Howard Gardner : the myth of Multiple Intelligences

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Introduction

In this paper I examine Howard Gardner's idea that there are multiple intelligences (MI theory). MI theory identifies some eight or nine types of intelligence: not only the logico-mathematical and linguistic kinds measured by IQ, but, also musical, spatial, bodily-kinaesthetic, intrapersonal, interpersonal, to which have now been added naturalist and possibly existential intelligences. My question will be: is there good evidence that these intelligences exist? Or are they a myth?

MI theory is all the rage in school reform across the world. much of its history. I heard recently that the Canadian province of Quebec has introduced the idea into all its secondary schools. In Britain many schools are using MI as a basis for a more flexible type of teaching and learning, which acknowledges that children have different preferred 'learning styles'. Not everyone learns best through traditional methods which draw heavily on linguistic and logical skills. So room is made for children who can bring to bear on their learning their ability in music, say, or their kinaesthetic abilities. In history, for example, pupils' work on the Treaty of Versailles might include a conventional essay for the linguistic children and a rap presentation of the treaty for the musical ones. In many schools children are given questionnaires to profile their intelligences. Some schools give their pupils smart cards – the size of credit cards - inscribed with their preferred intelligences.

And MI does appear to deliver the goods in terms of inclusion and raising self-esteem. Pupils who used to think themselves dim can blossom when they find out how bright they are making music or interacting with people. Kinaesthetic learners can now see themselves as 'body smart'. The idea that intelligence is not necessarily tied to IQ has been a liberating force.

The educational world, including government agencies as well as schools, has gone for MI in a big way. But for the most part it seems to have taken over the ideas

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without questioning their credentials. MI theory comes to schools 'shrink-wrapped', as one teacher put it to me. This is understandable, since schools do not have the time to investigate all the ideas that come their way that look as if they have some mileage in the classroom.

The idea that children come hard-wired with a whole array of abilities in varying strengths is appealing. But is there any reason to think it true?

Everything turns on the claim that the eight or nine intelligences actually exist. The bare idea that intelligence can take many forms and is not tied to the abstract reasoning tested by IQ is both welcome and true. But it's hardly news. Many philosophers and psychologists have agreed with common sense that intelligence has a lot to do with being flexible in pursuit of one's goals. You want to buy a washing machine and check things out rather than rush into it. You vary your tactics against your opponent when you are playing tennis. Your child is being bullied at school and you work out what's best to do. There are innumerable forms in which intelligence can be displayed. We don't need a new theory to tell us this. Long ago the philosopher Gilbert Ryle (1949:48) reminded us that 'the boxer, the surgeon, the poet and the salesman' engage in their own kinds of intelligent operation, applying 'their special criteria to the performance of their special tasks'. All this is now widely accepted.

This means that there are as many types of human intelligence as there are types of human goal. Gardner has corralled this huge variety into a small number of categories. Is this justified? Is it true that there are just eight or nine intelligences? Or is MI theory a myth?

The rest of this paper will explore this question. It will examine why Howard Gardner thinks that these intelligences exist. The crucial text here is a short chapter – of only eleven pages – in his 1983 book *Frames of Mind* in which he first outlined MI theory. This is Chapter 4 of that book, and is entitled ' What is an Intelligence?' I shall spend much of the first part of the essay analyzing this chapter.

How do you know when you've got an intelligence?

How does Gardner pick out his intelligences? How does he identify them? In Chapter 4 he writes

First of all, what are the prerequisites for an intelligence: that is, what are the general desiderata to which a set of intellectual skills ought to conform before that set is worth consideration in the master list of intellectual competences? Second, what are the actual criteria by which we can judge whether a candidate competence, which has passed the "first cut", ought to be invited to join our charmed circle of intelligences? (p60)

Identifying an intelligence is thus a two-stage process. First, it has to satisfy the prerequisites; and secondly it has to satisfy the criteria.

Prerequisites

The first stage is the more important. If a candidate fails here, it stands no chance. So what Gardner says about prerequisites is crucial. He tells us (1983:60-1) that

A human intellectual competence must entail a set of skills of problem-solving…and must also entail the potential for finding or creating problems ... These prerequisites represent my effort to focus on those intellectual strengths that prove of some importance within a cultural context.

He goes on to say (p62) that

a prerequisite for a theory of multiple intelligences, as a whole, is that it captures a reasonably complete gamut of the kinds of abilities valued by human cultures.

Failing candidates

Which candidates fail and which pass the test? Among failures, Gardner includes the 'ability to recognize faces' because it 'does not seem highly valued by cultures'.

Is this true? If most of us could not recognize the faces of our relatives, friends, colleagues, or political leaders, it is hard to see how social life would be possible.

Passing candidates

In Gardner 1983 the passing candidates must include the seven intelligences. They must have all been picked out for their problem-solving and problem-creating skills

important in human cultures.

Are we talking about all human cultures, most, or only some of them? Gardner is not clear on this.

Neither is there any evidence that he has surveyed a great number of human societies in order to reach this conclusion.

There is a mystery about this 'first cut'. How is it that recognizing faces fails, but musical ability passes? Gardner does not give us any clear indication.

What he has in mind, I think, is that the ability to recognize faces is not an *intellectual area* that is culturally valued. It's not like mathematics or music or the visual arts. If this is so – and I give further evidence below that it is – then for something to count as an intelligence it has to be a subdivision of the realm of the intellect. It has to be something like a form of knowledge or understanding in the sense used by Paul Hirst in his well-known theory of 'forms of knowledge' (1974).

If this is right, then the first thing you have to do to pick out an intelligence – as a prerequisite - has nothing to do with empirical investigations of individuals and seeing how their minds or their brains work. It has all to do with reflecting on the social world – specifically that part of the social world concerned with intellectual activities and achievements. To be an intelligence is – so far - the same as being an important realm of understanding. MI theory is rooted not in psychological but in ethical judgements.

I will come back to the 'prerequisites' later. As we shall see, they are of pivotal importance.

Criteria

Once a candidate intelligence has satisfied the prerequisites, it has to meet various criteria. These comprise (1983:62-9):

• potential isolation of the area by brain damage

• the existence in it of idiots savants, prodigies and other exceptional individuals

• an identifiable core operation/set of operations

• a distinctive developmental history, along with a definable set of expert 'end-state' performances

• an evolutionary history and evolutionary plausibility

• support from experimental psychological tasks

• support from psychometric findings

• susceptibility to encoding in a symbol system.

I examined these problems in a little book I wrote on Gardner's theory in 1998 called *Do Howard Gardner's multiple intelligences add up?* Here I will simply summarise some main arguments. I begin with specific items. For convenience, I begin with two of them taken together.

'an identifiable core operation/set of operations'

'A distinctive developmental history, along with a definable set of expert 'end-state' performances'

The interconnectedness of these two can be illustrated by linguistic intelligence. This has as its 'core operations' a sensitivity to the meaning of words, to order among words, to the sounds and rhythms of words, and to the different functions of language' (1983:77). These core operations are seen at work 'with special clarity' in the work of the poet. Linguistic intelligence also possesses a distinctive developmental history, culminating in expert 'end-state' performances like those of the poet. Other intelligences illustrate the same point.

Gardner's theory of intelligence is developmentalist. Developmentalism is the theory that the biological unfolding between two poles from seed through to mature specimen that we find in the physical world is also found in the mental world. In his criteria, Gardner acknowledges the two poles in the mental case. At one end, there are allegedly genetically given capacities. At the other end is the mature state, the 'definable set of expert "end-state" performances'. Gardner is interested in the really high fliers in each area – people like famous poets (linguistic); famous mathematicians (logic-mathematical); famous musicians (musical); famous visual artists; famous dancers, mime-artists (bodily/kinaesthetic); famous politicians (interpersonal); writers

like Proust (intrapersonal).

Problems in developmentalism

Gardner's theory faces an objection besetting all forms of developmentalism. This theory is based on the assumption that the unfolding familiar in the biological realm is also found in the mental. There are two problems about this, one for each of the two poles.

i) First the seed, or initial state. Biological seeds, plant or animal, *have within them the power to unfold* into more complex stages, given appropriate environmental conditions. To locate a parallel initial state in the mental case it is not enough to pick out innately given capacities. There is no doubt that such capacities exist. We are all born with the power to see and hear things, to desire food etc. But these do not have within them the power to *unfold* into more complex forms. They do *change* into more sophisticated versions: the desire for food, for instance, becomes differentiated into desires for hamburgers and ice-cream. But it does not unfold into these. The changes are cultural products: people are socialized into them.

ii) Secondly, the mature state – Gardner's 'end-state'. We understand this notion well enough in physical contexts. A fully-grown human body or delphinium is one which can grow no further. It can certainly go on *changing,* but the changes are to do with maintenance and deterioration, not further growth. If we apply these ideas to the mind, do we want to say that all human beings have mental ceilings - e.g. in each of Gardner's intelligences - beyond which they cannot progress? Psychologists like Cyril Burt have believed this, but the notion is deeply questionable.

There is also a problem about *what counts* as maturity – the end-state - in the case of the intelligences. With the human body, we know through the use of our senses when maturity has occurred: we can *see* that a person is fully grown. What equivalent is there in the mental realm?

We do not just use our senses. We cannot see a person's intellectual maturity as we can see that he or she is physically fully grown. Significantly, ideas about maturity are likely to be controversial. Some people would understand intellectual maturity in quiz show terms, as being able to marshal and remember heaps of facts; others would emphasize depth of understanding, etc. The judgments lack the consensus found in judgments about fully grown pine trees. This is because we are in the realm of value judgments rather than of observable facts.

Gardner's examples of high levels of development in the intelligences reflect his own value judgments. He has in mind the achievements of selected poets, composers, religious leaders, politicians, scientists, novelists and so on. It is Gardner's value judgments, not his empirical discoveries as a scientist, that are his starting point.

I have tried to show that whether we look towards the beginning or towards the end of the development process, we find apparently insuperable problems in identifying mental counterparts to physical growth. Since developmentalist assumptions are central to Gardner's MI theory, the latter is seriously undermined.

'susceptibility to encoding in a symbol system'

Gardner writes:

> following my mentor Nelson Goodman and other authorities, I conceive of a symbol as any entity (material or abstract) that can denote or refer to any other entity. On this definition, words, pictures, diagrams, numbers, and a host of other entities are readily considered symbols (1983:301).

It is important to see how wide the range of Gardner's symbols is. They include not only obvious ones like words and mathematical symbols, but also paintings, symphonies, plays, dances and poems. It is because works of art are symbols in his view that he can connect many of his intelligences with their own kind of symbolic entities. For instance, it is not only words which are the symbols associated with linguistic intelligence: this also contains such symbols as poems. Symbols in music include musical works; in spatial intelligence paintings and sculptures, in b/k intelligence dances; in intrapersonal intelligence introspective novels like Proust's. But the notion that a work of art is itself a symbol is problematic in aesthetics. The main difficulty is: what is it symbolizing? Take a work of abstract art. Or a poem by Sylvia Plath. What are these symbols of?

The whole theory of symbolization in art from Suzanne Langer to Nelson Goodman is deeply problematic.

We can discuss this further later if you'd like. For the moment my claim is that this criterion *'susceptibility to encoding in a symbol system'* rests on a highly dubious aesthetic theory. It is a long way from empirical science.

Without going through all the other criteria, a word about two of them.

'the potential isolation of the area by brain damage'

I think we can take it that there are localized areas of function within the brain. If one part of the brain is damaged, one's sight is impaired, if another, one's ability to move one's left hand. All this shows is that certain physiological necessary conditions of exercising these capacities are absent. It does not help to indicate the existence of separate 'intelligences'.

Given his developmentalism, one can understand why Gardner should look to brain localization in order to identify intelligences, for he has to provide an account of the 'seed' which is to unfold into its mature form, and this seed has to be part of our original constitution. But the kinds of function picked out by brain localization research do not have the power to *unfold* into maturer versions of themselves.

'the existence, in an area, of idiots savants, prodigies and other exceptional individuals'

Gardner invokes the existence of *idiots savants* to support his theory, but what I know of them does not lead me to think of them as intelligent. What they all have in common is a *mechanical* facility, one which lacks the flexibility of adapting means to ends found in intelligent behaviour.

Prodigies only support Gardner's case if there is good evidence that their talents are innate. But what evidence there is seems to point to acquired abilities (Howe 1997: 131-2)

Conclusion

It would be natural to think that the 'criteria' are all straightforwardly applicable. But this is not so. The criteria to do with development and with symbols presuppose the truth of *theories* – one in psychology, the other in aesthetics – which turn out to be untenable. And this undermines the viability of MI theory as a whole.

How are the criteria to be applied?

How does one use the criteria to pick out intelligences? Gardner makes it clear that not all have to be satisfied (Gardner, 1983:62). *Frames of Mind* states that there is no 'algorithm for the selection of an intelligence, such that any trained researcher could determine whether a candidate intelligence met the appropriate criteria' (p.63). Rather, Gardner goes on:

> it must be admitted that the selection (or rejection) of a candidate intelligence is reminiscent more of an artistic judgment than of a scientific assessment. (p.63)

The identification of intelligences appears, then to be a subjective matter. It is worth dwelling on this point. Gardner sees it as a special virtue of his theory that it is *scientifically* based. He writes

> There have, of course, been many efforts to nominate and detail essential intelligences, ranging from the medieval trivium and quadrivium to …the philosopher Paul Hirst's list of seven forms of knowledge... .. The very difficulty with these lists, however, is that they are *a priori* …. What I am calling for are sets of intelligences which meet certain biological and psychological specifications. In the end, the search for an empirically grounded set of faculties may fail; and then we may have to rely once more on *a priori* schemes, such as Hirst's. …. (1983: 61-2).

In saying that selecting intelligences is more like making an artistic judgment than a scientific assessment, Gardner thus seems to be contradicting himself. The non-empirical nature of his theory has also been shown above. We have seen how the 'first cut' selection of the intelligences is not based on empirical investigation of what different societies have held to be valuable; and that the 'criteria' depend on theories in psychology and aesthetics which themselves are not empirically founded.

Why these criteria?

A further - and surely fundamental - question is: how does Gardner justify using the particular criteria he lists to pick out intelligences?

I have not been able to find any answer in his writings.

How did the idea of multiple intelligences come about?

We have seen that there are problems in making sense of Gardner's project, because he fails to give us reasons why he makes this move or that move. We don't know the process whereby a candidate intelligence passes the first test – the prerequisites test – or, if it passes the first test, the process by which it passes the second test – the criteria test. It isn't very clear what an intelligence is. We know that Gardner believes there are innate abilities in a range of areas which unfold into more and more mature forms. We know that symbol systems play a part in the story. But it's all still pretty obscure.

I think the only way of making it any clearer is by looking at how it all came about. Even if this might not justify the theory, it should at least help to explain it .

Gardner's early work on a developmental theory of learning in the arts

In the 1960s Gardner began his career as a developmental psychologist, profoundly influenced by Piaget. Right at the start of his career, then, Gardner was working within a certain structure of thinking – that in different areas of understanding, to do in Piaget's case with mathematics, logic, science and morality, you can trace developmental stages from innate seeds to full-blown social forms. Gardner has always been interested in the bridge between the biological and the cultural. On the cultural side he was also influenced by Lévi-Strauss in anthropology.

The young Gardner was also 'a serious pianist and enthusiastically involved with other arts as well' (2003:1).

> No surprise, then, that when I first began to study developmental psychology, I was soon struck by certain limitations in the field. The child was seen by nearly all researchers as an exclusively rational creature, a problem-solver ….While a first-year graduate student, I elected to direct my own research toward a developmental psychology of the arts. (1982: xii)

This is key to understanding Gardner' s project. He decided on extending Piaget's approach from areas like logic and mathematics that Piaget worked on, to the arts. Most of his work before 1979 was on that project.

All this shows how Gardner's interest in mental development began. What about symbol systems? How do they come into the story?

He was looking for a theory which did more than those of Piaget and Lévi-Strauss to explain innovation and creation, especially in the arts. His view was that symbol systems provided the answer. 'Symbol systems .. are the vehicles through which thought takes place: by their very nature they are creative, open systems.' (op.cit.:4-5) Gardner worked closely on the role of symbols in art with his Harvard colleague Nelson Goodman. As I've suggested, all this is highly problematic.

Gardner's early intellectual biography throws light on his *Frames of Mind*, especially the first five intelligences: linguistic, musical, logico-mathematical, spatial and bodily-kinaesthetic. Of these, logico-mathematical intelligence is related particularly to mathematics and science and its treatment follows Piaget's scheme quite closely. The other four intelligences reflect Gardner's work in extending Piagetian developmentalism into the arts: poetry is prominent in the chapter on linguistic intelligence, music in the musical chapter, the visual arts in the spatial, mime and dance in the bodily-kinaesthetic.

Until 1979 Gardner's work extended Piagetian thinking into the arts. By 1983 it broadened again, now into an overall theory of human intelligences. Why?

The van Leer Project

The answer has to do with the Harvard Project on Human Potential funded by the van Leer Foundation in 1979. The Foundation

> asked the Harvard Graduate School of Education to assess the state of scientific knowledge concerning human potential and its realization and to summarize the findings in a form that would assist educational policy and practice throughout the world. (Gardner 1983: x)

Gardner's task in the interdisciplinary team was to look at psychological, as distinct from philosophical and anthropological, considerations. *Frames of Mind* was the first publication from the team. It focused specifically on 'human *intellectual* potential' (1983:x) (my italics). This restriction appears to have been Gardner's own choice.

As suggested above, the first five intelligences in this book drew on Gardner's pre-1979 work in the Piagetian and Goodmanian traditions. The other two were the personal intelligences. It is understandable that Gardner should wish to include further areas of interest. The van Leer remit wanted something more comprehensive. It was interested in human potential as a whole. Gardner focused on intellectual potential. So he had to determine what further intellectual areas should be considered beyond the sciences, mathematics and the arts. The result was the two personal intelligences.

In answer to his own question 'why have I incorporated personal intelligences in my survey?', Gardner says

> Chiefly because I feel that these forms of knowledge are of tremendous importance in many, if not all, societies in the world ... (1983:241)

This is revealing. It shows him making another 'first cut'. The personal intelligences pass this 'prerequisites' test because of their huge social importance. Gardner then sees how far they pass the second, 'criteria', test. They do not seem to me to meet the criteria very well.

This brings me to the thought: once the personal intelligences were past the first cut, were they not going to be included anyway in the list of intelligences? Gardner has always emphasized that little turned for him during the van Leer Project on calling his multiple competences 'intelligences'.

> I don't remember when it happened but …. I decided to call these faculties "multiple intelligences" rather than abilities or gifts.

Another synonym in play at that time was 'forms of knowledge'.

> ..nothing much turns on the particular use of this term ['intelligences'], and I would be satisfied to substitute such phrases as "intellectual competences," "thought processes," cognitive capacities," "cognitive skills," "forms of knowledge," …. (1983:284)

We saw above that Gardner called the personal intelligences 'forms of knowledge'. This reinforces the idea that basically Gardner is in the same line of business as Paul Hirst was when he carved up human understanding into its separate realms.

A further question arises here about how Gardner conceived his project in this 1979-83 period. If his intelligences are in the same ball park as Hirst's forms of knowledge

– and indeed as 'the medieval trivium and quadrivium' (ibid.), can they still be equated with abilities or talents? From the former point of view, they come out as ways of categorizing the realm of intellectual phenomena; from the latter, as ways of categorizing individuals' intellectual competences. The first classification is extra-individual: it is of epistemological phenomena in the social world. The second is intra-individual - of attributes of persons.

For Gardner at this time – and indeed from early in his career - the two ways of classifying were linked. He saw his theory as bridging the biological world of individual nervous systems and the epistemological or anthropological world of social forms. Symbols have a central role in this. 'The domain of symbols… is ideally suited to help span the gap ...' (1983:300)

Outside Gardner's theory, the two classifications can be kept apart. Paul Hirst, for instance, saw himself as doing epistemology, not psychology. His theory is about how knowledge is to be logically carved up, not about the kinds of intellectual abilities belonging to individuals.

For Gardner, the two spheres are inseparably connected. This is implicit in his developmentalism and his symbol theory: abilities unfold from seeds within the nervous system towards mature end-states found in different intellectual activities; and it is through the acquisition of symbols that these end-states are those of the highest flights of creative activity. Because of this connexion, the bio-psychological study of individuals is a key to understanding the social/epistemological world of the intellectual disciplines; and vice-versa.

Conclusion

The requirements of the van Leer project allowed Gardner to expand from the limited theory of artistic development on which he had previously concentrated to a fuller account of the development of human intellectual competences as a whole. In doing so, he was able to retain the master-ambition which had motivated his work from his early days: the desire to link biology and anthropology, to show that they are part of the same system.

MI Since 1983

Since 1983 there have been several modifications of MI theory.

[a] The original seven intelligences have now been extended to include 'the naturalist intelligence' and – possibly – 'existential intelligence' (1999a: ch4). Naturalist intelligence is picked out by reference to a valued social role found across many cultures: people expert in recognizing and classifying the varieties of plants and animals in their environment. This is the 'first cut'. Naturalist intelligence is then shown to satisfy all or most of the 'criteria'.

Again there are the by now familiar doubts about how well the criteria are met. But a prior question is why the new naturalist intelligence came to be proposed in the first place. Gardner tells us that 'those valued human cognitions that I previously had to ignore or smuggle in under spatial or logico-mathematical intelligence deserve to be gathered under a single, recognized rubric' (1999a:52). This seems to imply that, having reviewed the full gamut of intellectual activities, he realized that the taxonomic aspects of biology had been given short shrift in his original scheme.

This thought is reinforced by what he says on existential intelligence – to do with 'big questions' about one's place in the cosmos, the significance of life and death, the experience of personal love and of artistic experience (pp53-65). Religious and philosophical thinking are also parts of the intellectual world; and these, too, were ill-represented in the 1983 scheme.

All this lends strength to the suggestion that what really powers MI theory is the attempt to identify all major divisions of the intellectual life. Crucial to the theory, as we have seen, is the 'first cut'.

[b] Since 1983, too, Gardner has become bolder about the significance of MI theory. What began as a response to an external funder's request – the extension of a pre-existing interest in development in the arts as well as in Piagetian areas into a more global survey of 'human potential' – has generated

> a new definition of human nature, cognitively speaking. Whereas Socrates saw man as the rational animal and Freud stressed the irrationality of human beings, I (with due tentativeness) have described human beings as those organisms who possess a basic set of seven, eight, or a dozen intelligences (1999a:44).

This is a bold claim. If my contention that Gardner has not succeeded in picking out the intelligences is right, his claim won't do. In any case, why make *intellectual*

activity the defining characteristic of our human nature? Human beings are into all sorts of other things than the pursuit of knowledge and the arts. So why highlight these?

[c] Another departure since 1983 has been Gardner's new distinction between 'intelligence' and 'domain' (1999a:82). The former is 'a biopsychological potential that is ours by virtue of our species membership'. The latter is a 'socially constructed human endeavor', for example 'physics, cooking, chess, constitutional law, and rap music'. It is 'characterized by a specific symbol system'. Gardner says he could have made this distinction more carefully in 1983. Readers would then have seen more clearly that several intelligences can be applied in the same domain, and the same intelligence in many domains.

This move detaches from each other the two dimensions – the biological and the social – which Gardner tried to hold together through his career. It makes MI theory unintelligible. For it has always been part of the concept of an intelligence that it is an ability that develops from a physiological origin towards an end-state belonging to a valued social activity. The 1999 version separates the previously inseparable and puts end-states firmly on the side of the social – as attached to *domains* rather than intelligences. At the same time, the 'criteria', which remain unchanged from 1983, include reference to end-states among the distinguishing features of *intelligences*. This is why the 1999 version of MI theory is unintelligible.

MI and education

Until the van Leer project Gardner was a psychologist, not an educationalist. But he had to adhere to the van Leer request that the Project 'would assist educational policy and practice throughout the world'. (Gardner 1983: x). In *Frames of Mind* Gardner

> touched on some educational implications of the theory in the concluding chapters. This decision turned out to be another crucial point because it was educators, rather than psychologists, who found the theory of most interest. (2003:4)

Since 1983 MI theory has had a huge influence on educational reform, especially school improvement, across the world. It has affected its views about pupils and their

aptitudes, methods of learning and teaching, and curriculum content. If the argument of this essay is correct, all this has been built on flaky theory.

[a] Gardner holds that while nearly all children possess all the intelligences to some degree, some of them have particular aptitudes in one or more of them. 'My own belief is that one could assess an individual's intellectual potentials quite early in life, perhaps even in infancy' (1983:385)

It is not surprising that ideas like these have – not intentionally - encouraged educational policies and practices to do with selection, specialisation, individualisation of learning, and assessment. But if the intelligences are not part of human nature but wobbly constructions on the part of their author, educators should treat them with caution.

[b] One reason why MI theory has been so influential may be its basis in supposedly discrete forms of intellectual activity. With some exceptions, the areas it covers are close to those in a traditional so-called 'liberal education' based mainly on initiation into all the main areas of knowledge, to be pursued largely for their own sake. The addition of naturalist intelligence and (possibly) existential intelligence have made the fit even closer, seeing the affinities of these areas with biology and with work of a philosophical/religious sort.

Gardner's writings elsewhere on what the content of education should be show that the type of schooling he favors is in the 'liberal education' tradition.

> Education in our time should provide the basis for enhanced understanding of our several worlds – the physical world, the biological world, the world of human beings, the world of human artifacts, and the world of the self. (1999b:158)

He also thinks this understanding should be largely for intrinsic ends. 'I favor …the pursuit of knowledge for its own sake over the obeisance to utility' (1999b:39).

It is not surprising that Gardner's curricular ideas dovetail with his ideas of the intelligences, even if this was not his original intention. For the 'liberal education' tradition and MI theory share the same starting point. They both assume the importance in human life of intellectual activities pursued largely for their own sake.

It is not surprising that educators reacting against recent utilitarian tendencies in

schooling have been attracted by MI theory, seeing that the traditional view of education bases it around intellectual disciplines pursued mainly for their own sake.

Whether that view holds water is another question.

Conclusion

For most of this lecture I have concentrated on a critique of MI theory based on an analysis of some of Gardner's crucial arguments, especially in Chapter 4 of *Frames of Mind*. I'm aware that the critique has been pretty complicated. But if MI theory is not to be taken on trust, its credentials have to be examined in some detail.

But my main concern is not with MI theory for its own sake but with its present influence in the educational world. If I am right, the eight or nine intelligences have not been shown to exist. If so, what are the implications for the school reforms based on the theory? As things are now, children are being encouraged to see themselves, in PSHE (Personal, Social and Health Education) lessons and elsewhere, as having innately given strengths in certain areas. This is part of their self-understanding. But if the theory is wrong, they may be getting a false picture of themselves. Is this necessarily a bad thing, if the idea that they are Body Smart or Music Smart improves their view of themselves and helps them to enjoy their learning?

My own view is that there can be better ways of improving self-esteem, ones based on fact rather than illusion. Children can be encouraged to see that their intelligence in practical, physical and creative areas is no less valuable than being good at more abstract subjects – and all this can be done without using MI theory. The idea, found in the latter, that we are all different in our innately given abilities in the MI areas can be just as limiting to children's self-perception as IQ theory used to be. In some ways it is only a pluralistic version of this older determinism.

I am left with further questions. In many schools there is a something like a simplified version of Gardner's theory that is being used. It divides children not into eight or nine categories, but into three. These are known by the letters V A K: 'visual, auditory and kinaesthetic'. The schools I have been in contact with who use VAK do not know where it originates. It comes to them 'shrink-wrapped', just like MI theory itself, the idea of mind-maps or learning how to learn. VAK is part of this new armoury of ideas on teaching and learning. But where does it come from?
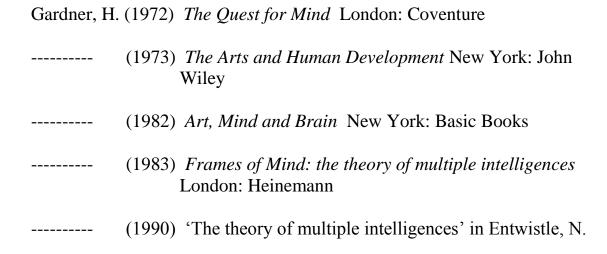
The second question has also been prompted by one of the schools with which I've been in touch. Broughton Hall School in Liverpool is a Catholic secondary school for girls. One of the appeals of MI theory for them is that it reinforces the Christian belief that all human beings are born with unique God-given talents. I have been wondering about the take up of MI theory in different kinds of school. Is there any evidence that it is particularly appealing to faith schools?

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