, and Rashid steadily taught with confidence.

13 Kawe School (Rural Private)

Located in a rural ward of the Dar es Salaam region, to reach Kawe School in rural Dar es Salaam I needed to take a minibus running along rough road towards a hill. Along the road were houses of different kinds. Some were magnificent but others were constructed from mud. A security man stood in front of a metal gate. I explained the reason for my visit, and he easily let me and the research assistant enter the school. Six school buses stood to the left of the entrance. Classrooms were built into a U-shape, with concrete covering the ground in front of them. Along with the newly-built classrooms, the school is equipped with all facilities asked about in the head teacher questionnaire and held more than 30 computers. To fully utilise the abundant teaching materials, the head teacher said that the school had been trying to attract more pupils.

Built by a businessman owner of a large enterprise in Tanzania, Kawe School had very recently opened and provided private education from pre-primary to secondary levels. Due to the short running of the school, it had not yet produced any graduates at the time of my visit. The parents could choose whether to put their children in its boarding school or day school. In total Kawe had nearly 550 pupils taught by 27 teachers.

Zakia's English Class

Zakia in his late 20s had taught for four years after university. Zakia's English class on gender-related vocabularies had 38 pupils, sitting on individual chairs. The well-painted wall with white and cream colours had some teaching material relating to the subject of English and a timetable.

Zakia began his class by asking the pupils for the definition of 'gender'. A girl sitting in the front row confidently answered, 'The state of being a male or a female'. After restating her answer, Zakia described how to refer to the two genders, followed by pupils' repetition:

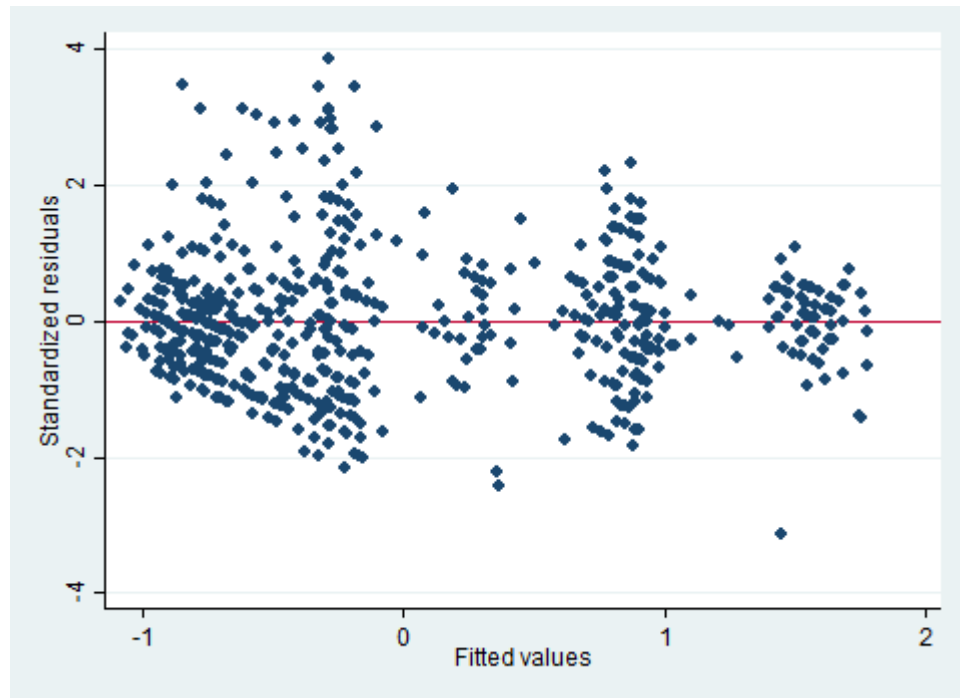
Zakia:	The males, we call them the masculines. We call them what?
All pupils:	The masculines.
Zakia:	When I'm talking about the males, we also call them masculines. We call them?
All pupils:	Masculines.
Zakia:	What about the females?
All pupils:	Feminine.
Zakia:	How do we call them?
All pupils:	Feminine.

After this exchange came presenting and defining a variety of gender-specific vocabularies. For instance, Zakia introduced the word 'husband', prompting the class to answer and define the opposite term. A chosen pupil would say 'wife' and gave definitions of either or both of 'husband' and/or 'wife'. A similar pattern of interactions

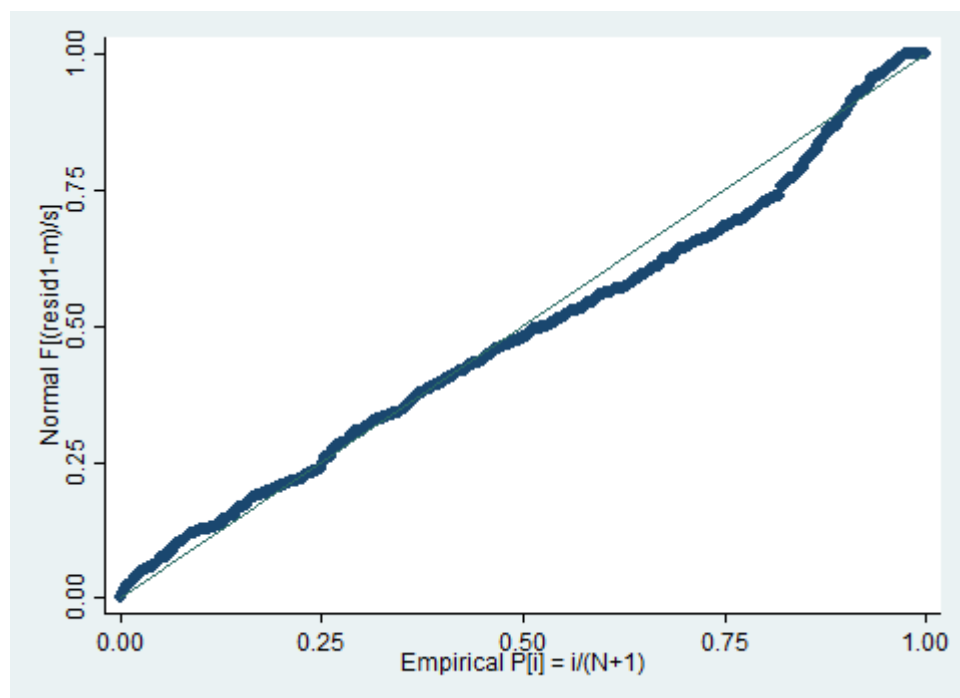
took place dozens of times for 30 minutes, dealing with human-related vocabularies like widower and widow as well as animal-related ones such as buck and doe.

Throughout the lesson, Zakia retained his very authoritarian figure. When few hands were raised he shouted, 'You raise up your hand! There are some people here who are sleeping. They don't know anything'. Similarly, when the voice of the whole class was low during cued elicitation, the teacher ordered the pupils in a loud, somewhat angry voice to repeat what he said. At another time when a girl tried to respond to Zakia's question to define the term 'a waiter,' Zakia called to her, 'Can you stand up and give us a correct answer? Stand up!' Towards the end, Zakia invited the pupils to come up with pairs of gender-specific words not covered by the lesson. Seven pupils responded and the teacher finished the lesson rather abruptly.

Appendix 18: Distribution of Errors (Model I)

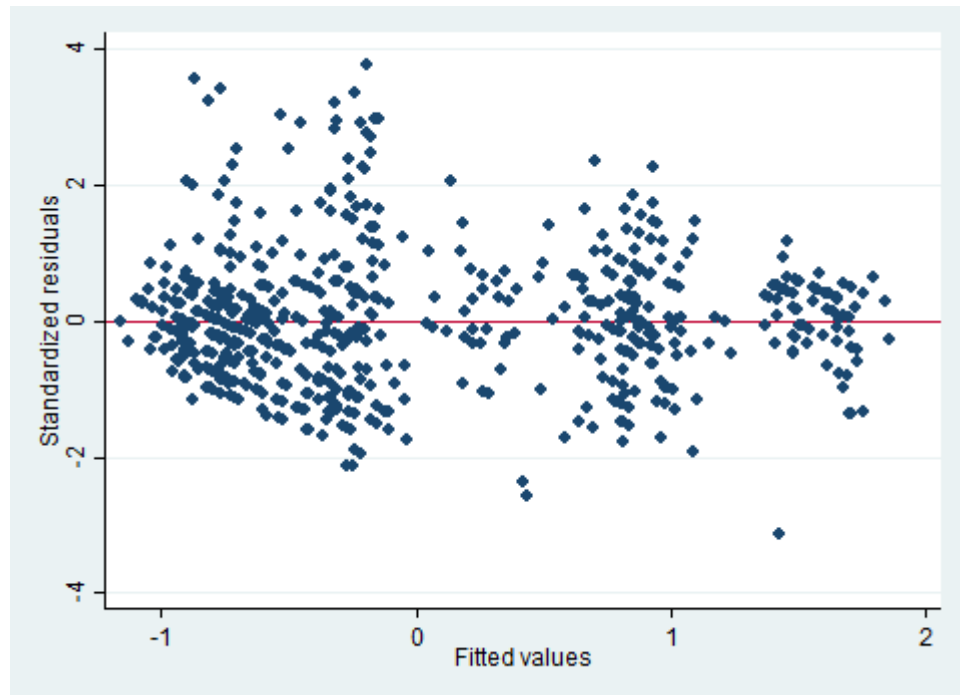


Scatterplot of the standardised residuals

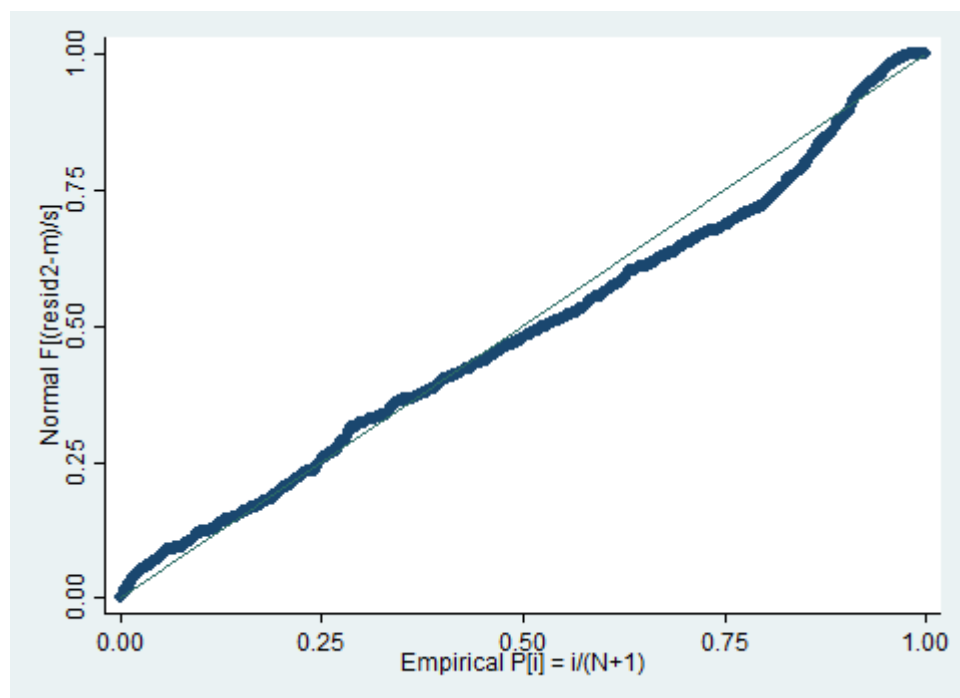


Normal probability plot of the standardised residuals

Appendix 19: Distribution of Errors (Model II)



Scatterplot of the standardised residuals



Normal probability plot of the standardised residuals