

Constructing Playful Talk through Translanguaging in English Medium Instruction Mathematics Classrooms

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Recent studies on English-Medium-Instruction (EMI) classroom interaction have begun to look at the role of translanguaging as a pedagogical practice in supporting participants to exploit multilingual and multimodal resources to facilitate content teaching and learning. The present study contributes to this growing body of literature by focusing on playful talk in multiple languages and modalities in EMI mathematics classrooms in a secondary school in Hong Kong. Based on the data collected from a linguistic ethnography, we analyze how the teacher constructs playful talk in order to achieve various pedagogical goals including building rapport, facilitating content explanation and promoting meaningful communication with students. The analysis demonstrates that translanguaging appears to be a critical resource and that several social factors, including the teacher's personal belief, history, sociocultural, and pedagogical knowledge, play a role in constructing playful talk. The playful talk transforms the classroom into a translanguaging space, which in turn allows the teacher and students to perform a range of creative acts and experiment with a variety of voices to facilitate the meaning making and knowledge construction processes.

INTRODUCTION

In English-Medium-Instruction (EMI), English-as-a-Second/Foreign-Language students will learn all/some subjects through English. The 'multilingual turn' in education (May 2014), especially translanguaging as a pedagogical approach (e.g. García *et al.* 2017), has recently attracted the attention of EMI researchers due to the need for a more nuanced understanding of the role of the learners' as well as the teacher's complex multilingual and multimodal repertoires in knowledge construction (e.g. Lin and Wu 2015; Lin and Lo 2017). Translanguaging challenges the monolingual pedagogical principle (i.e. English only) in EMI and encourages the learner and the teacher to draw on their familiar and available linguistic, semiotic, and multimodal resources to facilitate the processes of meaning making in the classroom.

The present study focuses on the role of translanguaging in constructing playful talk in an EMI classroom. Here, 'playful talk' refers to a range of verbal and

multimodal activities and routines, including humour, parody, teasing, which can emerge in teacher's and students' talk (Lytra 2017). Previous research shows that playful talk can be a useful tool for motivating and facilitating second language (L2) learning in the classroom (e.g. Bell 2005; Waring 2013). There is, however, little empirical work on playful talk in EMI classrooms (e.g. Jakonen *et al.* 2018) or playful talk through translanguaging. Translanguaging scholars have emphasized the significance of the creative and playful dimensions of the practice as they challenge the power relations and hierarchical order in the process of knowledge construction (e.g. Wei 2011, 2018). Hence, studying the role of translanguaging in constructing playful talk in EMI classrooms can potentially allow researchers and teachers to understand translanguaging as a resource for enabling classroom participants to engage in diverse multiple meaning-making systems and subjectivities. This can create a classroom environment that promotes student participation and facilitates content learning.

To address this research gap, this study examines how translanguaging is employed by the teacher (male) to create playful talk in the EMI classroom in order to accomplish his pedagogical goals in the lessons. This study is 2-week focused classroom observations in a Hong Kong (HK) EMI secondary mathematics classroom. Observations with fieldnotes, ethnographic interviews with teachers and other stakeholders, and video recordings are collected. The classroom interactional data are analysed using Multimodal Conversation Analysis (MCA). The analyses of the classroom interactional data are triangulated with the video-stimulated recall-interview data, which are analysed using Interpretative Phenomenological Analysis (IPA) in order to analyse the teacher's reflections on his pedagogical and interactional strategies.

ENGLISH MEDIUM INSTRUCTION IN HONG KONG

Macaro (2018: 19) describes EMI as the 'use of the English language to teach academic subjects (other than English itself)' in countries where English is not usually spoken by a majority of the population. In HK, Chinese (spoken Cantonese and written standard Chinese) is the language of daily communication by the majority of the local population and English is considered a prestigious language due to HK's history as a British colony. In primary schools, Chinese is usually the medium-of-instruction (MoI) and English is taught as a separate subject. At tertiary level, all government-funded universities adopt EMI, mainly because of the need to align with international higher education and cater to a significant number of international students. It is in secondary schools where the MoI policies have undergone significant changes in recent years.

Before the 1997 handover of sovereignty from Britain to China, the HK government adopted a non-interventionist policy which allowed schools to make their own choices in MoI. Parents and other stakeholders had a strong preference for English medium secondary schools because of the popular belief that learning English can provide stronger benefits in future job opportunities and potentially increase the students' social mobility. Over 90% of secondary schools claimed to

be EMI schools although in actual classroom interaction, mixing Chinese and English were prevalent (Lin 2006). The HK government and education authorities regarded language mixing as a key reason affecting the students' English standards. A streaming policy was introduced in 1998, which mandated a clear-cut division in secondary schools into either EMI or Chinese-medium-instruction (CMI) schools. One hundred fourteen secondary schools were granted an exception to adopting EMI in teaching content subjects while 307 schools deployed CMI. However, there was a strong demand from the general public for reinstating EMI in all secondary schools as they saw EMI as a potential enabler to improve the students' English proficiency. In 2010, the HK government offered CMI schools the autonomy to decide their MoI for content subjects if they met certain criteria (e.g. the students' learning ability, the teachers' language ability, requirements of individual subjects) (Education Bureau 2009). This policy has resulted in a diversified mode of MoI in schools, including CMI in all content subjects for all classes, CMI/EMI in different subjects in different classes, or EMI in all content subjects for all classes.

As Tollefson and Tsui (2014) argue, the debate of adopting EMI in secondary schools ignores the fact that such a monolingual rule offers limited opportunities for social interactions because teachers in EMI classes tend to adopt the lecture format to teach the content. Moreover, Lo (2014) has shown that L2 learning opportunities can vary in different EMI content subjects. For instance, mathematics and science lessons may not favour classroom discussion between the teacher and the students since these lessons are often treated as solving problems with set formulas and calculation procedures. Hence, students seldom have the opportunity to participate in a discussion with the teacher. In the article though, we aim to illustrate a different picture of a mathematics lesson and provide evidence that shows how a mathematics teacher and the students in an EMI class engage in playful interaction through translanguaging in order to create a space that facilitates content learning and promotes meaningful communication.

TRANSLANGUAGING

The term translanguaging was originally used to describe a pedagogical practice of moving flexibly between different input and output languages in Welsh revitalization classrooms (Williams 1994). LiWei (2014) further develops the concept as a process of knowledge construction, which involves going beyond different linguistic structures and systems (i.e. not only different languages and dialects, but also styles, registers and other variations in language use) and different modalities (e.g. switching between speaking and writing, or coordinating gestures, body movements, facial expressions, visual images). Li Wei (2014) emphasizes the transformative nature of translanguaging practices as they create a translanguaging space for multilinguals by bringing together different sociocultural dimensions, including the speakers' social identities, life histories, beliefs, and their knowledge of the wider institutional environment, as resources in the process of negotiation of meaning (see also LiWei 2011). Li Wei (2018) further

argues that the concept of 'translanguaging space' includes two notions that are essential to bilingual education: creativity, which refers to the ability to 'push and break boundaries between named language and between language varieties and to flout norms of behaviour' (p. 15), and criticality, which refers to the ability to use 'available evidence insightfully to inform different perspectives of cultural, social and linguistic phenomena and to challenge and express ideas through reasoned responses to situations' (p. 23). A number of translanguaging studies have demonstrated that bi/multilinguals are provided with agency to employ various linguistic and semiotic resources creatively and critically to challenge the traditional configurations, categories, and power structures, and construct new meanings and new configurations of language practices through everyday interactions (Choi 2019; Li Wei 2016; Zhu *et al.* 2020). However, few studies have looked at the transgressive dimension of translanguaging in classroom interactions. Li Wei (2014) examines classroom interactions between the children and their teachers in the UK Chinese heritage language schools. The findings indicate that the Cantonese-English-speaking students sometimes employ Cantonese characters in their schoolwork in order to approximate the Mandarin expression. Li Wei argues that the students' creative and critical expressions of meanings in their schoolwork indicate their agency in constructing their sociocultural identities, attitudes and values, and challenge the dominance of Mandarin as the Chinese lingua franca.

PLAYFUL TALK IN SECOND LANGUAGE INTERACTION

The importance of playful talk in language learning and development has been discussed by a number of scholars (e.g. Cook 2000; Bell 2005). Playful talk is an interactional practice whereby linguistic resources are being manipulated to achieve ludic effects (e.g. Cook 2000). Waring (2013: 192) builds on Cook's definition of language play and conceptualises 'doing playful talk' as 'stepping into an alternative world unfettered by the roles and the setting of the classroom and doing so lightheartedly'. According to Tarone (2000), language play aims to entertain, lower the affective filter, stretch a speaker's sociolinguistic competence and destabilize the interlanguage system. Davies (2003) studies playful talk in peer interactions between first language (L1) and L2 English speakers. The analysis demonstrates that L1 speakers assisted L2 speakers in learning how to engage in playful talk, 'but also to experience its social meaning in American society' (p. 1382). Warner (2004) discovers occurrences of play with the form, the concept and the frame during computer-mediated communication in two German online courses. Bell (2005) analyses how L2 verbal humour is constructed by L2 English speakers as they interact with L1 English speakers. The findings suggest that playful talk can be an indication of language proficiency as more advanced speakers employ L2 linguistic resources in more creative ways. Moreover, the findings also reveal that playful talk could potentially lead to a deeper processing of lexical items, making the meanings of the lexical items more memorable.

Some L2 classroom interaction studies have identified the social functions of playful talk as a face-saving device (e.g. [van Dam 2002](#)) and as a strategy to create new selves and new social relations (e.g. [Belz 2002](#)). [Cekaite and Aronsson \(2005\)](#) explore young children's L2 playful talk in immersion classrooms and the findings illustrate that through the use of various verbal resources, including code-switching, artful variations in pitch, playful talk generates opportunities for the learner to learn the accurate L2 lexical items and grammar. [Broner and Tarone \(2001\)](#) analyse young learners' playful talk in L2 during a Spanish immersion classroom and demonstrate that it allows them to deploy various linguistic resources in constructing classroom jokes and creating worlds that do not exist.

One of the first attempts to provide a conversation-analytic account of how playful talk is constructed in adult English-as-a-Second-Language classrooms, where students may not share a common L1 with the teacher and other students is that of [Waring \(2013\)](#). She finds that participants mobilise identity as a resource for doing being playful and argues that playful talk can allow classroom participants to perform a range of subversive acts and experiment with a wide range of voices, including as teachers, parent, child, pop culture expert. [Tai and Brandt \(2018\)](#) demonstrate how a learner employs both multimodal resources and her limited English repertoire to construct an embodied enactment in a humorous manner in order to display her understanding of a target lexical item in a beginner-level adult English-for-Speakers-of-Other-Languages lesson. As shown, playful talk can be seen as useful in facilitating meaning-making, creating a jocular environment, negotiating relationships, promoting student engagement and expressing students' identities ([Waring 2013; Lytra 2017](#)).

To date, there is little empirical work that explores the construction of playful talk in EMI classrooms. Although EMI classrooms are in a sense also L2 classrooms, they focus on subject contents and have pedagogical goals and agendas that are different from language classrooms. [Jakonen et al.'s \(2018\)](#) study analyses how a student's translanguaging practices subvert the English-only norm in a junior secondary Content and Language Integrated Learning (CLIL) history classroom in Finland and is treated as 'language mixing' by other peers. Although the definition of CLIL is different from EMI, the CLIL classroom in Jakonen et al.'s study employs L2 (English) as the MoI for teaching history. The analysis illustrates that the student's translanguaging practices involve deploying a wide range of linguistic resources, through combining lexical items and grammar of English and Finnish and uttering English words with a stereotypical Finnish accent, to challenge the institutional norm of using only English in the classroom.

Based on the review on existing literature on language play, EMI and translanguaging, this study aims to bring together the concepts of translanguaging and language play in order to extend our understanding of translanguaging practices in subject teaching and EMI. In particular, we hope to achieve a fine-grained understanding of how playful talk is constructed through teacher's translanguaging practices and what pedagogical goals do playful talk accomplishes *in situ*. Moreover, translanguaging practices are complex in nature since different sociocultural factors, such as personal history, life experience,

identity, can potentially play a role in influencing an individual's use of meaning-making resources in the process of constructing knowledge. We also hope to uncover how the teacher understands his own pedagogical practices at specific moments in the interaction and how the classroom interactions are shaped by multiple sociocultural factors. In this study, we aim to demonstrate that translanguaging can serve as a resource of creativity and language play and it can be deployed to create a translanguaging space in the EMI classroom to promote content learning and students' participation.

DATA AND METHOD

This study aims to address the following research questions (RQs):

- 1 How does the HK EMI mathematics teacher use translanguaging in constructing playful talk?
- 2 How does the HK EMI mathematics teacher perceive his use of translanguaging in constructing playful talk?
- 3 How do the findings of this study provide implications for EMI policy?

Participants and data collection

The participating school is a prestigious secondary school in the New Territories of HK, and it is the first EMI school in the local district. The school is subsidised by the HK government and provides education from secondary one to six based on the curriculum guides set by the HK Education Bureau. The school uses EMI to deliver most of the lessons (except Chinese, Mandarin, and liberal studies classes), and the school examinations are assessed through English. Although the school's mission statement is explicit that it aims to develop students to be bi/multilinguals, the school language policy places heavy emphasis on the use of English on the school campus. All morning assemblies and staff meetings are conducted in English. All teachers and students are explicitly informed that English has to be used during the content lessons. Moreover, English-for-all-days are held on every Monday when everyone (all teaching staff and students) in school must use English for communication. However, in practice, the actual implementation of English-for-all-day could vary as not all students are willing to speak English to their peers and teachers outside the classrooms. Chinese week is also held to promote Chinese acquisition, but these events are only held annually. Hence, it can be seen that the school's language policy is biased in favour of English over other named languages (Cantonese and Mandarin in this case).

The mathematics teacher, who agreed to take part in this study, has at least eight years' experience in teaching mathematics in English. He is a Cantonese L1 speaker and previously attended an EMI school for his secondary education. His bachelor's degree in mathematics and IT education and MSc in Mathematics were obtained from two top-ranked universities in HK. These universities also use EMI. During his undergraduate studies, he occasionally

taught drama at several HK secondary schools. He did not receive any EMI teacher training when he was pursuing his education degree.

The first author carried out intensive fieldwork in the school. A one-hour pre-semi-structured interview was conducted with the teacher in order to understand his professional training, his linguistic knowledge, his perceptions of the best practices and his attitudes towards using multiple languages in the EMI mathematics classrooms. During the fieldwork period, the first author observed a year 9 class. There were 18 students in the class and this class was classified as an enhancement class. Students, who ranked below average among their cohort in the internal mathematics examination, were enrolled in this class. All students in the class were 15-year-old and they spoke Cantonese as their L1s except two students in the class. These two students spoke Mandarin as their L1s, and they were migrants from the mainland China. All students have received at least 6 years of primary education, where Cantonese was employed as the MoI and English was taught as an L2. Based on the first author's initial conversations with the teacher, most of the students passed the internal school English examinations which involved reading, writing, speaking and listening.

Eleven 40-min lessons were observed and video-recorded. Five informal interviews were conducted with the teacher and students during the two-week observational period in order to gain detailed information about the observed lessons. These informal interviews lasted for 5–15 min and they can be considered as ethnographic interviews (Spradley 1979) since they took place spontaneously rather than being scheduled with participants in advance. A 1-h post-video-stimulated recall interview was conducted with the teacher in order to compare his actual translanguaging practices and his interpretations of his practices. All interviews were carried out in Cantonese.

Combining Multimodal Conversation Analysis with Interpretative Phenomenological Analysis

This study integrates MCA with IPA to study playful talk and translanguaging practices in EMI mathematics classrooms. Such methodological approach falls under the umbrella of Linguistic Ethnography. Linguistic Ethnography affords the capacity of a linguistic-oriented analysis to 'tie ethnography down' and 'open up' linguistic analysis (Rampton 2006: 395) without excluding ethnographic data so that the strengths of each complement the weaknesses of the other. In order to capture the complexities of translanguaging practices and the sociocultural factors that affect individual's meaning-making resources, it is essential to utilize a flexible framework that can combine different methodologies. MCA 'focuses on how social order is co-constructed by the members of a social group' (Brouwer and Wagner 2004: 30) through fine-grained analysis of the social interaction. It takes an emic/participant-relevant approach in order to explicate the detailed process of how social actions, such as learning, are co-organized and achieved through talk-in-interaction. The data are transcribed using Jefferson's (2004) and Mondada's (2018) transcription

conventions. As Waring (2013) suggests, in order to identify playful sequences in classroom talk, it is important to explore extracts where talk is treated as playful by the participants themselves (e.g. laughter).

This study also draws on the analytical approach of IPA to investigate how the mathematics teacher perceives his own translanguaging practices at specific moments in the interaction. IPA focuses on the in-depth exploration of personal experience and how individuals understand and make sense of their experiences. In addition, IPA acknowledges the investigation of the meanings of the participants' experiences as an interpretative enterprise on the part of both researchers and participants. Thus, in order for researchers to understand how participants make sense of their world, a dual interpretation process called 'double hermeneutic' is adopted. Such a process requires researchers to try to make sense of the participants trying to make sense of their world (Smith *et al.* 2013). By doing so, it allows researchers to take an emic approach in order to understand the participants' personal experience case-by-case. After conducting the IPA analysis, we design a table with four columns in order to help readers to understand how the analyst makes sense of the teacher trying to make sense of his own teaching. From left to right, the first column presents the classroom interaction transcripts. The second column includes the stimulated-recall interview transcripts. The third column illustrates the teacher's perspectives of his own pedagogical practices. Finally, the fourth column documents the analyst's interpretations of the teacher's perspectives, which aligns with IPA's interpretation process.

ANALYSIS

We now analyse examples of playful talk for facilitating content learning (Extracts 1 and 2) and promoting meaningful communication (Extracts 3 and 4).

Constructing playful talk to facilitating content learning

In the dataset, four instances were identified which illustrate the occurrence of playful talk in the main instructional sequences for promoting content learning. This can allow classroom participants to engage in humorous talk while the teacher is teaching the content. Extracts 1 and 2 are typical examples that reveal this interactional phenomenon and illustrate the role of translanguaging in creating the playful talk.

Extract 1: Constructing a mnemonic to facilitate students' memorisation Prior to the extract, the teacher (T) was teaching the concept of a slope using English. T explained to students that when the straight line goes upward to the right, then the slope is positive. If the straight line goes downward, then the slope is negative. If it is a horizontal line, then the value of the slope is zero. During the T's explanation, T was drawing the slanting lines (going upward and downward) and a horizontal line on the blackboard which

formed a triangle (see Figure 1). In Extract 1, T's translanguaging practices can be observed through his use of Cantonese rhyming words, repetition, stress and an English technical term 'slope' to create a mnemonic (line 80) and reinforce the value of the slope of the horizontal line. Concurrently, T's translanguaging practices also involve his deployment of gestural and semiotic resources (e.g. drawings on the blackboard) in order to display the flatness of the horizontal line that mathematically represents the value of zero.

Extract 1

72 T: slope is the measurement of the steepness (0.8) right?
 73 (1.2)

74 T: 係咪有幾斜㗎嘛係咪 (0.7) +平路斜唔斜啊 (1.7) okay?
 ((tr. it is the steepness, right?)) ((tr. Is a flat road considered as steep))
 +T points at the horizontal line on BB

75 (0.3)

76 T: 噢 (0.3) memorise (0.5) memorise 呀 (0.4) 呢個口訣
 ((tr. hey)) ((tr. okay)) ((tr. this mnemonic))

77 (1.1)

78 T: 我發明嘅 (1.1) haha
 ((tr. I invented it))

79 (2.2)

80 T: <+條線(0.6)係+平 (1.0) 個 slope (0.9)+係零>
 ((tr. the line is flat)) ((tr. the slope is zero))
 +T puts his RH on the horizontal line, palm facing downward #1
 +T moves his RH along the horizontal line, towards the left #2
 +T points at '0' on the BB #3



Figure #1

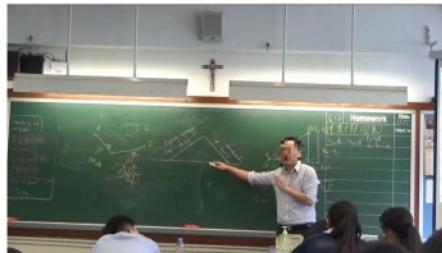


Figure #2



Figure #3

81 +(2.1)

+Students are clapping

82 +(4.3)

+T moves RH upward, palm facing students #4



Figure #4

83 T: +thank you

+T moves RH upward, palm facing students

84 (0.5)

85 S3: [又幾好笑個喎]

((tr. that's quite funny))

86 T: [+條線 (0.5) 係平] 個+slope 係+零 (0.4) 得唔得呀

((tr. the line is flat)) ((tr. the slope is zero)) ((tr. okay))

+T puts his arm on the horizontal line, palm facing downward

+T moves his arm to the left along the horizontal line

+T moves his arm horizontally from the front to his right

+T uses his index finger to point at the students

87 (0.2)

88 S6: 仲有冇呀

((tr. anymore))

89 (0.6)

90 Ss: Hahahahaha

91 (0.4)

In line 76, T first utters a Cantonese particle, 噉 ('hey'), to draw students' attention. T then switches back to English to utter 'memorise' twice and enunciates another Cantonese particle, '吓' ('okay?'), in order to emphasise the need for students to remember something. After a 0.4-s pause, T switches back to Cantonese to mention the mnemonic, that is created by T, to the students, '呢個口訣 (1.1) 我發明嘅 (this mnemonic (1.1) I invented it)' (lines 76-78). In line 80, T suddenly speaks slowly when uttering '條線 (the line). Simultaneously, T's hand movement visually indicates to students that the horizontal line on the blackboard is the line that T is referring to (Figure 1). When T utters the word '平 (flat)', T moves his right-hand along the horizontal line (Figure 2) in order to visually illustrate the flatness of the horizontal line to students. T continues to construct the second part of the mnemonic by uttering '個(the) slope (0.9) 係零 (is zero)'. It is important to also notice that the word '係 (is)' is repeated twice. Second, the English word 'slope' is used here to reinforce the technical term in the mathematical discourse. Third, the words '平' [ping4] and '零' [ling4] are rhyming words in Cantonese and coincidentally the meanings of these two words (i.e. flat and zero) reinforce the mathematical concept that the slope of the horizontal line must be zero. This message is also further emphasized as T points at the '0' on the blackboard (Figure 3) when he is uttering '係零' with stress. After T's introduction of the mnemonic, the students are clapping (line 81) in order to express their enjoyment of listening to T's mnemonic. S3 acknowledges the funniness of T's mnemonic by saying, '又幾好笑個喎 (it's quite funny)' (line 85).

In this extract, the construction of the mnemonic is considered as playful as signalled by the teacher's and student's reactions (e.g. a verbal acknowledgement in line 85 and the teacher's laughter in line 78). During the post-video-stimulated-recall-interview, T comments that this mnemonic was created by him when he was a secondary school student. The researcher is interested to understand the T's reasons for using rhyme in creating this mnemonic (see Table 1).

T explains that he personally enjoys integrating rhyming words in his talk in order to create a doggerel effect. Particularly, he likes positioning the rhyming words at the end of the sentence in order to draw students' attention to the rhyming words. Towards the end of line 16 in the interview, T shifts the footing by voicing out his students' reactions as they hear the mnemonic: '嘅, 有啲, 又啱音喎 (oh, that's, that rhymes)' and '佢講嘅一陣咬字又會唔會啱音嘅呢 (oh, that teacher is talking now and will he use any rhyming words in his utterances?)'. Here, it can be suggested that T displays his expectation that the mnemonic will draw students' attention. In the MCA analysis, it is evidenced that T's introduction of the mnemonic is received with applause from students (line 81 of the interaction) and a verbal endorsement (line 85 of the interaction). This suggests that T's use of mnemonic is considered as playful and funny by the students. T also mentions that using these rhyming words can prevent boredom in the classroom and facilitate students' memorisation of the mnemonic due to the rhyming effect. Therefore, it can be argued that T's

Table 1: Video Stimulated Recall Interview (Extract 1)

Classroom Interaction Transcript	Video Stimulated Recall Interview Selected Excerpts	Teacher's Perspectives	Analyst's Interpretations of the Teacher's Perspectives
<p>72 T: slope is the measurement of the steepness (0.8) right? 73 (1.2)</p> <p>74 T: 係係有幾斜摩錫係嘛 (0.7) +平路斜唔斜啊 (1.7) okay? ((tr. It is the steepness, right?)) ((tr. Is a flat road considered as steep)) +T points at the horizontal line on BB</p> <p>75 (0.3)</p> <p>76 T: 哩 (0.3) memorise (0.5) memorise 呀 (0.4) 呢個口訣 ((tr. hey)) ((tr. okay)) ((tr. the mnemonic))</p> <p>77 (1.1)</p> <p>78 T: 我發明嘛 (1.1) haha ((tr. I invented it))</p> <p>79 (2.2)</p> <p>80 T: <+斯邊 (0.6)係+平 (1.0) 個 slope (0.9)+係零> ((tr. the line is flat)) ((tr. the slope is zero)) +T puts his RH on the horizontal line, palm facing downward #1 +T moves his RH along the horizontal line, towards the left #2 +T points at '0' on the BB #3</p>  <p>Figure #1</p>	<p>01 K: 呀個口訣呢啲係 rhyme rhyme ((tr. This mnemonic involves rhyming words))</p> <p>02 T: rhyme</p> <p>03 K: 你留意個可? (tr. Did you notice it?)</p> <p>04 T: 係呀係呀係 (tr. Yes. Yes)</p> <p>05 K: 哪個 inspiration 係邊度嚟喃? (tr. Where did you get this inspiration from?)</p> <p>06 T: 係綠係平，係 slope 係零 嘛呢? (tr. something like: the line is flat and the slope is zero?)</p> <p>07 T: ah jah ah ah ((nodding his head))</p> <p>08 T: 哟，即係呢啲 (tr. oh. That's...)</p> <p>09 K: 即係平，同埋零嘛 (tr. Something like flat and zero-.)</p> <p>10 T: 嘸 (tr. Yes)</p> <p>11 K: 係囉</p>		
 <p>Figure #2</p>  <p>Figure #3</p> <p>81 +(2.1) +Students are clapping 82 +(4.3) +T moves RH upward, palm facing students #4</p>  <p>Figure #4</p>	<p>(tr. Yes)</p> <p>12 T: 因為我講帶都好鐘意，即係，俾呢打油詩咁樣囉 hahaha 即係，好鐘意將幼押韻字就擺喺最尾，等佢晚一聽有啲，嘩，有啲，又唔會曉 (tr. This is because when I talk, I like, that means, it's like writing a doggerel. Haha. That is, I like arranging the rhyming words at the end of the sentence. So that when students heard it, they would like: oh, that rhymes.)</p> <p>13 K: um</p> <p>14 T: 即係，但呢會可能會留意多啲嘢 (tr. that is, they will probably pay more attention to it)</p> <p>15 K: um</p> <p>16 T: 即係，嘩，但講嘢，一 庫咬字又會喺會音咬嘅，即 係一開始唔知開學唔確，又係 又，又唔啱啱我又講講下， 又講到啲個音都可係搣到講嘅 (tr. that is, oh, that teacher is talking now, and will he use any rhyming words in his utterances? I think that when I was teaching this class at the beginning of the new academic year, I could use rhyming words which appeared in four consecutive lines)</p> <p>17 K: um</p>	<p>T stated that he liked positioning the rhyming words at the end of the sentence in order to draw students' attention to the rhyming words.</p> <p>Using these rhyming words could draw students' attention to the mnemonic.</p> <p>Using rhyming words could prevent boredom in the classroom.</p>	<p>T displayed his expectation that the mnemonic would draw students' attention.</p>

Table 1 *Continued*

83 T: +thank you -T moves RH upward, palm facing students 84 (0.5) 85 S3: [又幾好笑個嘅] (<i>tr. that's quite funny</i>) 86 T: [+係線(0.5)係平] 係+slope=係+零(0.4) 得唔得呀 (<i>tr. the line is flat</i>) (<i>tr. the slope is zero</i>) (<i>tr. okay</i>) -T puts his arm on the horizontal line, palm facing downward -T moves his arm to the left along the horizontal line -T moves his arm horizontally from the front to his right -T uses his index finger to point at the students 87 (0.2) 88 S6: 仲冇冇呀 (<i>tr. anymore</i>) 89 (0.6) 90 S3: Hahahahaha 91 (0.4)	17 K: um 18 T: 呃佢哋就，噃，咁樣即係佢哋係好，好 amazed 呃樣，即係好，好留心聽你講嘢，咁我，繼續繼續咁樣講 (<i>tr. so the students were like</i> wow. That means that they were very, very amazed. That means that they were paying full attention on what I was saying. So, I continued to talk in this way.) 19 K: um 20 T: 既係，同埋我覺得咁樣講冇咁悶 (<i>tr. That is. And I think it would be less boring if I talked in this manner</i>) 21 K: um 22 T: 那係，冇啲起伏，係嘅，佢哋會記得到 (<i>tr. That is. Having some kind of rhythm. Yes. They would be able to remember it</i>) 23 K: um 24 T: 係噃，零，平，噃，噃 下記多個咁樣嘢 (<i>tr. Yes. Zero. Flat. Oh, try to memorize it then. That's it really</i>)	Using rhyming words could facilitate students' memorization of the mnemonic due to the rhyming effect.
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personal interest in using Cantonese rhyming words and his pedagogical goal (i.e. assisting students in memorising the mathematical content) shape his translanguaging practices in constructing the mnemonic and creating a humorous context in the classroom interaction.

Extract 2: Creating an imaginary context to facilitate students' memorisation Extract 2 is the immediate continuation of Extract 1. T aims to introduce the imaginary context of going hiking to facilitate students' memorization. T picks up a red-colour chalk from the tray in line 108 and in the subsequent interaction, everything that T writes on the blackboard is in red-colour, as opposed to the typical white-colour. In this extract, it can be shown that the triangle on the blackboard, which was constructed before the commencement of Extract 1, momentarily represents a hill and the hand-drawn person on the blackboard is often referred to as the students in the class and occasionally as T himself. In particular, T adopts a character viewpoint by imagining himself who goes hiking. By doing so, T translanguages through switching his intonations and displaying his facial expressions to enact the feelings of going up the hill, which is laminated with a tone of non-seriousness. This is treated as playful and laughable by the class.

Extract 2

107 (2.4)

108 T: +the way I memorise the +slope um
+T picks up a red-colour chalk from the BB tray

+T moves his index finger along the slanting line
(sloping upwards) from low to high position

109 (0.2)

110 T: +why this one is positive+ is

+T moves his index finger along the slanting line (sloping upward) from high to low
position repeatedly—>

→+

111 (0.4)

112 T: +just imagine you go hiking

+T draws a person next to the slanting line (sloping upward) —> #5

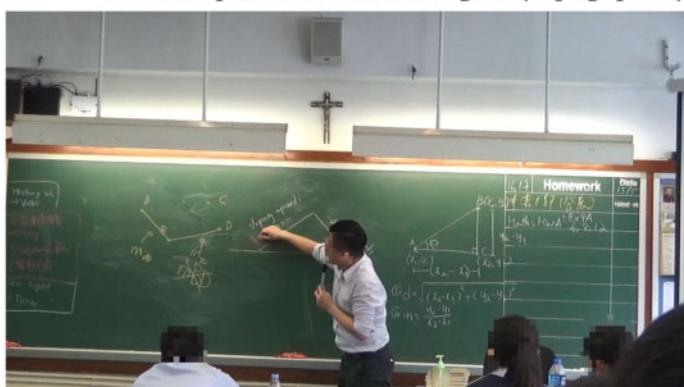


Figure #5

113 (1.5)

114 T: 你會點呀(.) 去行山嘅時候+ (1.0) +背囊

((tr. what would you do (.) when you go hiking)) ((tr. backpack))

→+

+T draws a person wearing a backpack

115 (1.7)

116 S3: haha

117 (0.4)

118 T: okay? (0.3) okay? +you go hiking

+T points at the person on the BB

119 (0.5)

120 T: +一開始去行山\$+你係咪好開心\$啊

((tr. before you walk up to the hill are you excited))

+T moves his index finger along the slanting line (upward) from low to high position

(a) +Enacting a running gesture (holding his elbow at 90 degree and hold a small fist and swinging his arms forward) #6



Figure #6

121 (0.5)

122 S3: +唔開心

((tr. not happy))

+T stares at S3

+T narrows his lips

123 (1.0)

124 Ss: hahaha

125 (0.2)

126 T: +唔係你未得閒行山 (.) +我好開心嘅

((tr. you haven't had the time to go hiking)) ((tr. I feel very happy))

+T looks at S3

+T points at the person on BB

127 (0.4)

128 T: okay I am very happy I am very (0.3) +positive

+T moves his index finger
along the slanting line
(upward) from low to high
position

129 (2.6)

130 Ss: hahaha

131 +(2.2)

+Students clapping their hands

132 T: +okay (0.5) that's why the slope is +positive

+T draws a line going upward #7

+T moves his index finger along
the slanting line (upward) from
low to high position

Figure #7

133 (0.9)

134 S3: \$okay\$ \$okay\$

135 (0.8)

136 S1: 我唔想俾反應你 hahaha

((tr. *I don't want to respond you*))

137 (0.9)

In line 111, T establishes a hypothetical scenario by drawing a person next to the slanting line (upward) (Figure 5) and stating 'just imagine you go hiking' (line 112). While T is drawing a person, T switches to Cantonese to initiate a question, '你會點呀(.)去行山嘅時候 (how would you feel when walking up the hill)' to encourage students to imagine themselves going hiking (line 114).

In line 120, T switches to Cantonese and utters '一開始去行山 (when you walk up to the hill at the beginning)' in order to continue to establish the imaginary context of going hiking. T simultaneously moves his index finger along the slanting line (upward) from low to high position to indicate the walking direction of the hand-drawn person. Momentarily, the triangle on the

blackboard, which was previously created prior to Extract 1, figuratively represents a hill. T then adopts a smiley voice and asks whether students will feel happy when they go hiking (line 120). By adopting the smiley voice and enacting a running gesture (Figure 6), T is conveying a sense of happiness in walking up to the hill. However, student 3 (S3) provides a negative response in Cantonese and T displays his disappointed facial expression by narrowing his lips while S3 is speaking (line 122). Several students are laughing in line 124 since S3 challenges T's prior assumption regarding the students' reactions. In line 126, T repairs S3's negative comment by reiterating the happiness of hiking, '我好開心嘅 (I am very happy)'. In line 128, T switches footing from instructional frame to hypothetical frame by imagining himself as the person and voicing aloud his own feelings in English: 'I am very happy I am very (0.3) positive'. Note that when T utters the word 'positive', he moves the finger along the slanting line (upward) and this allows students to realize that T's jocular and positive feeling is associated with the mathematical meaning of positive (i.e. above zero). After a 2.6-s pause, several students are laughing (line 130) and clapping their hands (line 131) to applaud T's performance. In line 132, T switches back from the hypothetical frame to an instructional frame in order to provide explicit explanation to students by stating, 'that's why the slope is positive'.

In this extract, T translanguages through utilizing various multilingual and multimodal resources, including gestures, intonations, smiley voice, facial expressions, use of Cantonese, the drawings (hand-drawn person and a triangle which represents a hill), to adopt a character viewpoint and create a congenial scenario where he walks up to the hill. This allows T to connect the mathematical idea of the positive value of sloping upward with a delightful feeling. In the post-video-stimulated-recall-interview, T offers his opinion regarding his use of drawings to facilitate the construction of the imaginary context (see Table 2).

The researcher first draws T's attention to his drawings on the blackboard. In the interview, the researcher is wondering whether T's illustration of an everyday life example can assist students in understanding the mathematical concepts. T then points out that since mathematical numbers dominate the mathematical discourse, using pictures can visualise the mathematical concept to the students. In particular, T shifts the footing by imagining himself as his students and voicing out their reactions when they look at T's drawings: '所以佢哋就會, 嘩, 又係留心你畫啲乜 (So, they would be like: wow. They would pay attention to what you were drawing.)'. This illustrates his expected reaction that he will receive from his students. In the MCA analysis, it is evidenced that several students are laughing while T is drawing (e.g. lines 116 and 144). This indicates that the students are paying attention to his drawings and they treat it as humorous. Therefore, it can be argued that T's pedagogical goals (i.e. drawing students' attention and visualising the mathematical concept) motivate T in drawing images on the blackboard which contributes to T's translanguaging practices and the creation of a humorous context in the classroom interaction.

Table 2: Video Stimulated Recall Interview (Extract 2)

Classroom Interaction Transcript	Video Stimulated Recall Interview Selected Excerpts	Teacher's Perspectives	Analyst's Interpretations of the Teacher's Perspectives
<p>107 (2.4) 108 T: +the way I memorize the slope um +T picks up a red-colour chalk from the BB tray +T moves his index finger along the slanting line (doping upwards) from low to high position</p> <p>109 (0.2) 110 T: +why this one is positive is +T moves his index finger along the slanting line (doping upward) from high to low position repeatedly...> ...>+</p> <p>111 (0.4) 112 T: +just imagine you go hiking +T draws a person next to the slanting line (doping upward) ...> #5</p>  <p>Figure #5</p> <p>113 (1.5) 114 T: 你會點呀 (.) 行去山嗎時候+ (1.0) +背囊 ((tr. what would you do (.) when you go hiking) (tr. backpack)) ...>+ +T draws a person wearing a backpack</p> <p>115 (1.7) 116 S3: haha 117 (0.4) 118 T: okay? (0.3) okay? +you go hiking +T points at the person on the BB</p>	<p>01 K: 呀你係個壁報板 壁度呢埋公仔，佢畫 埋背景咁樣 (tr. So, you were drawing action figures on the blackboard and you even drew a backpack too)</p> <p>02 T: um hm</p> <p>03 K: and 即係我覺得係 好，呢個係一個好 everyday life 問 example，但同時間又是 係好 visually 呀樣去 illustrate 到俾啲學生去 吸收呢樣野咁樣 (tr. And I think that it is a very nice example (i.e. going up the hill) which reflects the everyday life. But at the same time, you attempted to visually illustrate it so that students could understand it easily)</p> <p>04 T: um hm</p> <p>05 K: 你，你覺得呢一 個，呢呢呢一種嘅</p>		
<p>119 (0.5) 120 T: +開始去行山+ 你係咪好開心啊 ((tr. before you walk up to the hill are you excited)) +T moves his index finger along the slanting line (upward) from low to high position +Enacting a running gesture (holding his elbow at 90 degree and hold a small fist and swinging his arms forward) #6</p>  <p>Figure #6</p> <p>121 (0.5) 122 S3: +唔開心 ((tr. not happy)) +T stares at S3 +T narrows his lips</p> <p>123 (1.0) 124 S3: hahaha 125 (0.2) 126 T: +唔係你未得閒行山 (.) +我好開心嘅 ((tr. you haven't had the time to go hiking)) (tr. I feel very happy)) +T looks at S3 +T points at the person on BB</p> <p>127 (0.4)</p>	<p>practice um 你有乜嘢 opinion (tr. Do you have any opinion regarding such practice?)</p> <p>06 T: 唔數學文字多呀 嘛，數字有多呢，咁所 以有啲圖畫，圖像化左 但啲紙系會清晰啲嘅 (tr. There are lots of words and numbers in the mathematical discourse. By having pictures to visualize the concept to students, students would find it easy to follow)</p> <p>07 K: um</p> <p>08 T: 然後，即係就算我 畫得，畫得 haha，畫得 靚同埋畫得差呢，我收 到個效果都係，都係 good嘅 (tr. And, if I drew it haha. If I drew it beautifully or drew it badly, the outcome that would be positive)</p> <p>09 K: um!</p> <p>10 T: 因為，因為但啲紙 會鍾意嘢 (tr. that's because, because the students would like it)</p>		<p>Using pictures could visualize the mathematical concept to the students and facilitate their understanding.</p>

Table 2 *Continued*

<p>128 T: okay I am very happy I am very (0.3) +positive +T moves his index finger along the slanting line (upward) from low to high position</p> <p>129 (2.6) 130 Ss: hahaha 131 +(2.2) +Students clapping their hands</p> <p>132 T: +okay (0.5) that's why the slope is +positive +T draws a line going upward #7</p> <p>+T moves his index finger along the slanting line (upward) from low to high position</p>  <p>Figure #7</p> <p>133 (0.9) 134 S3: <i>sokay</i> <i>sokay</i> 135 (0.8) 136 S1: 我唔想俾反應你 haahaha (tr. I don't want to respond you) 137 (0.9)</p>	<p>11 K: um</p> <p>12 T: 即係個老師畫畫啲嘢呢，好噃意，haha，係，所以佢哋就會，嘩，又係留心你畫喺乜，畫得我，又會話你，咁樣，不過佢係但係起碼佢哋會，即係我係知道全部留意緊既件事嘅，就係就係，所以，係囉畫畫都幾有趣 (tr. that means, when the non-visual arts teacher was doing some kind of drawings, the students would like it. Haha. So, they would be like wow. They would pay attention to what you were drawing. If your drawings were poor, they would criticize you. Yes. But at least they were. At least I know that all students were paying full attention to my drawings. So, I think drawing can be fun.)</p>	<p>T shifted the footing by imagining himself as his students and voicing out their reactions when they were looked at T's drawings</p>
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Playful talk for promoting meaningful communication

In the dataset, three instances were identified which involves the teacher and students engaging in extended discussions, which may not have direct relevance to the content subject. The playful talk in Extracts 3 and 4 are typical examples which reflect this feature. These extracts are different from the playful talk, which were analysed in the previous extracts since the interactions in the previous extracts have the pedagogical goals of promoting content-related learning. Rather, the pedagogical goals in the following examples aim to promote communication with the students so that the interaction values the students' ideas and expressions of their life experiences.

Extract 3: Drawing on the limited linguistic knowledge of Mandarin Prior to the extract, T read out the mathematical question that students needed to solve. After reading aloud the question, T initiated a question by using rhyming words at the end of each sentence to create a rhyming effect. However, when he uttered the last sentence, he could not think of an appropriate rhyming word/phrase that could be used at the end of the sentence. This led to students' laughter in the classroom. Student 12 (S12) then asked T whether he was able to pronounce '我覺得不行 (I don't think so)' in Mandarin. In Extract 3, it is evidenced that T and students are engaging in discussions about T's ability in pronouncing a Mandarin phrase.

Extract 3

54 T: 我 (1.0) haha 俾我諗諗先 (.) 俾我冷靜啲先 (.) +要讀個普通話=

((wō))

((tr. I)) ((tr. let me think about it)) ((tr. let me claim myself down)) ((I need to say it in Mandarin))

+T holds his arms in parallel
+T moves his arms upward
and downwards
horizontally—> #8

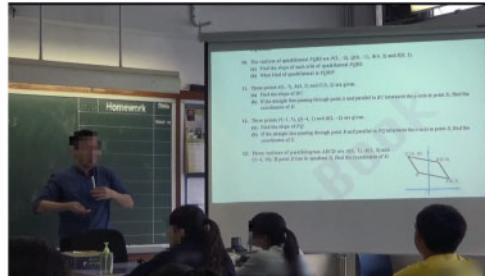


Figure #8

55 T: =我唔可以諗+ (0.2) 我—諗我唔識讀

((tr. I can't think)) ((tr. If I think about it then I can't pronounce it))

—>+

56 (0.4)

57 T: +我覺 (0.3) 我 (0.2) [我+]

((wó jue)) ((wó)) ((wó))

((tr. I think)) (tr. I) ((tr. I))

+T points at S1—>

—>+

58 Ss:

[+hahahahaha]

+T smiles and he slightly bends over the T's desk

59 (0.7)

60 T: + (NAME-S3)

((pronouncing S3's name in Mandarin))

+T looks at S3 and points at S3

61 + (1.2)

+T first points at S3 and then moves his index finger towards himself #9

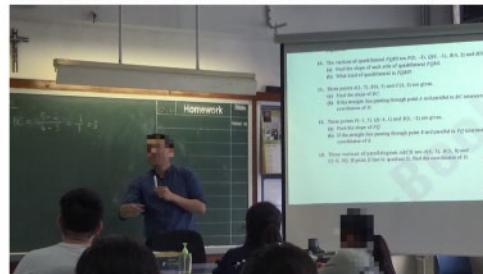


Figure #9

62 S3: 什麼

((shén me))

((tr. what))

63 (0.8)

64 T: 告訴我

((gào sù wǒ))

((tr. tell me))

65 (0.2)

66 S3: 我覺得不行啊

((wǒ jué de bù xíng ā))

((tr. I don't think so))

67 (0.4)

68 T: +我 (.) 我覺得 (0.5) 不行

((wó)) ((wó juě de bù xíng))

((tr. I)) ((tr. I do n't think so))

+T turns his body to face directly at S3

69 (0.3)

70 S3: 我覺得不行

((wǒ jué de bù xíng))

((tr. I don't think so))

71 T: 我 (0.2) +我 (0.2) [+我 (0.5) +我 (0.3) +覺得]

((wó)) ((wó)) ((wó)) ((wó)) ((juě de))

((tr. I)) ((tr. I)) ((tr. I)) ((tr. I)) ((tr. think))

+T raises his RH upward to his face

+T extends his index finger and points to the top #10

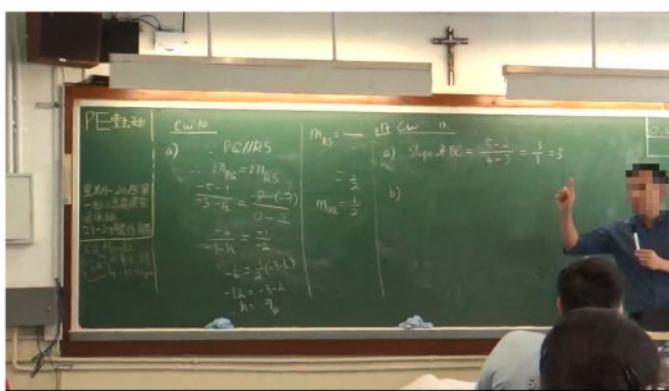


Figure #10

+T raises his RH upward, above his head

+T raises his RH to his face, index finger

pointing to his left

+T moves his RH across his body to his left #11

+T slants his index finger

downward towards his left #12

72 S3:

[我覺得不行]

((wǒ jué de bù xíng))

((tr. I don't think so))

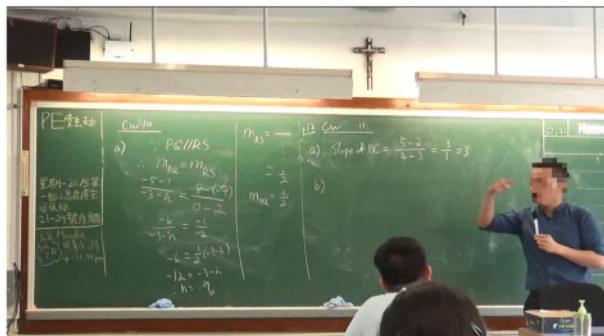


Figure #11

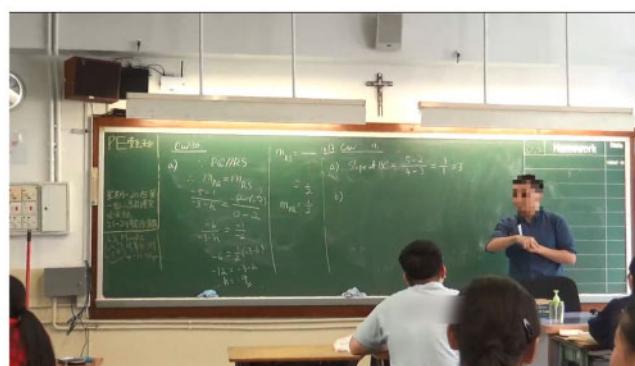


Figure #12

73 Ss: +hahahahaha

+T smiles and T bends over the T's desk #13

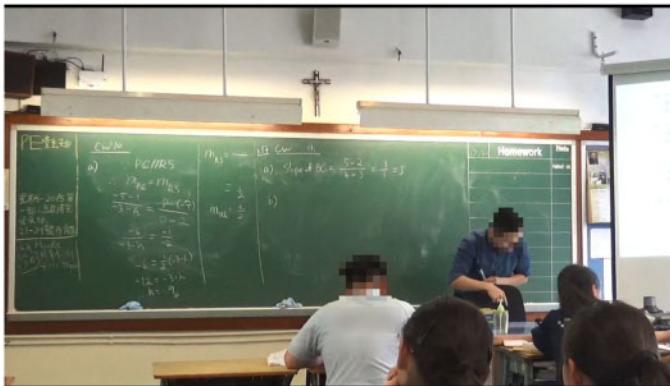


Figure #13

74 T: 我覺得不行

((wó juě de bù xíng))

((tr. I don't think so))

75 (0.5)

76 Ss: hahahahahaha

In response to S12's question, T attempts to use Mandarin by saying '我 (wō) (i.e. I)' (line 54). However, T discontinues uttering his responses and he then switches back to Cantonese to explain to the students that he needs time to process the Mandarin pronunciation. Although T attempts to utter in Mandarin in line 57 to respond to student 1's (S1) comment, T fails to construct a proper sentence as evidenced in the repetition of '我 (wō)' and the short pauses in between the utterances, '我覺 (wó jue) (i.e. I think) (0.3) 我 (i. e. wó) (I) (0.2) 我 (wó) (i.e. I)' (line 57). As shown in line 58, T's truncated Mandarin utterances are received with laughter from students.

However, T has not given up on using Mandarin in the classroom. T specifically selects S3 as the next speaker by announcing her name in Mandarin in line 60 and pointing at S3 (figure #9, line 61). It is important to note that S3's first language is Mandarin, and she and her family are migrants from mainland China (T's pre-interview). T then makes a request to S3 in line 64 by saying '告訴我 (tell me)' in Mandarin. By asking S3 to inform him the correct way of uttering '我覺得不行' in Mandarin, T is treating S3 as the linguistic expert who has the ability for repairing his Mandarin pronunciation. In line 66, S3 responds to T's request by offering the correct Mandarin pronunciation of the phrase, '我覺得不行啊 (wó jué de bù xíng ā)'. T takes the next turn and attempts to repeat S3's pronunciation in order to display his understanding in lines 68 and 71.

Notice that T points to the top and raises his right-hand upward to his face when he utters '我 (wō)' in line 71 (Figure 10) in order to visually illustrate the high intonation of this word. Instantaneously, S3 repeats the correct

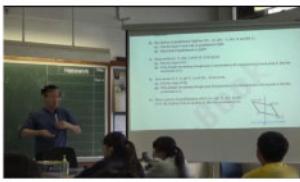
pronunciations again while T is speaking in order to provide corrective feedback to T (line 72). T continues to mispronounce '我' and coincidentally employ an iconic gesture to represent the first tone in Mandarin (Figure 11) (i.e. a horizontal line above the vowel). After a 0.3-s pause, T slants his index finger down towards his left (Figure 12) when he utters '覺得 (juě de)'. This iconic gesture is possibly referring to the fourth Mandarin tone (also known as a falling tone) but T does not enunciate the words, '覺得 (juě de)', in the fourth tone. T's attempt in using Mandarin is immediately received with laughter from the students. Simultaneously, T recognizes his failure in enunciating the correct Mandarin pronunciations through smiles and bending over the desk (figure #13).

Based on T's self-reflection during the pre-interview, T considers that his Mandarin proficiency is below average. In this extract, it can be seen that T is translanguaging as he draws on his limited linguistic knowledge of Mandarin, accompanied by various gestures, to construct a humorous atmosphere in the classroom. He takes this opportunity to invite S3, who has linguistic expertise in Mandarin, to participate in the classroom interaction. Typically, the linguistic codes (Cantonese and English) are mostly employed in the classroom. Hence, allowing S3 to translanguag (i.e. drawing on her familiar language, Mandarin) in the classroom makes the meaning-making process much more inclusive and honours the diverse communicative resources available in the classroom. During the post-video-stimulated-recall-interview, T comments on his use of Mandarin in the classroom (see Table 3).

T comments that he is having fun with his students and suggests that his pedagogical goal is to provide a break time for students. It is noticeable that T often uses phrases such as 'take過break (take a break)' and '休息 (rest)' in Cantonese to reinforce the need for the students to take a break. This is possibly because the students in this class are low performers in mathematics. T seems to understand his students' ability as he is aware that the students will not be able to concentrate during the mathematics double lesson which lasts for 90 min. Hence, taking a break can allow students momentarily move away from mathematics. Additionally, T acknowledges the fact that students enjoy teasing his Mandarin pronunciations. Particularly, T's words, '咁所以我咪比佢哋笑下, 開心下 (So, I allowed them to laugh at me and enjoyed the laugh)', further reiterate his casual attitude towards the students' laughter. Hence, it is possible that T's motivation to befriend his students contributes to the creation of a translanguaging space, which allows students to engage in translanguaging and promotes a jocular classroom environment for students to relax.

Extract 4: Raising the issue of linguistic discrimination Extract 4 is the immediate continuation of Extract 3. After the students' laughter in line 76, T switches back to English and draws students' attention back to part b of the mathematical question (line 78). In this extract, T notably translanguages by drawing on his full linguistic repertoire (i.e. imitating a foreigner's Cantonese accent, using his limited Mandarin proficiency and L1 Cantonese) to construct a humorous classroom environment which does not only promote genuine

Table 3: Video Stimulated Recall Interview (Extract 3)

Classroom Interaction Transcript	Video Stimulated Recall Interview Selected Excerpts	Teacher's Perspectives	Analyst's Interpretations of the Teacher's Perspectives
<p>54 T: 我 (1.0) haha 呵我懿懿先 (.) 倏我冷靜先 (.) +要讀回普通話~ ((wō)) ((tr. I)) ((tr. let me think about it)) ((tr. let me claim myself down)) (I need to say it in Mandarin) +T holds his arms in parallel +T moves his arms upward and downwards horizontally-->+ #8</p>  <p>Figure #8</p>	<p>01 T: 完全係同佢，嬌戲呀，呢個位係 (tr. At that moment, I was having lots of fun with my students)</p> <p>02 K: hahaha</p> <p>03 T: 應該，呢一堂係唔係 double lesson 來喇？ (tr. I think that was a double lesson, right?)</p> <p>04 K: 係呀係呀 (tr. Yes yes)</p> <p>05 T: 喔，所以就要有啲放break，等佢休息下，係噃，應該做咗一段時間先至去發生呢啲事噃，所以就同佢，輕鬆一下等佢，轉過腦筋啊 (Right so that was why it was necessary to have a breaktime in order to allow them to take a rest. Right. I think it should have happened after a while. So that was why I tried to allow them to relax)</p> <p>06 K: ah!</p> <p>07 T: 係噃，咁就，咁就同佢玩下咁樣噃 (tr. Yes and that's why I was playing with them)</p>	<p>T's first impression was that he was having fun with his students at the moment of the classroom interaction.</p> <p>The pedagogical goal was to provide a break time for students.</p>	
<p>55 T: ~我唔可以諗+ (0.2) 我一諗我唔識讀 ((tr. I can't think)) ((tr. If I think about it then I can't pronounce it)) --->+ 56 (0.4) 57 T: +我變 (0.3) 我 (0.2) [I+] ((wō jue) ((wō)) ((wō)) ((tr. I think)) (tr. I) ((tr. I)) +T points at S1--> --->+ 58 S3: [+hahahahaha] +T smiles and he slightly bends over the T's desk 59 (0.7) 60 T: +(NAME=S3) ((pronouncing S3's name in Mandarin)) +T looks at S3 and points at S3 61 + (1.2) +T first points at S3 and then moves his index finger towards himself--></p>  <p>Figure #9</p>	<p>08 K: 係噃因為呢一個成一個鐘呀嘛，五點幾分，係噃 (tr. Right. Because this happened after an hour and five minutes. Right)</p> <p>09 T: 應該上左好耐噃，係噃呀，係噃係噃 (tr. Yes it must have been a long lesson, right? yes yes).</p> <p>10 K: double lesson</p> <p>11 T: 係噃噃所以就同佢地，噃地同，因為入邊有啲人聽齊這話會，會，會有反應，然後之後係噃噃，但噃又歸意喎我唔普通話咁得，咁所以我就比佢睇笑下，開心下，順便做take break咁樣咁噃，咁佢噃又不刻不覺又take break (tr. Right. So that's why I was trying to. Switch to different. This is because a few of the students would offer reactions to me when they listened to Mandarin. And yes. Some of the students enjoyed laughing at my Mandarin pronunciations. So, I allowed them to laugh at me and enjoyed the laugh. This also allowed them to take a short break after a long lesson.)</p>	<p>T acknowledged the fact that students enjoyed teasing his Mandarin pronunciations</p> <p>T often used the phrases such as 'take 過 break (take a break)' and '休息 (rest)' in Cantonese to reinforce the need for the students to take a break</p> <p>T seemed to understand his students' ability as they could not focus doing mathematics throughout the whole double lesson.</p> <p>T allowed students to laugh at him and used it as a strategy to befriend with his students and promote a jocular classroom environment</p>	

communication with students, but also promote the examination of social issues including linguistic discrimination.

Extract 4

77 (2.7)

78 T: +唉 sh↑ (0.3) coming back (0.2) +okay [(0.2) b]

((tr. ugh))

+T looks at the screen

+T points at the question on the screen

79 S1:

[馬來西亞嗰啲] 普通話

((tr. Malaysian-style Mandarin))

80 (0.3)

81 T: +乜嘢馬來西亞啊 (1.3) +本土係咁樣㗎啦

((tr. what do you mean by Malaysian)) ((tr. this is how a local speaks))

+T looks at S1

+T points at S1

82 (1.5)

83 S1: 對↑啊↑ (0.5) 不↑行↑啊↑

((duì á)) ((bù xíng á))

((tr. yes)) ((tr. not okay))

84 (0.4)

85 T: +係囉 (0.4) +香港人講普通話就係咁㗎啦

((tr. yes)) ((tr. this is how Hong Kong people speak Mandarin))

+T looks at the question on the screen

+T looks at the students

86 (1.2)

87 T: +okay (0.4) +你哋唔會笑啲外國人講中文㗎嚟

((tr. you guys won't laugh at the foreigners speaking Chinese))

+T looks down and looks at the computer

+T looks up and points at the students

88 (0.6)

89 T: +我哋都唔知

(([o1] [dei6] [d01] [m4] /dʒi:/))

((tr. we have no idea))

+Imitate foreigner's Cantonese accent

90 (0.2)

91 T: 佢哋你哋覺得好可愛個嚟

((tr. you guys think that they are very cute))

92 (0.2)

93 T: +點解你哋唔可以用另外一個方法你覺得好可愛呢?+=

((tr. why can't you try to use another way to perceive that as cute))

+T cups RH and moves slightly upwards and downwards repeatedly—>

—>+

94 (0.2)

95 Ss: hahahaah

96 (0.5)

97 T: +係咪先

((tr. right))

+T's RH palm faces upward

98 (0.2)

99 T: 我覺得不行

((tr. I don't think so))

((wó jué de bù xìng))

100 (0.3)

101 S3: +但係你唔可愛呀嘛=

((tr. but you are not cute))

+T similes and looks at S3

102 T: =+爲什麼啊=

((wéi shěn mó ā))

((tr. why))

+T turns his body, facing S3 #14

+T drops his hand from his waist level to his leg position #14



Figure #14

103 Ss: hahahaah=

While T is specifying the sub-question 'b', S1 speaks concurrently and criticizes T's Mandarin as '馬來西亞嘅普通話 (Malaysian-like Mandarin)'. S1 continues to criticize T's Mandarin in line 83 by switching his speech to Mandarin and uttering the words with high intonation, '對↑啊↑ (yes) (0.5) 不↑行↑啊↑ (not okay)', possibly in order to imitate T's flawed Mandarin pronunciation. In line 85, T justifies his Mandarin pronunciation by explaining that '香港人講普通話就係咁㗎啦 (this is how Hong Kong people speak Mandarin)'. Subsequently, T makes a comment in Cantonese, '你哋唔會笑啲外國人講中文㗎 (you guys won't laugh at the foreigners speaking Chinese)' (line 87). By criticizing the students' views, T switches the focus of the discussion (i.e. T's Mandarin discussion) to students' perceptions about the way foreigners speak Chinese.

Interestingly, T creatively imitates a foreigner's Cantonese accent by altering his Cantonese intonations, '我哋都唔知 (we do not know) (Yale Cantonese Romanization: [o1] [dei6] [do1] [m4]/dʒi:/)' (line 89), in order to portray himself as a foreigner who does not speak Cantonese. Such appropriation of a foreigner's accent is obviously different from the way T normally speaks Cantonese in the lessons. T continues his talk in line 91 by voicing aloud the students' perception, '佢哋你哋覺得好可愛個㗎 (you guys think that the foreigner's Cantonese accent is cute)'. Through creating a performance of an 'acceptable' Cantonese accent in line 89, T aims to allege accent discrimination. In line 93, T initiates a rhetorical question to prompt students to reflect on their perceptions of different accents, '點解你哋唔可以用另外一個方法你覺得好可愛呢? (why can't you try to use another way to perceive that as cute?)'. After a 0.2-s pause, T utters the Mandarin phrase, '我覺得不行', again and he mispronounces 我(wó) in this instance. By uttering the Mandarin phrase in this way, T is possibly affirming his HK Mandarin accent. However, S3 uses Cantonese to criticize T for not being 'cute' from her perspective (line 101). T immediately turns his body to face at S3 and asks '為什麼啊 (why)' in Mandarin. T's utterance is also marked with a loud voice as well as the exaggerated non-verbal gesture of dropping his hand (figure #14) in order to playfully enact his frustration towards S3's criticism. T's reply is treated by the class as a laughable, as shown by the laughter in the next turn (line 103).

As demonstrated in Extract 4, the playful talk momentarily becomes a translanguaging space which encourages open discussions between T and the students to identify their own biases and critically reflect on them. During the post-video-stimulated-recall-interview, the researcher is wondering what motivates T to have the classroom discussion about linguistic discrimination (see Table 4).

In order to make sense of T's pedagogical goals, the researcher asks T to explain whether he has another pedagogical goal in mind for having a class discussion about his 'non-standard' Mandarin pronunciation. T then states that he wants to prompt students to reflect upon their own biases. Such reflection confirms the MCA analysis that T creates playful talk in order to allow students to reflect on the issue of accent discrimination. T also briefly recounts his

Table 4: Video Stimulated Recall Interview (Extract 4)

Classroom Interaction Transcript	Video Stimulated Recall Interview Selected Excerpts	Teacher's Perspectives	Analyst's Interpretations of the Teacher's Perspectives
<p>77 (2.7) 78 T: +ok shi (0.3) coming back (0.2) +okay [(0.2) b] (tr. sgh) +T looks at the screen</p> <p>79 S1: -T points at the question on the screen [馬來西亞的華語] 音逼話 (tr. Admiring the Chinese and Mandarin) 80 (0.3)</p> <p>81 T: +乜嘢馬來西亞啊 (1.3) +本土佢樣嘢呢 (tr. what do you mean by Malaysian) (tr. this is how a local speaks) +T looks at S1 +T points at S1</p> <p>82 (1.5)</p> <p>83 S1: 到咗啊? (0.5) 不! 不! 啊? (duak) (tr. not like) 84 (0.4)</p> <p>85 T: +你唔 (0.4) +香港人講吉國話佢咁呢 (tr. yes) +T looks at the question on the screen +T looks at the students</p> <p>86 (1.2)</p> <p>87 T: +okay (0.4) +台灣所會笑咗外國人講中文嘅呢 (tr. you guys won't laugh at the foreigners speaking Chinese) +T looks down and looks at the computer +T looks up and points at the students</p> <p>88 (0.4)</p> <p>89 T: +我哋都唔知 ([oɪ] [dən] [dəl] [mɪ] [dʒi:]) (tr. we have no idea) +Imitate foreigner's Cantonese accent</p> <p>90 (0.2)</p> <p>91 T: +佢哋有嘅覺得好可笑噃 (tr. you guys think that they are very cute)</p> <p>92 (0.2)</p>	<p>01 K: 我唔知你當時係係唔係，係唔係你好似似想講些甚麼噃話題噃呢。因為你同佢地唔話，唔點解你哋要有一個，咁呢 ideology 呢。相唔差人地唔會普通話唔好呢，咁呢個人唔懂得話又，佢哋又會覺得OK噃。當時其實你係想 achieve OK噃，即係你欲講某之外拉，有啲啲，但係有一個，仲有行一啲，係有一個目標係當時你係唔曉得要去明白。(tr. I am not too sure whether you deliberately raised that discussion in the lesson. This is because you were saying in the class that, oh all of you should have such ideology and criterion. Mandarin pronunciation. When a foreigner speaks Cantonese and how come all of you thought that it was acceptable? So, at the moment what were you trying to achieve? Other than making jokes, do you have another goal in mind? That is, you wanted your students to understand this issue.)</p> <p>02 T: 有嘅，但係地反，反思一下嘅，其實外國人點解會一定係外國人好似對我哋噃，你地覺得，即係佢地係中文好似好可愛噃，但係點解我哋講普通話你地會笑呢，咁樣噃，即係其實，因公可能因為我本身即係我普通話講得差唔咁噃，喺人會笑我咁就係可能有過過唔噃問題，但想底地唔下噃，其實唔噃，即係唔知點解會有呢一啲，冇啲無解</p>	<p>T stated that he wanted to raise students' awareness and prompt them to reflect upon their own biases.</p>	<p>Other than promoting a jocular classroom atmosphere, did the teacher have another pedagogical goal in mind?</p>
<p>93 T: +點啲佢地嘅可以用另外一個方法你覺得好可笑呢:=+ (tr. why can't you try to use another way to perceive that as cute) +T cups RH and moves slightly upwards and downwards repeatedly--></p> <p>94 (0.2)</p> <p>95 S3: hahahaah</p> <p>96 (0.5)</p> <p>97 T: +冇咁先 (tr. right) +T's RH palm faces upward</p> <p>98 (0.2)</p> <p>99 T: 我幾樽不行 (tr. I don't think so) (wò jù de bù xìng)</p> <p>100 (0.3)</p> <p>101 S3: +但係你唔可笑噃= (tr. but you are not cute) +T smiles and looks at S3</p> <p>102 T: = 呢為什麼阿= (wéi shén me é)</p> <p>(tr. why) +T turns his body, facing S3 #14 +T drops his hand from his waist level to his leg position #14</p>	<p>喺我地自己覺得，即係，佢係佢地會下某嘅，咁，咁樣噃我地，好似唔係好合，即係，咁樣噃，冇少少 education 感感覺，咁，一直咁咁樣噃。 (tr. You can reflect them to reflect upon their perceptions. Why foreigners are valued? So, the students thought that the foreigners speaking Cantonese were very cute. But why I had to be teased when I spoke Mandarin? That's it really. I think it's because when I couldn't speak Mandarin properly, people often laughed at me. So, it motivated me to think about this issue and I also wanted my students to reflect upon this issue too. I don't think there's a right or wrong answer for this. But this allowed them to do reflection. Oh, I think it might not be the most appropriate action. That's it really. There was an educational element here. That's that my long-held perception.)</p> <p>03 K: 噢，一直嘅咁樣噃 (tr. oh so that's your long-held perception)</p> <p>04 T: 係呀，我朋友好有啲呀，講，學人講廣東話，就全場拍手嘅，但如果你唔 hahaha 香港人講英文講得接突兀人拍手嘅噃，即係，係噃，即係呢一樣野係有啲呀。 (tr. Yes. My friend is so interesting. He is trying to speak Cantonese. Then everyone is praising for him. But if hahaha Hong Kong people fail to speak English properly, no one will praise for them. Yes, so that's.)</p>	<p>T also briefly recounted his experience of being teased because of his poor Mandarin proficiency.</p>	<p>discrimination.</p>
 <p>Figure #14</p> <p>103 Ss: hahahaha=</p>	<p>T cited an example of a foreigner speaking Chinese</p>	<p>T's shift of footing was possibly imitating the words</p>	

Table 4 *Continued*

	<p>05 K: 畀人諷喎 (tr. you will be criticized too)</p> <p>06 T: 係呀，真係有喎，歧视 啦，係呀呀 (tr. Yes. That's really. That's discrimination. Right?)</p> <p>07 K: 係呀 (tr. Yes.)</p> <p>08 T: 歧視，係呀，就係所以， 係呀，你哋要說下呢啲嘢，係呀 (tr. Discrimination. Yes. That's why. Yes. You guys needed to think about this issue. I believe.)</p>	<p>and people tended to appreciate their effort in speaking Chinese as their L2.</p>	<p>that were enunciated by the person that he knew and the 'friend' that he mentioned was possibly the friend of that unknown person → portraying the positive perception that typical people had on foreigner speaking Cantonese.</p>
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experience of being teased because of his poor Mandarin proficiency. Such incident motivates him to think about the issue of linguistic discrimination. It is noticeable that T shifts the footing by imagining himself as his students and voicing out their reflections: '咁樣笑我都好似唔係好合適喎 (Oh. Laughing at me in this manner. It might not be the most appropriate action)'. This shift of footing illustrates T's expectations that his students will reflect upon their behaviour. In the interview, T shifts to an unknown person's voice when he says: '我朋友好有趣呀講，學人講廣東話 (My friend is so interesting. He is trying to speak Cantonese)'. By imitating an unknown person's voice, T attempts to portray the perception that people typically hold about foreigners speaking Cantonese. Hence, it is argued that the translanguaging space, which is created by T, is shaped by T's personal experience and his own reflection regarding this social issue.

DISCUSSION

The analysis of the extracts has revealed that translanguaging can be used as a critical resource for constructing playful talk, which allows the teacher to achieve his pedagogical goals. In response to the first RQ, the sequential analysis of the interactions has demonstrated that playful talk can be constructed for facilitating content learning (Extracts 1 and 2) and promoting meaningful communication between the teacher and students (Extracts 3 and 4). In all cases, playful talk is oriented to by the classroom participants as humorous (Waring 2013). A range of specific pedagogical goals can be achieved through playful talk, including establishing an imaginary context, circumventing possible limitations in comprehending abstract or complex explanations and discussing social issues. Similar to prior studies (e.g. Broner and Tarone 2001; Warner 2004; Waring 2013; Tai and Brandt 2018), interactional features in

playful talk are identified in this paper, which includes adopting an informal register, exploiting unusual lexical items, laughers and playfully initiating uninvited responses. In Extract 1, the teacher creatively employs linguistic resources, including Cantonese rhyming words, repetition and an English technical term, to form a mnemonic and deploys gestural resources to visually illustrate the meaning of the mnemonic to the students. In Extract 2, the teacher skilfully shifts footing in order to enact a discourse identity (i.e. the imagined person going hiking) which creates an imaginary context to facilitate students' understanding of the mathematical concepts. In Extract 3, the teacher deploys his limited Mandarin repertoire to respond to the student-initiated playful comments as a way to offer a space for students to take a break from doing mathematical questions. Extract 4 also demonstrates how T and students engage in extended discussions about accent discrimination. Particularly, T shifts footing to facilitate his portrayal of a discourse identity as a foreigner who cannot speak Cantonese in order to promote the examination of this social issue.

With regard to the second RQ about how does the teacher make sense of his use of translanguaging in creating playful talk, the analysis of the video-stimulated-recall-interview demonstrated that translanguaging does not only enable the teacher to bring together multiple linguistic and multimodal resources to construct meaning. It enables the teacher to bring his prior life experience as a student (Extracts 1 and 2), his personal interest in adopting particular linguistic features (Extract 1) and his prior experience of being teased (Extract 4) into the playful talk which contributes to the creation of translanguaging spaces in the classrooms (Li Wei 2011 2018). In addition to bringing along the teachers' personal interests and his prior life experience to the classroom interactions, the findings further highlight that the teacher brings his various pedagogical knowledge and beliefs (e.g. knowledge of students' academic and linguistic backgrounds, knowledge of scaffolding strategies and understanding of students' personality traits) into his teaching. These are crucial factors to be considered in order to understand how the teacher creates a translanguaging space to achieve a range of pedagogical goals in playful talk.

The findings of this study have pedagogical implications for both EMI teachers and students. Throughout the analysis section, we have demonstrated that playful talk in EMI classroom helps to create a translanguaging space, which allows classroom participants to bring in a range of linguistic and multimodal resources and different kinds of knowledge into the lessons. It moves away from the typical view to EMI mathematics classrooms which provide limited opportunities for students to interact with the teacher (Lo 2014; Tollefson and Tsui 2014). Through playful talk in EMI classrooms, the participants transform the traditionally teacher-fronted interaction to negotiate a space for voicing their thoughts and create a more dynamic and contingent environment to facilitate students' participation.

CONCLUSION

The findings of this study reveal the potential of constructing playful talk through translanguaging in a multilingual but nominally EMI mathematics classroom. This study has implications for implementing EMI policy at the classroom level. EMI has raised important concerns regarding the complicated interrelationships between language use and content learning (Lin 2006; Macaro 2018). In this study, we have demonstrated that translanguaging can serve as a source of creativity and language play which allows classroom participants to bring in a range of linguistic resources, including composition (e.g. smiley voice, laughter, the volume of voice, word choice), multimodal resources (e.g. gesture and drawings), various pedagogical knowledge and skills, personal experience and interests into the lessons. In this way, translanguaging helps to uncover the misconception of the monopoly of English as the norm in EMI classrooms. This prompts the policymakers to recognize translanguaging as an empowering tool for promoting linguistic diversity in the EMI classrooms and maximizing language users' full linguistic and semiotic resources in knowledge construction. Such perspective treats the multilinguals' ability to speak multiple languages and deploy various semiotic and sociocultural resources as an asset instead of a hindrance affecting their learning processes (Li Wei 2018). The findings provide insights into the need for HK to develop a robust and socially responsive plurilingual model which can offer discursive spaces for various multilingual and multimodal resources along with the target L2 (English).

One limitation of this study is that it is restricted to one EMI teacher and one content subject from a HK secondary school. A longitudinal case study examining the role of translanguaging in creating playful talk by different teachers in different EMI classrooms can enrich our understanding of how using translanguaging in playful talk can lead to positive outcomes on students' content acquisition and English language development. Although this study has framed playful talk in EMI classroom interaction in a positive light, it is possible that playful talk may not be always understood by all students within the classroom (Waring 2013). Hence, it is worth investigating how translanguaging can exclude those who find themselves unable to participate in playful interaction for different reasons.

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SUPPLEMENTARY DATA

Supplementary material is available at *Applied Linguistics* online.

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