



RESEARCH PAPER

**Teaching Practices used to foster Critical Thinking among Students
at Higher Education Institutions in Pakistan**

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ABSTRACT

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The main purpose of the present study was to find out those teaching practices which are being used by the teachers to foster critical thinking among students at higher education level in Southern Punjab, Pakistan. The present study was delimited to only public sector higher educational institutions including two (2) districts of Southern Punjab, Multan and Bahawalpur from the Punjab province. Target population of this study was consisted of ten (10) higher education institutions, out of which only two public sector institutions were selected. One hundred and fifty five (155) teachers were taken as a sample by using convenience sampling technique. A questionnaire was developed as research tool having five options to collect quantitative data. After data collection, data were coded for analysis in SPSS software. The results showed that teachers are using those teaching practices in classrooms which are needed to enhance critical thinking among students at higher educational level. Moreover, there is also need to focus more at those strategies which can be beneficial for students to think logically and critically to handle difficult situations arising in daily life. Likewise, It's also the responsibility of all stakeholders to play their vital role in developing and applying critical thinking skills of individuals to grow and to make proper decision making in difficult situations.

Introduction

One of the required tasks for any teacher or instructor is to be familiar with those techniques and strategies which may be very useful if applied properly in teaching learning environment. It is observed that teachers mostly teach different

concepts in traditional way and they don't focus towards students' interaction which in turn provide numerous benefits if applied accordingly (Brookfield, 2011). Likewise, many studies indicate that there is positive connection between critical thinking and student engagement (Barkley, 2009; Behar-Horenstein & Niu, 2011; Carini, Kuh & Klein, 2006). Furthermore, critical thinking may be beneficial in fostering skills which are very useful for students to think logically and to be professional in practical life by analyzing every task and situation more accurately and logically (Bensley, 2010). Moreover, it is the responsibility of teachers or instructors to provide such an environment full of curiosity and logical thinking to promote critical thinking among students in classroom situation as well as outside classroom to get maximum results.

Critical thinking depends upon many factors including one should be reflective, authentic and reasonable (Nosich, 2012). Moreover, asking right question at right time and reply those questions logically and with reason also make someone critical thinker. There may be more strategies for developing critical thinking among students if applied accurately and accordingly. Discussions, Problem solving techniques and argumentative practices may also provide greater results in fostering critical thinking among students.

The present study was designed to find out teaching strategies adopted by the teachers to foster critical thinking among students at higher education level in Southern Punjab, Pakistan.

Literature Review

Critical thinking skills are of utmost importance for both teachers as well as students in 21st century for getting good job, to make progressive advancement in practical life and to become a useful member of society (Koenig et al., 2011). A consensus definition of CT derived from a panel of 46 critical thinking experts as "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (Facione, 1990, p. 2).

In this competitive world, everyone needs such skills which help them to make their future more secure and successful. For this reason, one can achieve this by utilizing critical thinking skills properly and accurately in every sphere of life. These skills are considered more important in teaching learning environment for helping students to use these skills properly for advancement and for teachers to become more successful in their teaching. A study reported that teachers are of the view that teaching critical thinking and fostering this skill among students is very much needed for students of higher education level mentioning it over 99% as "very important" or

“essential” (DeAngelo et al., 2009, p. 3). In another study conducted by Arum and Roksa (2011), shocking research findings observed 45% college students having no significant critical thinking skills which ultimately indicate to change teaching strategies and practices, making necessary improvement in curriculum as well as the environmental changes.

Moreover, in technological world also called global village needs such skills helping students to become problem solvers and indeed it's the fundamental requirement and a goal of education in every field (Olszewski-Kubilius & Thomson, 2015; Paul & Elder, 2012). When someone performs any activity he or she learns from that particular situation in which many factors contribute including thought process and communication skills. These skills can be better achieved if we have critical thinking capabilities and understanding. In a broader perspective, it is the combination of various factors naming knowledge, skills, processes and attitudes properly applied in particular situations occurring in daily life situations (Lai, 2011). These factors are necessary and required for advancement for students and it's the duty of teachers and education system to provide conducive environment where these skills can be achieved. Furthermore, its also a duty for students to prepare themselves full of critical thinking skills to apply them in real life situations to be successful individual to cope with difficulties of life and making sensible decision making accordingly.

Besides teaching how to read, write and perform basic mathematics, it is also worth mentioning the one should be knowledgeable about using proper thinking skills required for gaining maximum benefits (Rhodes, 1961; Runco, 2014). Similarly, the skills how to cope with different arising problems in every field need to be addressed (Segal, Chipman & Glaser, 1985). Scientific knowledge and application of literacy skills in this technological advanced world are also very much needed (Lawless & Brown, 2015; Tortop, 2013). The focus of teaching learning process should be towards developing and foresting these sort of skills and accurate measures be taken to make necessary changes in curriculum, methods of teaching and teaching learning environment. Learners should be trained to utilize proper thinking skills and to solve their problems and issues by using critical thinking to get maximum results. This can be achieved only if teachers play their vital role in shaping and developing these critical thinking skills among students. Critical thinking is one of the leading skills required for everyone in this technological advanced era and in 21st century (Kharbach, 2012). Furthermore, developing critical thinking among students help in shaping students' thought process resulting in numerous benefits (Hashemi, 2011).

Indeed, there are many teaching strategies and practices which can result in developing critical thinking among students, inquiry learning is one of the strategy to foster critical thinking (Prince & Felder, 2006; Kazempour, 2013). Moreover, this

strategy helps to make thought process more effective by designing accurate questions according to the situation and to find out real solutions of those issues (Arends, 2012). It's up to the teachers how to apply proper teaching strategy which ultimately resulting as fostering critical thinking.

Likewise, mind mapping is another technique for students to make proper use of their cognitive potentials. It can help in activating brain skills both left and right brain. It also assists learners making proper connections of information resulting in fostering critical thinking Long and Carlson (2011). Similarly, Experts are of the view to apply mind mapping strategy in learning to make thought process more efficient and effective. This strategy also leads towards making learners as critical thinkers (D'Antoni, et al., 2010; Pudelko, et al., 2012). Information and communication technology can also play vital role for enhancing critical thinking among students by using online mode (Haghparast et al., 2013).

The aim of this study was to find out teaching strategies applied by teachers for developing critical thinking among students at higher education level as exploring various practices applied in teaching learning may be most effective to help learners for fostering these skills. Questioning is another strategy to motivate students thinking and analyzing situations critically. The level of learners' thinking depends upon different factors including nature of questions. Teachers may use this strategy to maximize critical thinking abilities of students if used properly and accordingly (Orlich et al., 2013). Cooperative learning strategy can also benefit learners to share their ideas with peers and teachers, becoming more responsible individual and critical thinker (Slavin, 2011). Likewise, Role playing and Simulations may also be effective and it should be applied in real life situations for helping students to think logically and analyzing different issues critically (Dennicka & Exley, 1998). Debate may be another option for teachers to apply in classroom situations for enhancing critical thinking of students. This strategy may be more useful as learners react as active learners not passive by asking questions, thinking logically, finding out errors and most importantly formulating arguments by applying cognitive abilities. Halvorsen (2005) and Rybold (2011) also suggest that debate strategy be applied for students for developing critical thinking skills.

Material and Methods

This study was descriptive in nature. For this study, the quantitative method was used for data collection. Questionnaire was developed for quantitative data with five point rating scale.

Delimitations of the Study

Following were the delimitations of the study:

- 1) Two universities of southern Punjab were selected for this study
- 2) Only Public sector universities were included in the study
- 3) Both male and female teachers were included in this study

Population

The population of this study was included all the public sector universities of Southern Punjab. The population of the present research consisted of one thousand six hundred and eighty (1680) teachers working in two universities in Southern Punjab i.e. Bahauddin Zakariya University, Multan and The Islamia University of Bahawalpur.

Sample

The study sample was consisted of one hundred and fifty five (155) teachers teaching at university level in Southern Punjab. Two districts were included in sample naming Multan and Bahawalpur. Both male and female teachers were selected from two universities (Bahauddin Zakariya University, Multan, and The Islamia University of Bahawalpur, Bahawalpur) by using convenience sampling.

Tool and Data Collection

The survey method was used to collect data. For this purpose, a questionnaire was developed which based on five-point Likert-type scale for collection of relevant data from teachers of three universities.

Data Analysis

The collected data were tabulated and coded for analysis by using SPSS. The analyzed data were described statistically by applying descriptive statistics. Frequency, percentage and mean score were calculated.

Results and Discussion

Table 1

Statements	Always	Very Often	Sometimes	Rarely	Never	MS
I use Problem based learning activities to promote critical thinking among students	78 (50.32)	71 (45.81)	6 (3.87)	0	0	4.46

I ask the right questions to help in fostering students' critical thinking skills.	71 (45.81)	78 (50.32)	6 (3.87)	0	0	4.42
I promote Collaborative learning for critical thinking of students	72 (46.45)	60 (38.71)	23 (14.84)	0	0	4.32
I focus on project based learning for developing critical thinking skills	22 (14.19)	99 (63.87)	34 (21.94)	0	0	3.92
I use teaching strategy that works in groups to enhance critical thinking abilities of students	60 (38.71)	51 (32.90)	44 (28.39)	0	0	4.1
I prefer writing assignments focusing on reflection and reasoning.	62 (40.00)	75 (48.39)	18 (11.61)	0	0	4.28
I utilize discussion method for developing critical thinking among students	75 (48.39)	51 (32.90)	29 (18.71)	0	0	4.3
I apply teaching strategy promoting decision making ability of students for critical thinking	77 (49.68)	43 (27.74)	35 (22.58)	0	0	4.27
I focus on debate strategy for enhancing critical thinking among students	72 (46.45)	60 (38.71)	23 (14.84)	0	0	4.32
I apply mind mapping to enhance critical thinking among students	71 (45.81)	72 (46.45)	12 (7.74)	0	0	4.38
I prefer using information and communication technology to promote critical thinking skills	81 (52.26)	68 (43.87)	6 (3.87)	0	0	4.48
I use cooperative learning strategy for fostering critical thinking skills	87 (56.13)	44 (28.39)	24 (15.48)	0	0	4.41
I focus on peer reviews in teaching learning process to enhance critical thinking	96 (61.94)	57 (36.77)	2 (1.29)	0	0	4.61
I prefer to interpret scientific knowledge in their own words for enhancing critical thinking skills	78 (50.32)	61 (39.35)	16 (10.33)	0	0	4.4
I use argumentative strategy for fostering critical thinking among students	99 (63.87)	53 (34.19)	3 (1.94)	0	0	4.62

The above table shows that the mean score of all the statements are (greater than 3.00) means the higher level of agreement of all the respondents with all the statements.

Discussion

The purpose of this study was to find out teaching strategies used by the teachers to enhance critical thinking among students at higher education level in Southern Punjab, Pakistan. This research study was of descriptive nature in which quantitative method was applied for collection of data. The study showed many important findings. One of the study showed that teachers' interest and motivation for teaching is one of the vital factor for fostering critical thinking among students (Tsui, 2001). Furthermore, it was revealed that low confidence is the major factor for creating hurdle in developing critical thinking. The study also unveiled that critical thinking development is closely linked with fostering student's curiosity for learning (Ryan & Deci, 2000). Results also indicate that one of the major goals of teaching learning should be to enhance higher order thinking skills of students so that they can think logically and analyze issues critically (Zohar & Dori, 2003). The results also showed that argumentative approach can benefit students to handle cognitive challenging tasks which in turn make them critical thinkers in better decision making (Aizikovitsh-Udi, 2012). Additionally, Chan (2013) suggested that for developing critical thinking skills, proper mechanism should be designed for evaluating teaching practices applied and about their effectiveness for better results. As for as, the use of teaching practices for enhancing critical thinking is concerned, critical thinking skills are of utmost importance for students in this technological advanced world to cope with challenging issues (Newbill and Baum, 2012). Teaching strategies which help in enhancing critical thinking may be applied by the teachers to get desired results.

Conclusion

Teachers are providing proper guidance about CT skills to students but there are many other factors which should be considered for more success in this regard including students' motivation, interest and to stimulate curiosity for achieving the desired outcome effectively. Students should be provided ample opportunities and such an environment in which they may be able to utilize their potentials properly. Asking right questions, argumentative way to teach, mind mapping and many other related factors are of utmost importance in this regard. Teachers' competence and experience can play a vital role for developing critical thinking among students at higher education level. Use of latest technology and providing technical assistance may also give fruitful results. To conclude, both teachers' learning strategy and learners' willingness play their vital role for enhancing critical thinking skills among students.

Recommendations

The present study was to analyze teaching strategies used by the teachers at higher education institutions in Southern Punjab (Pakistan).

1. For more understanding about the teaching practices used by the teachers, sample size can be increased so that more accurate findings be achieved.
2. It's the need of time to conduct studies regarding teaching practices applied by the teachers at colleges as well as universities level.
3. Teaching strategies promoting critical thinking abilities should be applied in teaching learning process to get maximum benefits.
4. For developing critical thinking among students, ample opportunities should be provided to learners and involve them in different activities enhancing these skills.
5. Curriculum should be according to the current demands of rapid changes in world to compete and make learners critical thinkers for better decision making in real life situations.
6. There is also a major role for parents and society to play important part in shaping overall personality of learner.
7. Teachers should be trained in using proper techniques and strategies to foster critical thinking among students for future decision making.
8. Media should play its vital role to develop these skills and disseminate information necessary for creating conducive environment in which individuals may progress and utilize their potentials accordingly.

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