



## Application of Multiple Intelligence Theory in Curriculum Transaction : Teachers' Perception

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### Abstract

*The theory of Multiple intelligence offers the idea of individual differences and unique learning styles. Study reveals the effectiveness of this theory in making learning joyful and interesting. Moreover, knowledge of different intelligence can help the teachers in identifying the intelligence profile of each learner and help the instructors to create a conducive learning environment. The researcher in this study have attempted to explore the perception of secondary school teachers about the application of multiple intelligence theory in the teaching learning process. Descriptive survey method was used in the study. A questionnaire was developed by using the Google form to collect the data. Purposive sampling technique was used. The finding of the study reveals that almost all of the participants under the study were familiar with the theory except 6.8% respondents. All teachers emphasized and supported on the application of the MI theory based pedagogy in the classroom. Recommend actions are given to support the teachers to empower them to apply MI theory based pedagogy in the classroom.*

**Keywords :** curriculum, multiple intelligence theory, innovation, individual difference, pedagogy.

### INTRODUCTION

Harvard university professor Howard Gardner propounded the multiple intelligence theory in the early 1970 and 1980's. This theory

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is in contrast to the traditional understanding of intelligence as unitary in nature. Multiple intelligence theory describes the pluralistic nature of intelligence that each individual possess, showcasing their strength and weakness out of the eight intelligences. Gardner defined Intelligence as a bio mental potential to deal with data that can be enacted in a social setting to tackle issues or make items that are of incentive in a culture (Gardner, 1999, p.33). This theory challenges the traditional concept of all the learners learning in the same way. Armstrong (2017) stated that this theory was developed after years of research on human cognition and contrasted with views of intelligence as single entity. Every individual is unique and has different learning styles which can be caterd by the application of this theory. Moreover, Gardner agreed that the aptitudes of every individual are not comparable and the possibility of their mix is exceptional (Gardner, 2006). The theory has the potential to help the instructors in designing the teaching learning strategies according to the needs of each learner. The theory has been widely used in education and researches have shown the effectiveness of multiple intelligence theory in academic achievement and retention power. Kentab (2016) reported that “The theory of multiple intelligences has a significant part in the field of educating and learning. This is because there is a relationship between each part of multiple intelligences and the learning process. This relationship can help teachers to illustrate their opinion in curriculum, instruction, and assessment.” There is a need for application of multiple intelligence theory in the classroom to make learning more enjoyable and engage the learners according to their way of learning. Baş (2016) stated that teachers can reach a large number of students by implementing MI theory in their teaching approach. Furthermore, knowledge of different intelligences can help the teachers in identifying the intelligence profile of each learner in the classroom. This knowledge will help the instructors to create a learning environment conducive for an inclusive setup. Yalmanki and Gozum (2013) also expressed the importance of

teachers' knowledge and understanding about the MI theory in helping the students to overcome difficulty in understanding the lesson and designing strategies for learner centric activities. In order to make learning most effective, teachers should develop teaching methodologies according to the intelligence type of students (Gardner, 2006). Ayesha and Khurshid (2013) stated that by identifying the intelligence of the learner and their learning styles, the teachers can effectively educate diverse learners according to their preferred way of learning. Intelligence of an individual has a pivotal role in the academic success of every learner.

Multiple intelligence theory offers a world of opportunity to the teachers to reshape and redesign their classrooms. With sensible integration of this theory in developing instructional strategies, an educator can boost the strength of a learner and help arouse interest as well as motivate in learning the subject. Tarannum (2016) stated that teaching strategy based on multiple intelligence theory could empower teachers to identify the underperforming students and design measures for improvement. However, application of this theory in education requires deep understanding and knowledge of the theory. It also requires detailed course work in planning and organizing various activities. Baş (2010) stated that not all the teachers are willing to integrate this theory as they are used to years of practice of traditional methods of instruction. The traditional methods of instruction are easy to use as it requires no planning of activities and the information is transited mostly through lectures. Furthermore, teacher improves their skill of teaching and designing instructional strategies when lessons are planned according to the intelligence profile of the learners (Yalmanci and Gözüm, 2013). Teachers with knowledge of multiple intelligence theory can better understand the pupils' intelligence type and help in overcoming the learning difficulty of the learners.

The diversity of our country is reflected in the schools. Students

from different culture and background are seen in the inclusive classroom. Also, with the advancement in technology, information is available everywhere. It is a great challenge for the teachers to make a classroom interesting and enjoyable. In this situation instructional strategies based on multiple intelligence theory can enhance the teaching learning process and make learning fun. The researcher in this study attempted to find out the perception of secondary school teachers in implementing the multiple intelligence theory in the teaching learning process.

#### **OBJECTIVES OF THE STUDY :**

The study was undertaken to find out the perception of secondary school teachers in implementing multiple intelligence theory in the teaching process. The objectives of the study are -

- To study the familiarity of science and mathematics secondary schools teachers on multiple intelligence theory.
- To find out the perceptions of science and mathematics secondary school teachers about the application of the multiple intelligence theory in the teaching learning process.
- To study the concerns of science and mathematics secondary school teachers about the constraints of implementing the multiple intelligence theory in the educational process.

#### **METHODOLOGY AND PROCEDURE :**

The research conducted was both qualitative and quantitative in nature. Descriptive survey method was used in the study. The researcher prepared a questionnaire to collect data by using the Google form. The purposive sampling technique was used to collect the data. The sample consisted of 88 in-service science and maths

secondary school teachers out of which 56 were male and 32 were female. The questionnaire was shared with the teachers by the researcher through Google form to collect data.

## RESULTS AND FINDINGS:

The result presented is based on the response of the respondents. Table 1 illustrates the subject wise distribution of the sample.

**Table 1 : Subject wise distribution of the sample**

Subjects	Frequency of participants			Percentage
	Male	Female	Total	
Science	36	22	58	65.9%
Mathematics	20	10	30	34.1%

The teaching experiences of the teachers range from less than five years to as long as 20 years. Table 2 illustrates the teaching experiences of the teachers.

**Table 2 : Teaching experiences of the teachers.**

Subjects	0-5 years	6-10 years	11-15 years	16-20 years	Total
Science	36	12	4	6	58
Mathematics	24	6	0	0	30

The data collected through the Google form were transcribed, categorized and coded according to the objectives of the study.

**Objective1: To study the familiarity of science and mathematics secondary schools teachers on multiple intelligence theory.**

The questionnaire had 4 items to study the level of awareness of

multiple intelligence theory of the science and mathematics secondary school teachers.

- The first item was a direct question about the familiarity of the theory with four options ranging from completely, moderately, slightly and not at all. Based on the data collected, 31.8% of the respondents admitted that they were completely familiar, 52.3% were moderately familiar, 9.1% were slightly familiar while 6.8% were not at all familiar with the multiple intelligence theory.

**Table 3: Subject wise distribution of response of familiarity level of the theory.**

Level of familiarity	Completely	Moderately	Slightly	Not At All	Total
Response by Science teachers	14	30	8	6	58
Response by Mathematics teachers	14	16	0	0	30
Percentage	31.8%	52.3%	9.1%	6.8%	100%

- Most of the pre-service teacher education programme has the multiple intelligence theory in the syllabus. However, 11.4% respondent recorded of not studying the theory, 9.1% of the participants were not sure and 79.5% admitted of having studied the theory in their pre-service training period.
- Maximum of the teachers (97.7%) opined that multiple intelligence theory helps in identifying the uniqueness of each individual in the school.

- 86 out of 88 teachers agreed that students possess different types of intelligence and need attention in the class.
- 93.2% of the teachers disagree that IQ is the only way to determine intelligence of a person. The percentage of the teachers agreeing to this was 2.3% while 4.5% expressed that IQ might be the only way which could determine intelligence of a person.

**Objective 2 : To find out the perceptions of science and mathematics secondary school teachers about the application of the multiple intelligence theory in the teaching learning process.**

To study the perceptions of the samples about the applicability of the theory in the classrooms 4 items were used in the questionnaire. The data after analysis is presented below.

29.5% of the teachers agreed to the possibility of application of multiple intelligence theory propounded by Howard Gardner in the teaching learning process in the classrooms, whereas 68.2% opined that its moderately possible while 2.3 % expressed it is slightly possible.

More than half of the teachers that is 65.9% of the respondents felt that multiple intelligence theory could be utilized completely in designing instructional strategies for target students in an inclusive setup and 34.1% of them thinks the utilization of the MI theory is moderately possible.

65.9% of the teachers stated that the teaching strategy could be changed completely, 31.8 % felt moderate change could be possible and 2.3% felt slight change could be done according to the learning styles and intelligence posses by the learners.

More than half of the participants (75%) agreed completely, 22.7% agreed moderately and 2.3% agreed slightly that the teaching instruction would have a larger impact on the learners by adopting different activities and strategies targeting the different Intelligence in the class.

**Table 4: Views about the applicability of the multiple intelligence theory in the classrooms.**

Items	Completely	Moderately	Slightly	Not At All	Total
Applicability of the multiple intelligence theory in the classrooms	29.5%	68.2%	2.3%	0	100
Utilization of MI theory in designing instructional strategies for target students.	65.9%	34.1%	0	0	100
Possibility of change in teaching strategy.	65.9%	31.8 %	2.3%	0	100
Huge impact on the learners by use of the MI theory-based teaching instructions.	75%	22.7%	2.3%	0	100



**Objective 3 : To study the concerns of science and mathematics secondary school teachers about the constraints of implementing the multiple intelligence theory in the educational process.**

The barriers to the use of MI theory were many as stated by the teachers of the study. Except four science teachers all other teachers expressed the hindrance in application of MI theory in their classrooms. The concerns as collected from the data are given below-

- **Lack of resources-** 11.9 % of the teachers reported that sufficient human resources are not available in most of the schools and sufficient time to plan and implement the theory is not given to them because of the engagement in other nonacademic works.
- **Lack of MI assessment tools in the classrooms-** Teachers reported that the classrooms do not have readymade tools available for the educators to identify the different kinds of intelligence for the learners. In such, it is a hindrance for the teacher to integrate the MI theory in the instructional planning as they do not have tools to identify the different intelligence of the learners.
- **Time consuming-** The percentage of teachers who expressed that use of MI theory curriculum could be time consuming is 49.2%. They communicated that in schools, teachers have to take multiple subjects and they also have to complete it within a time period. So it is somehow difficult to apply this theory in large classroom. The time constraints and resources to facilitate student's intelligence are likely major hindrance in the way.
- **Difficulty in planning-** More than half of the respondents (66.1%) feel that a major hindrance in implementing the MI

theory in the educational process is in planning. Multi-level lesson plans are required in applying multiple intelligence theory in curriculum but it is time consuming and requires highly dedicated professional resource persons and expertise to deal with.

- **Huge class size and diverse nature of students intelligence** - According to one of the respondent "The classroom class size is typically 30-35, and the time period is around 35 minutes so it is practically not possible to apply multiple intelligence theory in the classroom". 62.1% of the teachers under the study reported that due to large classroom size it will be a big challenge for them to apply the MI theory.
- **Time bound prescribed curriculum** - The teachers conveyed that school curriculum is loaded and there is a constant pressure from the authorities to complete the syllabus on time. This pressure somehow extracts the autonomy of the teacher. Because of which it is difficult for them to take out extra time to plan and design for implementing the MI theory.
- **Problem of Assessment-** One of the teachers expressed that "Assessing the result and tracking the progress is difficult as not all types of intelligence results are quantifiable." Evaluation of intelligence of diverse learners as well as the keeping a track record could be a challenging task for the teachers.
- **Inhibition to accept change-** An experienced teacher stated "All institutions are not too keen on trying out new methods" which indicates the inhibition to accept new methodology. Another teacher conveyed that the old mindset of teachers could be a hindrance for the teacher to implement the MI theory as an instructional strategy.

### **SUGGESTION:**

The teacher advocated some suggestions for implementation of MI theory in the classrooms-

- **Reforms in policy-** One of the teachers conveyed that “since schools have become money making machines, the teaching-learning experience has been compromised. The only way to implement is through positive attitude and government willingness”.
- **Sensitization to the teachers** – Another teacher expressed that sensitizing teachers towards the individual needs of the child will be a key factor in understanding the learners’ intelligence and planning the lesson accordingly.
- **Grassroots level planning-** One of the respondents described that appointment of adequate faculties should be employed in the school to identify intelligence of students. The planning should begin from the grassroots level.
- **Support from parents and the administrator-** Teachers should be given enough freedom to design their classroom strategies to implement MI theory.
- **Proper training to the teachers** – One of the teachers expressed that through rigorous and fruitful training to teachers, proper planning and meticulous execution it is possible to implement MI theory in schools.

### **DISCUSSION:**

The findings of the study reveal that almost all the respondents under study were familiar with the theory. Almost all the teachers

opined that MI theory can be applied in the classroom teaching learning process although there were concerns associated in doing so. Hogans (2017) also found that participants of his study accepted the use of the theory. However, only 50% of the participants agreed to the applicability of the theory in a study conducted by Dolati and Tahriri (2017) which contrasted the findings of this research. The study could identify many constrains in using the MI theory. The huge curriculum in the schools could be a hindrance for the teachers to implement the MI theory as it requires proper planning and designing. Kentab (2016) also found the curriculum is inappropriate for the implementation of the theory which supported this finding. Assessment is another problem as indicated by the study which is in tune with the findings of Hogans (2017). The study found teachers revealing about the lack of resources and huge time consumption in planning and designing the instructional strategies using the MI theory which is in line with the research findings of Dolati and Tahriri (2017). Suggestions like proper training and support from the parents and administration found in the study were supported with the findings of the Hogans (2017). Other recommendations were also given by the teachers including reforms in policy, sensitization of the teachers and grassroots level planning which could be helpful for the teacher community at large for integration of MI theory in the teaching learning process.

#### **CONCLUSION:**

Based on the research findings, it could be concluded that multiple intelligence theory could be very effective in the classroom although there are obstacles in its implementation. Support and proper training be given to the teachers to empower them and to help them to overcome these barriers. Teachers should be sensitized about the importance of individual difference and different learning styles. Furthermore, prospective as well as in service teachers must be provided with proper knowledge and understanding of the MI

theory for effective planning and most importantly efficient implementation of that plan for the betterment of the learners.

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