

AN EXPLORATORY STUDY OF TEACHERS' BELIEFS, AND KNOWLEDGE ABOUT MI THEORY AND ITS USE IN A LANGUAGE CLASSROOM

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ABSTRACT

Intelligence has usually been defined as intelligence quotient (IQ) that measures a narrow variety of verbal/linguistic and logical/mathematical abilities. The theory of multiple intelligences (MI) broadens the traditional view of intelligence as solely composed of verbal/linguistic and logical/mathematical abilities. MI theory maintains that all humans possess at least eight different intelligences that represent a variety of ways to learn and demonstrate understanding.

The aim of this study was to explore English language teachers' beliefs, assumptions and knowledge about MI theory and its use in a language classroom and to see how their beliefs affect their behavior in the classrooms. The study was conducted at one public and one Private Sector University in Lahore. Multiple methods were used to collect data. Interviews were held in each university with 4 English language teachers and then observations were carried out with 4 teachers being 2 from each university. These 4 teachers were observed in their classrooms 5 times by the researcher. A survey on five point scale was conducted among teachers to get more authentic and appropriate look and to enhance reliability and validity of the study. The data was analyzed by using SPSS. Since the sample size was too small so the only mean score of different variables was taken to report. Teachers who used MI theory discovered that they increase a deeper understanding of students' learning preferences and a positive reception of their strengths. Students are likely to become more engaged in learning as they use learning modes that match their intelligence strengths.

Introduction

The theory of multiple intelligences (MI) broadens the conventional view of intelligence as exclusively accumulation of verbal/linguistic and logical/mathematical abilities. MI theory retain that all humans have at least eight intelligences that represent a range of ways to learn and show understanding.

Intelligence has usually been defined in terms of intelligence quotient (IQ), which measures a narrow range of verbal/linguistic and logical/mathematical abilities. Howard Gardner (1993) argues that humans possess a number of discrete intelligences that patent themselves in variety of skills and abilities. Human beings apply these intelligences to resolve problems, devise processes, and produce things. Intelligence, according to MI theory, is being able to apply one or more of the intelligences in ways that are valued by a community or culture. The current MI model outlines eight intelligences, although Gardner (1999) continues to explore additional possibilities.

Linguistic Intelligence--involves having a mastery of language. This intelligence includes the ability to effectively manipulate language to express oneself rhetorically or poetically. It also allows one to use language as a means to remember information.

Spatial Intelligence--gives one the ability to manipulate and create mental images in order to solve problems. This intelligence is not limited to visual domains--Gardner notes that spatial intelligence is also formed in blind children.

Musical Intelligence--encompasses the capability to recognize and compose musical pitches, tones, and rhythms. (Auditory functions are required for a person to develop this

intelligence in relation to pitch and tone, but it is not needed for the knowledge of rhythm.)

Bodily-Kinesthetic Intelligence--is the ability to use one's mental abilities to coordinate one's own bodily movements. This intelligence challenges the popular belief that mental and physical activity are unrelated.

The Personal Intelligences--includes interpersonal feelings and intentions of others--and intrapersonal intelligence--the ability to understand one's own feelings and motivations. These two intelligences are separate from each other. Nevertheless, because of their close association in most cultures, they are often linked together.

Review of Literature

Gardner's theory of multiple intelligences right away took root in the educational community. It offered a theoretical foundation of the mind and bolstered beliefs about student competence.

Seven kinds of intelligence would allow seven ways to teach, rather than one. And powerful constraints that exist in the mind can be mobilized to introduce a particular concept (or whole system of thinking) in a way that children are most likely to learn it and least likely to distort it. Paradoxically, constraints can be suggestive and ultimately freeing.

Mindy L. Kornhaber (2001: 276), a researcher involved with Project Zero, has identified a number of reasons why teachers and policymakers in North America have responded positively to Howard Gardner's presentation of multiple intelligences. Among these are that:

... the theory validates educators' everyday experience: students think and learn in many different ways. It also provides educators with a conceptual framework for organizing and reflecting on curriculum assessment and pedagogical practices. In turn, this reflection has led many educators to develop new approaches that might better meet the needs of the range of learners in their classrooms.

The way in which Howard Gardner's theory of multiple intelligences has been translated into policy and practice has been very varied. Howard Gardner did not, initially, spell out the implications of his theory for educators in any detail. Subsequently, he has looked more closely at what the theory might mean for schooling practice (e.g. in *The Unschooled Mind*, *Intelligence Reframed*, and *The Disciplined Mind*). From this work three particular aspects of Gardner's thinking need noting here as they allow for hope, and an alternative way of thinking, for those educators who feel out of step with the current, dominant product orientation to curriculum and educational policy. The approach entails:

As a teacher begins to adopt the concept of MI, he/she begins to examine preconceptions and beliefs regarding concepts of intelligence and the ensuing implications for classroom practice. This re-conceptualization of teaching and learning is a gradual process and its implications for classroom practice are even more gradual. MI Practitioners are very concerned with ensuring understanding in the minds of their students. MI practice focuses on the process and on the quality of learning and teaching. Various prepositions have been used to describe different MI lesson types. Lessons have been described as teaching "to or through" an intelligence and teaching "for, with or about" an intelligence. MI practice is also very closely associated with Active Learning techniques. While Gardner did not prescribe any specific methodology for teaching in the

MI classroom latterly he has recommended using the "Entry Point" strategy for introducing content in any domain. And though he lists eight and a half intelligences, he specifies just six entry points, which are

- Narrative, whereby a story is used to introduce subject content.
- Quantitative, where numbers and logic form the entry point.
- Existential, which takes a philosophical approach
- Aesthetic, which approaches a topic from an artistic viewpoint.
- Hands On approach, which especially suits the young
- Interpersonal /Collaborative, where there is interaction with others to access the understanding or knowledge. (Gardner 2000)

Campbell & Campbell(1999) agree that a Multiple Intelligences approach to teaching and learning can take many formats, and can be implemented in many different ways and at many different levels.

Because MI is a construct about human intelligence, it does not mandate any prescriptive educational approach (Campbell & Campbell 1999 p.91)

However, while there is no prescriptive approach to teaching and learning among MI practitioners, there is much agreement among them with regard to suitable strategies and techniques. Lazear (1991), Bellanca(1998), Armstrong (2000), and Dickinson(2000) believe that any subject content can be taught with any of the intelligences and they use many of the same practical techniques, methods, tools and media for accessing the eight intelligences though with different emphases. Lazear distinguishes between different lesson types by describing them as teaching for intelligence, teaching with intelligence and teaching about intelligence. Armstrong differentiates between teaching to intelligence and teaching through intelligence. On the other hand, Bellanca does not make any distinctions between different MI lesson types. His examples rely heavily on visual/spatial and interpersonal activities to teach with/through intelligence.

MI practice also draws on the techniques of Active Learning methodologies to engage students in their own learning. Bellanca(1997) and McCarthy (2000) agree that MI practice is related to an active learning methodology. Campbell and Campbell (2000) also concluded that active learning was one of the elements of successful MI Programs.

Active learning strategies have long been considered advantageous in education. Biggs and Telfer(1987) suggest that the following kinds of teaching foster deep approaches (to learning) an appropriate motivational context, a high degree of learning activity; interaction with others, both peers and teachers, and a well-structured knowledge base. (Biggs and Telfer1987)

Proponents of MI teaching and learning generally urge teachers to incorporate techniques and strategies to suit each particular intelligence into the classroom. However, Gardner recommends that teachers should not contrive to use all of the intelligences all of the time.

The recommended Interpersonal strategies include all the hallmarks of cooperative learning such as small group instruction, with defined roles for group members, who perform assigned roles, assist others and share responsibility for the group task. This social aspect of learning was first pointed out by Vygotsky (1978) and has been developed by many others including Johnson & Johnson(1998). Co-operative learning has proved very successful in Japan especially with regard to mathematical education the outstanding performance of Japanese students in Mathematics may be attributed to

the fact that they spend much time in the classroom, solving problems in a co-operative manner. (Gardner 1996)

But while advocating the benefits of collaboration in education, MI theory also points to the need to cater for individuality. Gardner believes that individually configured education may be more relevant to today's student than is uniform schooling, where each student is expected to learn the same material in the same way. In one of the schools, surveyed by Campbell and Campbell, this idea was introduced by organising "elective pods", where the students chose particular areas of interest for themselves. Armstrong also highlights the importance of giving the student choices and reports that more engagement in learning occurs when students have opportunities to personalize their educational experiences while also acquiring basic skills. (Armstrong 2000 p)

This involvement of students in their own learning in an MI environment is also regarded by Wilson(19) as a means of improving learning experiences and increasing motivation.

Through creating educational experiences based on natural talents and gifts, teachers are more likely to increase opportunities whereby students can become actively engaged in learning experiences that are pleasurable, heightened or magnified. Such experiences can be highly motivating. Many practicing teachers report that the flow phenomenon often occurs when students are participating in MI related activities, and that these experiences are often self-motivating and very pleasurable for students. (Wilson)

Other strategies, recommended under Intrapersonal intelligence include silent reflection methods, meta-cognition techniques, plus/minus charts, and life timeline. The personal and social aspects of learning help in the construction of ideas and internal representations in the mind of the learner. During learning these internal representations are needed to help the learner with concept building.

The use of the visual, as an aid to concept-building, features highly in the writings of the proponents of MI in the classroom. They suggest using visualization, colour cues, picture metaphors, graphic symbols, graphs, Venn diagrams, collages, model building storyboards, cartoon strips, model building and posters. There is a long history of using diagrams in instruction. A concept mapping technique, developed in the nineteen sixties, by Dr. Joseph D. Novak (), Cornell University, who based his work on the theories of David Ausubel(1968), regarding the importance of prior knowledge as the key to learning new concepts, forms the basis for graphic organisers and mind maps. Champagne also supports the use of diagrams as a pedagogical tool, and states that concepts maps are effective in "probing, describing and comparing" (Champagne 1984).

As well as concept building, another important cognitive process is remembering. In suggesting rhythms, songs, raps and chants, as memory aids, Armstrong reminds us that for thousands of years that

Knowledge was imparted from generation to generation through the medium of singing or chanting. (Armstrong 2000)

And though the success of mnemonics techniques, which use rhyme to aid memory is well documented (Cohen 1989), their use is primarily as a recall mechanism. For example, Bellanca and Armstrong suggest music as an aid to memory. Baroque and classical music selections in 4/4 time were found to be particularly effective (Armstrong 2000)

Purpose of the Study:-

Harvard Gardner's MI theory has significant importance in language. The purpose of this study was to explore the beliefs and knowledge of Pakistani university teachers regarding MI theory and how they apply this theory in their classrooms to address different learning styles and modes of their students.

Statement of the Problem

The study focus to develop an in depth understanding of the teaching and learning process by dealing with three aspects, each related to the three dimensions. These are

1. Teachers' Beliefs
2. Knowledge and
3. Application of theory in actual classroom

Learning another language is challenge for majority of the learners' especially for whom English is foreign or second language. This problem becomes a hurdle due to inappropriate teaching methods of teaching. In order to become skillful in a second language, learners need to be exposed to the second language under best conditions while teaching and learning process. The environment conducive to learning would entail appropriate teaching and learning modes that addressing number of intelligences. This will be helpful for learners to learn a language according to mental abilities.

This paper begins to introduce multiple intelligence approach for effective teaching and learning of Prospective teachers of ESL at university level both in public and private sector,

Research Questions:-

The conceptualization of research problem as study makes the development of a single research question difficult. Therefore, it is more appropriate for the purpose of this study to think in terms of several guiding research questions. The research problem gives rise to the following questions:

- How do teacher understand MI theory in his/her class?
- In what ways do teachers apply MI theory in their classrooms?
- From teachers' perspective how much MI theory was effective for their students?
- How can MI theory shape and address language classroom?

Mix type of studies are usually designed to determine what can be learned about a certain phenomenon of interest, mostly societal phenomenon and how these results can be triangulated by using Quantitative figures to take a more comprehensive look. The aim of this paper is to understand MI theory, its implementation and the actual situation at University level language teaching. The both paradigms therefore seemed appropriate for this study as students will be surveyed for their opinion regarding teaching style and to get the picture of actual situation teachers can be interviewed and observed while teaching.

Method

As it has been mentioned earlier that this study will address three aspects and these are

- (i) Teachers beliefs
- (ii) Teachers knowledge
- (iii) The application of theory in to practice

We get more comprehensive, valid and reliable results by using mix methods of research. So both quantitative and qualitative methods were used in this study. It was a comparative case study of one public and one Private Sector University. One ELT class from each university was selected. Questionnaire was developed for both Teachers and

Students. The purpose of Teachers' questionnaire was to investigate their beliefs and knowledge regarding MI theory. The questionnaire was filled by the 6 teachers who are teaching ELT classes. Classes of these teachers were observed for five days. Observation checklist was used and during observation field notes were taken to elaborate situation. A structured interview was conducted with teachers. The purpose of teachers' questionnaire was to check their point of view regarding application of MI theory in the classroom and simultaneously to the validity of observations and interviews results.

Limitations of the Study

This study will examine the language-teaching patterns in one public and one private university as a comparative case study. The focus is on beliefs and knowledge of teachers regarding MI theory and its application in there classes.

This research does talk about the learning experience of the students but it does not talk about their personal style of learning. Another study could investigate the learners' aspect.

Data Analysis

This study was conducted at one public and one private University in Lahore. Multiple methods of data collection were used so that the researcher could determine initial stated beliefs and gain a more in depth understanding of what beliefs and knowledge English language teachers hold regarding MI theory.

Data from interactions with teachers' responses to the interviews, and field notes from classroom observations inductively analyzed. The interviews were first analyzed individually for each teacher and then interpreted was done by including the analysis of all four interviews.

During the final analysis, the researcher conducted a cross case analysis between the six participating teachers to find "thematic connections within and among the participants and their settings." (Siedman, 1991, p.102). The cross-case analysis allowed the researcher to draw conclusions and find answers to research questions.

Questionnaire was analyzed by using SPSS. But due to small sample size only mean score was taken in final results and was presented by Bar graph.

Findings

Findings from interview: Teachers' belief and knowledge of "MI Theory"

The most important concept that appeared from the interviews and discussion primarily demonstrated that both public and private university teachers understand the concept of multiple intelligences. Their explanation of MI theory was plainly a description of various learning styles. They generally understood MI as a helpful tool for different ways of learning. In private university, teachers focused on the various teaching techniques and methods to facilitate learning process. In public university, the lecture was the only teaching method for all kind of concepts. The activities they implemented in the classrooms signified what MI theory for them. They basically thought that MI is nothing to do with teachers but it is related to learning modes of students.

Private university teachers' definition of MI theory was close to the actual definition of multiple intelligences.

Formally MI defined as "The ability to create an effective product or offer a service that is valued in a culture". Or

“It is the potential for finding or creating solutions for problems, which involves gathering new knowledge”.

In Public university teachers traditionally used GTM or behaviorist approach to teach patterns of language. It was obvious that there was a misunderstanding of the concept of learning a language.

Private university teachers' concept of MI theory was clearer and to some extent they were applying it while teaching. The teachers in the private university arrange teamwork among students having the belief that this would facilitate students' learning and will enhance interpersonal relationships. They tended to favor more group work than individualized work. All the four teachers believed it could help students become more aware of their weaknesses as well as their strengths and provide thrust for improving those weaker areas.

They believed they could use the framework of MI theory to structure learning experiences for students that would allow them to become more responsible for their learning. Teachers questioned the feasibility of trying to use all the intelligences in their classrooms in response. They believed all the intelligences should be targeted during teaching; however, the use of any one intelligence should be based on its ability to support the aims of that very lesson. The use of an approach or activity should be attuned to the nature of the lesson.

One teacher said he uses MI to develop a lesson plan that would be appealing in a variety of activities, trying to integrate activities that would deal with all the intelligences, and address different teaching and learning styles.

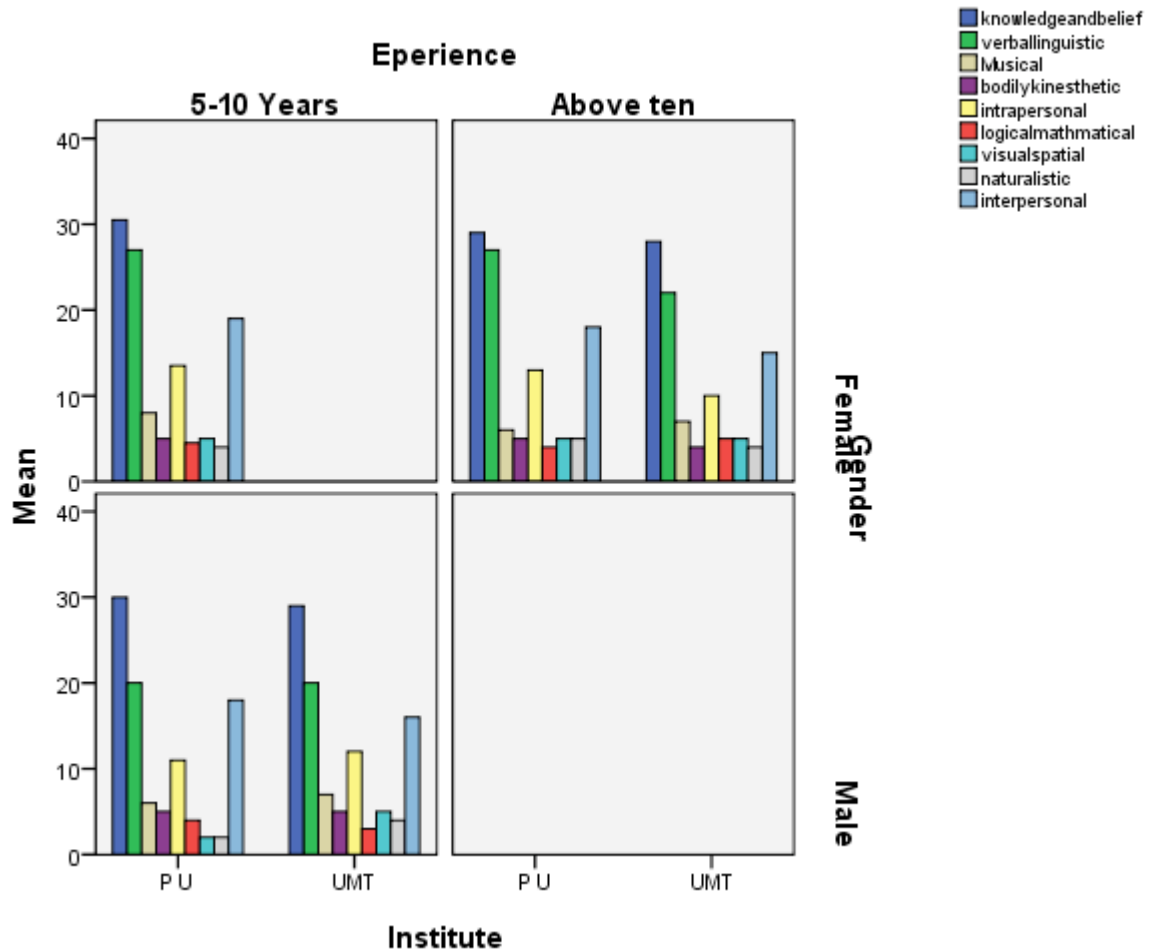
One teacher said that planning, designing, and implementing a variety of MI teaching and learning activities while teaching require high levels of vigor and vast amounts of time.

Findings of observations: Implementation of knowledge and belief about MI theory

Observation data analysis revealed that the teachers in the Private University implemented MI theory the way they defined it. They presented the lesson by using different techniques like using transparencies, multimedia, group and pair activities, creative work, and hands on activities. They arranged different kinds of activities throughout the observations observed. The activities in the classrooms were organized in interesting manners by the teachers and occasionally by students where teacher asked them to do so. Class presentation was a routine activity for them. As they mentioned in the interviews they were working as a facilitator.

The data gathered from classroom observations of two teachers in the private university discovered that teachers demonstrated a variety of activities in the classroom to promote students learning abilities. While observing public university teachers, it was observed that only one teacher was applying group or pair activities and appreciating creative and imaginative work of students. In that class students devised some activities to teach listening skill at elementary level and students were addressing more than one intelligences of the students in their devised activities. The materials the teachers used certainly affected the teachers' implementation of MI theory.

Analysis of Teachers' beliefs, knowledge and application of MI theory (graphical representation)



Discussion and Implications

This study helps to understand teachers' beliefs, knowledge and implementation of that knowledge in actual classroom. MI theory provided a means to reflect on many aspects of their professional knowledge. This study gave a chance to reflect on teachers' instructional strategies to critically examine their teaching beliefs and classroom practices. If teachers are to engage in critical reflection and inquiry about their practice they will become more effective teachers in future. In this way, they are more likely to enhance their professional knowledge and to gain a greater understanding of how to best meet the needs of their students. By exploring their teaching style, they broadened their vision as a teacher. As evidenced in this study, MI theory is much more than a theory of intelligence. It helps teachers to see student ability from a broader view, and so, provides a vision for effective teaching. MI theory, as an educational strategy, offers a starting point to consider their teaching styles and beliefs about learners and how to structure learning experiences for all learners. MI theory has the potential to foster positive teacher learning that can translate into improved student learning.

From the findings of the study, following results can be drawn.

1. The first is that university must grant more support to teachers to shift their teaching in multiple style instruction.

2. The second implication for practice is that programs should be designed on the basis of a needs assessment of teachers. It is important provide opportunities for teachers to participate in formal training and workshops where they would be presented with a framework of instruction based on a multiple intelligences approach to instruction. It is possible that teachers do not have the to choose activities consistent with MI theory and its practices.
3. The training programs should provide on-going practices accompanied by support, feedback, and reflection while allowing teachers different teaching and learning styles and multiple activities and materials to enhance students' learning skills.
4. Another major implication of this study is focused on the issue of educational improvement. It is apparent that gap exists between the belief systems of the teachers and its implementation. Successful implementation of teachers' belief and understandings is much relies on resources.

Conclusion

In this article, I tried to make it clear that teachers can understand and practice MI theory in their classes to make learning process more meaningful and effective. The study is important because it provides evidence about and describes how MI theory can be used as an instructional strategy. It strengthen Gardner's claim that MI theory offers a way to "begin to think about individual differences in the classroom" as well as about how teachers can communicate content knowledge to students in multiple ways. Many instructional strategies exist and I would recommend MI theory.

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