

Teachers Preferred Approaches towards Multiple Intelligence Teaching: Enhanced Prospects for Teaching Strategies

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Teachers equipped with modern teaching strategies plays a pivotal role in the ultimate progress of students' academic and educational performance. It is believed that recognition and implementation of teaching strategies pertaining to students' different intellectual abilities are more effective than traditional ways of teaching. The current study investigated the teaching strategies of the secondary school teachers related to different multiple intelligences of the students and its subsequent relation to their professional qualification. 253 male and female participants revealed no significant gender difference in their preferred multiple intelligence teaching strategies, except for existentialistic teaching strategies, where females were found higher than male. Teachers with high professional qualification (M. Ed) were highly adept at teaching with existentialistic, linguistic, and interpersonal teaching strategies. However, they were found less adept at teaching with visual and musical teaching strategies. The study suggested to consider and address teachers' various intellectual domains in developing teachers training modules and course curriculum at the secondary level, to promote quality teaching, enhance students learning, improves teacher preparation, and expand schooling practices.

Keywords: *multiple intelligences, teaching strategies, students performance, learning, motivation*

Introduction

In the era of 21st Century, a rapid change has observed in traditional teaching and learning process with a progressive and rapid technology development. Teaching strategies of the teachers reflect what they value in education, how their students comprehend their subjects with more ease and interest and what teaching methodologies, they believe are effective. In Today's classrooms, teachers are insistently confronted to enhance their own thinking and teaching strategies to improve students' attitudes towards learning, skills, and enable them to cope the challenges of the fast-moving world (Skilbeck & Connell, 2004). As Temur (2007) stated that each classroom in a school is a garden of different bits of intelligence. While plants have a striking resemblance to a distance, each develops differently and produces a different organic product (Temur, 2007, p. 87). Similarly, students come into the classroom as people with remarkable culture, ethnicities, convictions

and different states of mind (McFarlane, 2011). If teachers' teaching strategies are not in accord with students learning needs and learning style, it may lead students towards tediousness and distraction, show poor performance in tests, get disappointed about the subjects, curriculum, and their self-efficacy. To overcome these issues, educators ought to take a stab at suitable teaching strategies aligned with students' different intellectual abilities with diversified ways.

Incorporating the theory of multiple intelligences (1983), a number of teaching strategies have been produced were found effective in improving students performance in developed countries. The current paper aims to describe the preferences of secondary school teachers in adopting these teaching strategies. The study is significant because all these strategies are students centred and it encourages students participation. By employing these strategies, teachers may enhance students' performance in the class

(Armstrong, 1999). The study might open new windows for diverse teaching methodologies which can cater students interest and grab their personal and academic success. It also gives insight to the teachers that all students cannot learn best by employing a single method of teaching. The use of teaching strategies based on students' different intellectual needs can lead students towards creative learning and conceptual understanding, also it can help students to recognize and use their own cognitive strengths. It was trusted and expected that instructors grasped these differences by adjusting their instructing practices to better meet the capacities, identities and learning styles of their students (Levy & Gayler, 2008).

Several studies have suggested the use of multiple intelligence teaching strategies improve student performance in science courses (Denig, 2004; Ozdener & Ozcoban, 2004; Thompson & Thornton, 2002). Several other studies also described increases in students' achievement with the use of MIT. Koksall and Yel (2007) studied the effect of MIT-based instruction on student attitudes towards the course, student academic achievement and student retention of information in a biology course. Since Multiple Intelligences Theory (MIT) has met with success in the primary and secondary students' education levels, it is logical that MIT will also work in the teaching community. Unfortunately, there is a paucity of research concerning assessment of MIT in higher education setting in general and secondary education in Pakistan in particular. Therefore, the current study might fill the gap in the literature. To better meet the needs of students and teachers, govt of Pakistan is taking initiatives to improve the elementary and secondary system of education (Fullan & Watson, 2000). The

current study may present a diversified approach to be considered and implement at all levels of the education in Pakistan and it may provide an assistance to the curriculum developers and policymakers to take into account the teaching strategies aligned with students' intellectual abilities to promote an effective teaching-learning system.

Literature Review

The literature review showed that the previous studies found the multiple intelligence teaching most effective at different levels of education and in a different perspective of the education process. Douglas, Burton, and Reese-Durham (2008) revealed that some of the teaching methods are already being used for a long time by the teacher while some of the other teaching strategies are unique and never used in the current education system. An article by Diaz-Lefebvre (2004) about a pilot study focused on reflections of students and instructors about the Multiple Intelligences teaching. Instructors commented that students became "mini-experts and co-facilitators of learning" as they gave performances of understanding for the assessments of academic material studied.

The impact of MI teaching on fifth graders' achievement in science subject was examined by Coskunganullu (1998). The results showed a huge impact of Multiple Intelligences Theory on fifth graders' in science subject scores. The teachers and students both showed positive perspectives and conclusions about the MI theory. Accordingly, Campbell, L., Campbell, B., & Dickinson, D. (1999) investigated the implication of multiple intelligence theory in seven learning centres in Marysville on third-grade students. The findings of the study showed students enhancement in positive behaviours and abilities.

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An Article highlighting the usefulness of MIT in mathematical learning was published by Willis and Johnson (2001). It was dug out that implementing MI theory produces much interest and creativity in mathematics classroom than rote learning which is a common trend in the mathematics classroom. In Turkey, Akbas (2004) made an experimental study on grade six-second term students of METU Ankara College Primary School. The study titled was "The Effects of Multiple Intelligences Based Instruction on Six Graders' Science Achievement and Attitudes Toward Science". The study was conducted for the session 2002-2003 and it went on for three weeks. The findings of the study revealed that MI-based instructions were more viable than the traditional ways of teaching. On the other hand, the findings also indicated no noteworthy results about the attitudes of students towards science. Kornhaber et al. (2004) completed a 3.5-year study in 2004 on how educators are using multiple intelligence teaching in the primary and secondary classrooms and the effects educators report on students. Positive associations were reported between the use of MIT and improvements in standardized test scores, improvements in student behaviours, increased parent participation, and improvements in learning, motivation, and social adjustment in students with learning disabilities. Case studies of teachers implementing MIT in the classroom have also reported similar types of improvements in students (Hickey, 2004). Loori (2005) studied male and female students' differences in multiple intelligence teaching preferences for English as a second language acquisition at higher institutes of the United States of America. He found male students favoured logical and mathematical intelligence teaching activities, while female students chosen

intrapersonal intelligence teaching based activities. Additionally, interpersonal intelligence teaching was noticed the most preferred, whereas the intrapersonal intelligence teaching was observed the minimum preferred teaching. Blgn (2006) stated that majority of Farmington schools implemented the MI-based curriculum. Mettetal, Jordan, and Harper (1997), In an article "Attitudes Toward a Multiple Intelligence Curriculum", examined a K-5, suburban, elementary school in Indiana, called Farmington Elementary. 78% principals of 41 schools' utilizing MIT, mentioned that their schools had acknowledged increases in institutionalized accomplishment scores.

Similarly, In the study of Temur (2007), the researcher tried the impacts of lecture method versus MIT methods on mathematical comprehension in fourth-grade students. Results showed higher accomplishment rate in mathematical comprehension in students taught through MIT. The researchers additionally found that through MI teaching, musical, spatial, and interpersonal intelligence expanded while logical and linguistics diminished. (Ozdermir, Guneyusu, & Tekkaya, 2006).

Objectives of the Study

Objectives of the study were:

1. To investigate the preferred approaches of male and female secondary school teachers towards multiple intelligence teaching.
2. To evaluate the correlation between the teachers' professional education and the teaching strategies they preferred in their classes.

Hypotheses

Hypotheses of the study were the following:

H0: There is no significant gender difference in the teachers preferred approaches towards multiple intelligence teaching.

H0: The correlation coefficient of the teachers' professional education and teachers preferred teaching strategies are not significantly different.

Method and Procedure

Population

The study has adopted a descriptive design in which all secondary school teachers (male and female) in district Peshawar constituted the population of the study. There are about 118 high/higher secondary schools in district Peshawar out of which 70 schools are in the urban area and 48 schools in rural area. There are total 708 Secondary School Teachers (SST) working in these schools (ASC, 2014-2015).

Sample Size and its Distribution

Proportionate sampling technique was used for this study. Proportionate sampling is a strategy which is used for a population that consists of subgroups and the sample size taken are proportional to the population size. The population was divided into subgroups male and female. A sample size of 148 males and 108 females was taken that was proportional (35%) to the entire population size. Similarly, 74 male from an urban area, 72 male from a rural area, 54 females from an urban area and 53 females from rural area were selected. Thus, a total of 253 SST constituted the sample size of this study.

Data Collection Instrument

A questionnaire of 36 teaching strategies was used as a data collection tool. A standardized questionnaire produced by Elen Weber (2006) was consulted for help with prior permission of the author. Piloting was made and the Cronbach alpha for all the items on the questionnaire found was .862. The questionnaires were distributed personally by the researcher to the sample teachers following all the ethical considerations.

Data Analysis

Data were analyzed through SPSS, version 23. Descriptive and Inferential statistics were used for analyzing the variables on the questionnaire. For comparing the means of male and female preferred teaching strategies, independent sample t-test was used with an alpha level .05. While Pearson r correlation coefficient was used to analyze the relationship between the professional qualification of the teachers and the multiple intelligence teaching strategies they prefer in their classrooms.

Results

Participants were questioned to mark their gender and level of professional qualification on the questionnaire, the output of the participants' responses was analyzed by frequency distribution. The analysis results are presented in Table-1.

146 (57.7%) participants report their gender male while female participants were 107 (43.3%). Thus, most participants are male. Furthermore, it was noted that 90 respondents (35.6%) were B.Ed. degree holders and 158 (62.7 %) had completed their master of education while 1 respondent did not mention the level of professional education.

Table-2 illustrates that that mean of the teaching strategies for Logical teaching ($M=3.20$, $SD=.470$) was found to be high among all teaching strategies while the mean of musical teaching strategies ($M=1.72$, $SD=.736$) was found to be the lowest one.

Table-2 further shows that the "F" values of the Levene's test for Logical and Interpersonal teaching strategies were .084 and 1.036 with a Sig. (p) values of .772 and .310 which were greater than α level of .05 ($P > .05$), therefore, it is assumed that the variance of both the groups i.e. males and females were homogeneous. Furthermore, the observed "t" values for Logical and Interpersonal teaching

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strategies are .816 and .05. Since $p > .05$, so it is concluded that male and female were not significantly different in their preferences for Logical and Interpersonal teaching strategies.

Table-3 indicates that for the Visual, Intrapersonal and Existentialistic teaching strategies, the F values were 1.703, 2.399 and 2.571 with Sig. (p) values of .193, .123, .110. As $p > .05$ so the assumption of homogeneity in the variances is accepted here. Moreover, the "t" values for these teaching strategies of Visual and intrapersonal intelligence are .579, .144. since p is greater than α level of .05 ($P > .05$) so it is concluded that male and female are not significantly different in the preferences of Visual, Intrapersonal while in existentialistic intelligence the p-value (0.031) is smaller than .05 so male and female were found different in Existentialistic teaching strategies.

The F values of Linguistic, Kinesthetic, Naturalistic and Musical Teaching Strategies are 6.909, 3.116, 7.684, and 3.606 with p values of .109, .079, .106 and .059. As $p > .05$ so the assumption of homogeneity in the variances is accepted here. The t values of the theses teaching strategies were .115, .757, .471, and .697. Since p is greater than .05 so, it is found that male and female are not different in their preferences of Linguistic, Kinesthetic, Naturalistic and Musical Teaching Strategies.

The Pearson correlation coefficient of Kinesthetic, Existentialistic, Linguistic and Interpersonal teaching strategies with professional education was observed as .216, .205, .134, and .124 which was significant. While logical, Intrapersonal, Naturalistic with .098, .068, .063 indicated comparatively less significant relation and Visual and Musical Teaching strategies

with a correlation coefficient of -.059 and -.056 indicated a weak relation.

Discussion and Conclusion

This study has highlighted the secondary school teachers preferred approaches towards multiple intelligence teaching in one of the emerging area of Pakistan, district Peshawar. The results indicated no significant gender differences in the multiple intelligence teaching strategies except in the existentialistic teaching strategies which were highly preferred in the male community as compared to female. It might be due to the responsibilities, performance, external influence, self-perception, and outer world exposure of the participants (Ali, Suliman, Kareem, & Iqbal, 2009). Overall, The viewpoints of respondents were in alignment with the teaching strategies, which reflect that both male and female have the ability to enhance their competencies attributing to quality education.

Furthermore, the results showed a positive significant correlation between professional education and the teaching strategies of secondary school teachers. This interdependency and strength of correlation show that to accomplish potentials and needs of the students in terms of their different intelligence, learning preferences and learning styles and, the policy makers and curriculum developers in Pakistan need to concentrate on teachers' capability development in alignment to students and teachers' intellectual abilities to effectively improve teachers' teaching skills and professional growth. Additionally, in order to get a clear picture of the area under study, further researchers needed to be conducted at different educational levels in different regions of Pakistan.

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