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Quality Enhancement of Pre-Service Teacher Education Using Philosophy for Community (P4C) as a Teaching Maneuver

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Abstract: *The study's aimed to identify the effect of the P4C teaching maneuver on the critical thinking skills (CTS) of teacher candidates by using a quantitative, quasi-experimental approach. The population comprised of teacher candidates of B.Ed. (Hons) programmes of University of Education whereas the sample was intact two sections of 5th-semester candidate teachers in Division of Education, UE Lahore. CTS were assessed through Watson Glaser Critical Thinking Appraisal (WGCTA). The results of the t-test suggested that P4C significantly improved the CTS (Inference and Overall CTS) of teacher candidates in the experimental group as compared to the control group. However, both groups' teacher candidates were equally skilled in the remaining WGCTA sub-scales (Recognize Assumptions, Deduction, Interpreting Information, and Evaluation of Arguments). It is suggested that a comparable study be carried out at all educational levels (primary, secondary, higher education) in both public and private sectors as well as in other disciplines by adopting a mixed-method approach.*

Key Words: Quality Enhancement, Pre-Service Teacher Education, Philosophy for Communities, Teaching Maneuver

Introduction

The term "teacher education " refers to the practices and guidelines created to give aspiring educators the information, perspectives, and abilities they need to carry out their duties successfully in the classroom, in their place of employment, and in the larger society. A good pedagogical theory, professional abilities, and instructional techniques are all included in teacher education. However, CTS are also considered important in teacher education. Mahmood (2017) explains that in-service and pre-service teacher training should focus on developing students' CTS as a foundational component of students' overall academic growth as well as continuous professional development (CPD).

Various well-known ways are used to facilitate CT among teachers such as asking questions (Haynes & Bailey, 2003), collaborative learning

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(Loes, & Pascarella, 2017), project-based team approach (Ngai, 2007), problem-based learning (Kumar & Natarajan, 2007), hands-on activities (Catanach et al., 2000; Saraoghu et al., 2000), and Lipman's P4C approach which is mostly used method (Green & Condy, 2016). P4C is a teaching maneuver that engages students in critical inquiry and promotes the development of CTS (Johnson, 2013). According to Green and Condy (2016), it is a democratic but carefully structured approach that focuses on the concept of class as a "community of inquiry". Correspondingly, Siddiqui et al. (2019) elaborate that P4C aims to support youngsters in developing their ability and willingness to pose inquiries, formulate arguments, and participate in reasoned discourse. Similarly, Zinaida and Irma (2019), state that P4C is a theory put into action. It is informal and emphasizes thinking and asking questions. It also fosters collaboration and allows for a more rational study of contentious problems. The representational and frequently antagonistic politics are broken by its democratic nature. It offers a new decision-making paradigm where each person can express their individual opinions.

Literature Review

A review of the literature shows that many studies have used P4C as a means to facilitate the CTS of students at various educational levels. The focus of the present study is on Using Philosophy for Community (P4C) as a Teaching Maneuver. Teaching maneuver denotes the way of teaching used by teacher educators. A teaching maneuver is everything a teacher educator uses to teach. The teaching maneuver varies depending on age and level of education, but almost anything can be a teaching maneuver under the right circumstances.

Naji (2005) states that Matthew Lipman and his colleagues first developed P4C in the late 1960s after finding that undergraduates lacked thinking and judgment. Lipman who was a professor educating philosophy at Columbia University realized/observed that his first-year students had excellent content knowledge but were unable to think independently. According to Lipman et. al. (1980), as cited in (Minick, 2005), the P4C was designed on the ideas of the Russian educator, Lev Vygotsky, and John Dewey. They highlighted that the focus of instruction should be to develop/improve the CTS of students not on the memorization of facts/text. Other philosophers and psychologists mentioned by Lipman (2017) who had an impact on P4C included Jean Piaget, Justus Buchler, Gilbert Ryle, and George Herbert Mead.

Lam (2012) provides additional evidence that P4C can encourage students to think critically by exposing them to a wide range of cognitive behaviours. Furthermore, Naseri et. al. (2017), conducted a study on CT in P4C (Philosophy for Children) Educators. The study's results imply that the P4C technique might be utilized to train teacher educators who are exposed to CT during their pre-service and in-service training to instruct aspiring teacher candidates and school teachers. Similar to this, Zulkifli and Hashim's (2020) investigation into the role of P4C in enhancing students' CT reveals that P4C has aided in the development of students' CT.

Today, P4C has been adopted by about 60 countries, which all take different approaches that fit their society, education systems, and personal teaching styles (Gorard & Siddiqui, 2017). As per the study of Rashid and Qaisar (2017), the education system in Pakistani schools is mostly based on memorization, which means that all factual information is shared with students without involving the students in any inquiry or thinking process. Even though P4C is used as a teaching tool in nations like the UK, China, Turkey, Iran, etc (Siddiqui et al., 2019). The promotion of CTS of students in Pakistan frequently makes use of tactics such as role-playing and questioning (Rashid & Qaisar, 2017), problem-based learning (Tayyeb, 2011; Kousar & Afzal, 2021), etc., however, P4C application has not been seen in Pakistan. Therefore, there is a pressing need to develop P4C in Pakistan as a teaching maneuver.

Statement of the Problem

The core goal of teacher education is to help teacher candidates to develop their CT and reasoning abilities. Due to their status as "agents of change" and creators of pedagogical tools (Turvey, 2013), it

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is crucial to impart CTS to future educators (Priestley et al., 2013). However, the situation regarding CTS among teachers in the local context is not satisfactory. In views of Warsi (2004), Rashid and Qaisar (2017) teachers lack the abilities to cultivate and assess CTS. They (teachers) place a greater emphasis on imparting factual knowledge. Further, at the pre-test data collection stage, the present researcher of the present study observed that most of teacher candidates in Pakistan encounter significant challenges when trying to infer, recognize assumptions, interpret information, deduce and evaluate arguments related to specific concepts, activities, and aspects of their teaching and learning process as well as their daily lives. This is because their CTS are not as well-groomed as they should be. Keeping in view the local scenario of teacher education of teacher candidates and identifying policy, training and curricula gaps in the said perspective in Pakistan, the researcher undertook the current topic for research.

Significance of the Study

The results of the study may contribute significantly to enhance the quality of teacher candidates' thinking abilities and thus the quality of teacher education (TE). Teacher candidates may be able to learn more effectively, which may both inspire them and lead to develop their CTS. Teacher educators would learn how to alter and enhance the teaching methods and better engage the students to increase their academic performance. It is also possible to innovate and alter the curriculum of teacher preparation programmes to better engage students and develop their CTS. Curriculum developers may be able to provide evidence for P4C instruction, which has been effective in other nations and can also be effective with Pakistan's teacher candidates.

Objectives of the study

The objective of the present study was to "Examine the effect of P4C on the critical thinking of teacher candidates".

Research Questions

The research question that was being considered was "Is there any impact of P4C when used as a teaching maneuver on teacher candidates' critical thinking?"

Methodology and Procedure

The study's research paradigm was positivism, and it was conducted using a quantitative technique and the Qusai Experimental Research Design (non-equivalent group pretest-posttest design). The researcher used P4C as an independent variable in the current study, and the effects of this manipulation on the dependent variable "critical thinking" were assessed.

All of the teacher candidates in Lahore signed up for the B.Ed. Hons programme at public universities constituted the population. The sample consisted of B.Ed. Hons programme participants who were registered in the fifth semester. After getting permission from the head of the concerned department at the university of education in Lahore, both sections of a similar programme were chosen. The students in one section were the experimental group, whereas the students in the other section were the control group.

The experimental group received instruction utilizing the P4C approach, while the control group's students received traditional instruction. To ensure the homogeneity of the control and experimental groups, the researcher managed the following uncontrollable factor that might have an impact on the study: The qualifications of the instructors, their ages, their teaching experience, and the time and place of the class.

16 working weeks were included in the intervention phase, with two classes per week (three credit hours). There were 70 students in total, 31 of them were in the experimental group and 39 in the control group. The experimental group of students participated in two P4C sessions per week. P4C is a form of structured discussion. Haynes (2002), as cited in Topping & Tricky, 2007, proposed a nine-step approach for teaching a P4C lesson which was followed in the study. The steps of the study include (1) Get started, (2) Share a stimulus to prompt

questioning, (3) Pause for individual thought, (4) Questions, (5) Connections, (6) Choose one of the questions to start evaluating, (7) Build on each other's thoughts, (8) Record the discussion using concept mapping, (9) Closure and review.

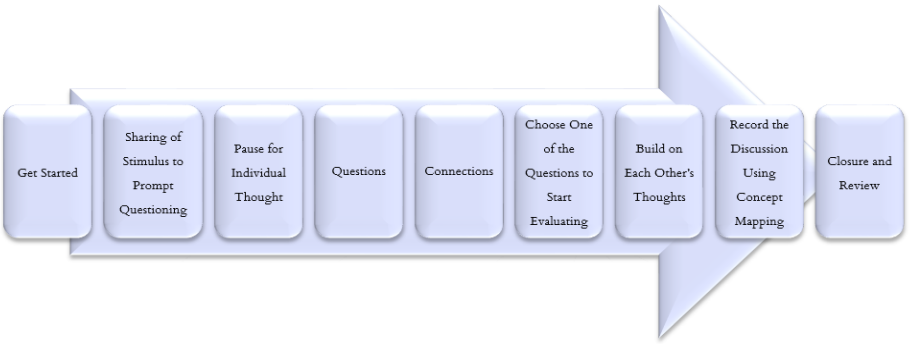

Figure 1: Structure of a P4C Session/Lesson Haynes (2002)

Instrumentation

The researcher gathered pre-test and post-test data from the control and experimental groups. For the purpose, the Watson-Glaser Critical Thinking Appraisal (WGCTA) was purchased and adopted. The WGCTA is a standardized tool for assessing CT at the university and college levels (Watson & Glaser, 1980). Bernard et al. (2008) state that Watson and Glazer's definition of CT served as the foundation for CT tests that are extensively used today to assess CT. Assumptions, Inferences, Interpreting Information, Deductions, and Argument Evaluation are the five sections of the test. It contains 40 multiple-choice items with options between 2 and 5. The test is self-explanatory in terms of the information needed to fill it. Respondents have to self-assess the credibility of any information they have provided. The WGCTA Form 'S' attained scores ranging between 0 and 40. According to the test handbook, both the test's internal consistency and reliability scores are 0.81. Previous research conducted by Bibi and Akhter (2020), have demonstrated the validity of these instrument in the Pakistani context.

Findings

The impact of P4C on the CTS of teacher candidates who were members of the experimental and control groups was determined using an independent sample t-test. The study's findings are given below:

Table I. Comparison of the mean scores between the control and experimental groups on WGCTA and its sub-scales

WGCTA: Sub Scales	Group	*M*	*SD*	*df*	*t*	*p*	Cohn's *d*
Inference	Experimental Group	1.90	1.32	68	2.240	.028*	0.5
	Control Group	1.30	0.89				
Assumption	Experimental Group	5.06	1.23	68	1.059	.293	-
	Control Group	4.72	1.45				
Deduction	Experimental Group	1.58	0.92	68	-1.050	.297	-
	Control Group	1.82	0.97				
Interpretation	Experimental Group	3.48	0.99	68	1.661	.101	-
	Control Group	3.07	1.04				

WGCTA: Sub Scales	Group	*M*	*SD*	*df*	*t*	*p*	Cohn's *d*
Evaluation	Experimental Group	6.06	1.53	68	1.616	.111	-
	Control Group	5.46	1.57				
OCTS	Experimental Group	18.09	2.90	68	2.614	.011*	0.6
	Control Group	16.38	2.57				

Note: ** p < .05, Cohn's d=effect size, OCTS=Overall CTS*

Post-test mean scores of both groups (experimental and control) for CTS on WGCTA and its sub-scales (Inference, Recognize Assumptions, Deduction, Interpreting Information, Evaluation of Arguments) were compared by using independent sample t-test.

The table shows that the mean scores of teacher candidates' of the experimental group were considerably developed than teacher candidates of the control group towards the skill to inference (*M*= 1.90, *SD*= 1.32) and OCTS (*M*=18.09, *SD*=2.90) as *t*(68) = 2.240, *p*=0.028; *t*(68) = 2.614, *p*= 0.011 with medium effect size 0.5 and 0.6 respectively. Whereas teacher candidates in the control group could not surpass their counterparts in skill to inference (*M*= 1.30, *SD*= 0.89) and OCTS (*M*= 16.38, *SD*= 2.57). But with regard to the rest of the sub-scales of WGCTA (Recognize Assumptions, Deduction, Interpreting Information, and Evaluation of Arguments), teacher candidates of both groups have the same abilities as the mean scores regarding the subscales of WGCTA [Recognize Assumptions (M= 4.72, SD= 1.45), Deduction (M= 1.82, SD= 0.97), Interpreting Information (M= 3.07, SD= 1.04), Evaluation of Arguments (M= 5.46, SD= 1.57)] in both control and experimental groups were not statistically considerable as *t*(68) = 1.059, *p=.293*; *t*(68) = -1.050, *p=*.297; *t*(68) = 1.661, *p* = .101; *t*(68) = 1.616, *p=.111* respectively.

Conclusion and Discussion

Based on the study's results, it was found that P4C had a substantial impact on the ability to infer and OCTS of the experimental group as compared to the outcomes of the control group. However, the teacher candidates in both groups exhibit the same skills in the remaining WGCTA subscales (Recognize Assumptions, Deduction, Interpreting Information, and Evaluation of Arguments). These results concur with earlier investigations by Naseri et al. (2017) and Zhou et al. (2013) which exhibited that the level of the teacher educator's CT (Inferencing, Deductive and Inductive Reasoning, Analysis, Evaluation, and Total Critical Thinking) measured by using CCTST (California Critical Thinking Skills Test) was significantly promoted after the P4C intervention. As per Naseri et al. (ibid) and Zhou et al (ibid), the P4C approach might be utilized to educate teacher educators who learn CT in their in-service and pre-service courses to instruct teacher candidates as well as school teachers who are already working in the field. Similarly, the findings by Siddiqui et al. (2019) and Rahdar et al. (2018) demonstrated that teaching students using the P4C technique had an impact on their CTS development. Students' analysis and evaluation, assigning various interpretations to questions, and drawing specific inferences during the process all contribute to their CTS.

The findings that P4C had improved students' CT were also supported by a study by Zulkifli and Hashim (2020). Lam (2012) provides further evidence that P4C can foster students' capacity for critical thought by exposing them to a wide range of cognitive behaviors.

Recommendations

The following recommendations can be made based on the findings and decisions of the study to improve the CTS of teacher candidates.

1. The policy makers and academia may revise teacher education policies as well as teacher education curricula.
2. The program/curriculum could embrace more tasks intended to boost CT abilities

(Recognition of Assumptions, Inferences, Interpreting Information, Deductions, and Argument Evaluation).

3. Faculty members should engage in relevant activities (Group work, Discussion, etc.) to assist students and enable them to Recognize Assumptions, Make Inferences, Interpret Information, Deductions, and Argument Evaluation.
4. A similar kind of study may also be conducted at all educational levels (primary, secondary, higher education) in both public and private sectors as well as in other disciplines by adopting a mixed-method approach.
5. Longitudinal studies may be conducted to get a better understanding of how effective teacher education programmes are at fostering CT, these types of studies can also be used to examine the changes in CT development throughout teacher training by gathering data at the beginning, then on a regular basis, and finally at the end of the programme.

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