



Research Article

Interdependence of Critical Thinking and Active Participation in Constructivist Learning for Public Secondary Students

Maryam Siddique¹, Dr. Rukshanda Jabeen¹ & Alia Bhutto²

¹ Department of Education, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST), Karachi – Pakistan

² Department of Linguistics and Social Sciences, the Begum Nusrat Bhutto Women University, Sukkur – Pakistan

ARTICLE INFO

Article history:

Received: August 07, 2024

Revised: September 08, 2024

Accepted: September 16, 2024

Published: September 30, 2024

Keywords:

Active participation
Constructivist learning
Continuous professional development
Critical thinking
Poor educational policies
Public secondary students

ABSTRACT

The interdependence appertaining to critical thinking and active participation of students in classrooms is a hallmark of 21st-century modern pedagogies. This research, as a case study of public schools in Karachi, has explored teachers' perceptions, engagement, and cultivation of critical thinking skills, as well as the possible challenges encountered by teachers in fostering critical thinking through active participation. The research utilized qualitative data gathered through interview guides administered to teachers of a public school in Karachi. To validate research, FGD was also conducted with 6 teachers of the same school. The findings of the research indicate the reasons for the lack of active participation and cultivation of critical thinking among students. Parental involvement, lack of resources, language barrier, lack of continuous professional development (CPD), Negligence of Government in providing resources and poor educational policies are the themes that emerged from interviews. This research is significant in exploring the hindrances in the implementation of modern pedagogies that can pave the way for global discourses. Moreover, by exploring teachers' perceptions, this study triggers an investigation of students' and parents' perceptions regarding active participation in classes and accepting modern pedagogies.

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INTRODUCTION

In the dynamic landscape of contemporary education, where the intention is to enrich curriculum with global discourses, the interdependence of critical thinking skills and active participation is crucial for fostering a constructive approach to learning among students. Critical thinking is a vital skill for life; to achieve success and to meet certain parameters, students need to possess strong communication and critical thinking abilities (Yang & Chung, 2009). Moreover, critical thinking involves examining and assessing one's thought process in order to make positive

Author Biographies

- Maryam Siddique** is currently a Research Scholar at the Department of Education, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) in Karachi – Pakistan. She received her Master's Degree in English Linguistic & Literature from National University of Modern Languages (NUML) in Karachi – Pakistan.
- Dr. Rukshanda Jabeen** is currently an Assistant Professor at the Department of Education, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) in Karachi – Pakistan. She obtained her Doctorate in Education from the Institute of Business Management (IoBM) in Karachi – Pakistan.
- Alia Bhutto** is currently a Lecturer at the Department of Linguistics and Social Sciences, the Begum Nusrat Bhutto Women University in Sukkur – Pakistan. She received her Master's degree in English from the Iqra University in Karachi – Pakistan.

*Corresponding author:

Alia Bhutto | Department of Linguistics and Social Sciences, the Begum Nusrat Bhutto Women University, Sukkur – Pakistan
e-mail: alia.bhutto@bnbwu.edu.pk

How to Cite:

Abid, M., Jabeen, R., & Bhutto, A. (2024). Interdependence of Critical Thinking and Active Participation in Constructivist Learning for Public Secondary Students. *International Journal of Trends and Innovations in Business & Social Sciences*, 2(3), 423-432.

DOI: <https://doi.org/10.48112/tibss.v2i3.880>

improvements. Rehman et al., (2023) aligns interdependence of critical thinking and active participation of students via constructivist approach. By overviewing educational policy of Pakistan 2017- 2025 it is vivid that there are suggestions on teacher education and modification in secondary schools without bridging it with 21st century modern pedagogies and skills to change the conventional and traditional approaches in the public sector.

The understanding of current global discourses for students is crucial nowadays to be informed. This is an era of critical discourse analysis where students are getting tremendous opportunities like MUN conferences and awareness from UNESCO (2021) for global movement of education, green education and climate changes as an integration in curriculum (Krein, 2023). This vast scenario highlights the importance of active participation in curricular and extracurricular activities for all students (irrespective of public or private sector) in order to enhance critical thinking to be part of such discourses. Furthermore, to instil a sense of ownership by transforming content and theoretical knowledge to practical skills it is right of public-school students also to critically assess information by actively participating in such discussions.

Pakistan is a developing country where the education system and most importantly schools have wide strata as per social status and prestige. Active participation of students and enhancing critical thinking is part of teaching pedagogies in many private schools of Pakistan but the public sector is almost neglected in this regard. Clearly, there is a need for educational research in the public sector to diagnose key issues in students' learning related to active participation. Moreover, the critical thinking framework is clearly defined to specify what needs to be learned, aiding in the development of writing skills. It is structured to provide a consistent approach that addresses both language and context. It is driven by students' needs, ensuring that course objectives and content align with their requirements. Additionally, it supports teachers in guiding and enhancing students' learning and creativity, while also empowering learners by exposing them to patterns and opportunities. Nasution et al., (2022) adhere value to interdependence of critical thinking and active participation.

The purpose of this research is to foster a new discourse for public sector secondary students by exploring how active participation and critical thinking mutually reinforce one another to create a robust framework for meaningful learning experiences. This study aims to outline public school teachers' perceptions regarding interdependence of critical thinking and active participation. Additionally, this research also intends to identify possible challenges faced by public school teachers in cultivating critical thinking through a constructivist approach. The 21st century opens gateways for active participation of students in classrooms amazingly. Researchers and educationists have been giving importance to active participation of students in classrooms for a long time. Students must be capable of critically evaluating information and applying it to real-world workplace scenarios (Mezirow, 2018).

Problem Statement

Learning takes place through opportunities that enable learners to develop into critical thinkers, problem solvers, and decision-makers. Sato and Haegele (2019) advocate the significance of active participation of students to learning in a constructivist approach for the development of critical thinking. Secondary level students have early adolescence stages when they have development of cognitive skills. If students are provided active participation platforms to construct their knowledge; so, their critical thinking is enhanced ultimately. According to (Herwan et al., 2018). The primary goal and purpose of education is to equip children for their roles as workers and active participants in society, with its objective being the development of individuals as social beings (Siddique, 2023). On the contrary, education in the public sector of Pakistan is unfortunately neglected in many ways including constructivist approach towards learning and teaching. This research examined the current state of secondary students on the basis of their critical thinking skill development and level of active participation from their teachers' perspectives. Moreover, this study aims to explore public school teachers' perceptions and understanding towards the significance of active participation of students and its interdependence on critical thinking. Moreover, the challenges, if any public school teachers, face while cultivating critical thinking through active participation in a constructivist approach.

Objectives

- To outline how secondary-level public school teachers perceive student engagement via active

participation and the cultivation of critical thinking skills

- To identify possible challenges encountered by secondary level public school teachers in implementation of a system that facilitates critical thinking and active participation

Research Questions

- How do secondary -level public school teachers perceive students' engagement and cultivation of critical thinking skills?
- What are the possible challenges encountered by secondary level public school teachers in implementation of a system that facilitates critical thinking and active participation?

Aim of the Study

The objective of this research is an attention call to secondary level students' learning styles. Students of the public sector also have the same cognitive and non-cognitive development as the students of private schools. By incorporating active participation in a constructive approach to learning as a pedagogy can enhance their critical thinking. They can also avail a chance to raise their voice, to share their opinions and to highlight their ideologies on global forums. Listening passively never triggers thinking skills. A student starts thinking critically when he/ she is participating actively, learning actively, has collaboration with peer fellows and a platform to learn and share.

LITERATURE REVIEW

In the modern world rethinking conceptions of critical thinking according to context is crucial in order to design teaching models that resonate to sociocultural particularities, needs and global demands (Meneses, 2019). This study aims to emphasise cognitive apprenticeship, describing instructional practices through learning by doing (Sweet & Michaelsen, 2012) which involves critical thinking as a major and significant component in the constructivist approach. According to Stanikzai (2023), the concept of critical thinking comprises all types of knowledge and refers to students' engagement in constructing knowledge through in depth reflection and thought process, strengthens the aim of current study that explores interdependence of critical thinking and active participation of secondary school students in constructivist approach. Similarly, Almulla (2023) finds out constructivism theory as a paradigm for students' critical thinking, creativity and problem solving skills which affects their academic performance in higher education, advocates this research conducted to highlight the significance of critical thinking with respect to active participation of students in secondary classrooms.

Kuloğlu and Karabekmez (2022) have investigated the relationship between 21st century teacher skills and critical thinking skills concluding that critical thinking has a positive impact on 21st century teacher skills, highlights the significance of student-centred approach implemented by teachers in class based on constructing knowledge with critical discourses, aligns explicitly with the objectives of current study. In addition to this, Xu et al., (2023) find the overall effect of cultivating critical thinking and its impact on the two dimensions of critical thinking which is attitudinal tendency and cognitive skills utilising the approach of collaborative problem-solving. The study further suggests that meta-analysis in this study brings forth evidence to support the view that collaborative problem solving has a strong, collegial effect on promoting students' critical thinking. This research depicts the significance of students-centred activities in class where they ponder on problems, think critically and construct knowledge, coherent with the agenda of this explorative journey.

Tang et al., (2020) investigate a three-phase mapped process for Playful Design Jams (PDJ) that incorporates playful elements supporting the development of positive interdependence within team-based activities, and suggests the importance of critical thinking, creativity, communication and collaboration for complex problem solving in formal education correlates with the aim of this study which calls attention to learning styles of secondary school students in public sector. Xu et al., (2023) highlight when students learn knowledge required to solve problems in collaboration, i.e. group work, reaching consensus and forming solutions through dialogue, questions, debates, interpretation, negotiation and reflection ultimately promotes their knowledge domain and critical thinking, as critical thinking is highly valued general skill, which is essential for education globally signifies the interdependence of

critical thinking and active participation of students and its importance globally. Critical thinking is a key skill for 21st-century learning. One approach to fostering critical thinking in education is through the use of learning models designed to cultivate these abilities. Razak et al., (2022) support the significance of critical thinking with active participation as modern pedagogy where students can actively construct knowledge via problem-based learning which is student centred and enhances critical thinking skills. While considering Pakistani context, the narrative of Fostering Critical Thinking in Pakistani Secondary School uncovered gaps between vision and actual practices constrained by systemic challenges like the rote learning-focused examination system, large classes, resource limitations, and lack of teacher training supports the objectives of current study.

Theoretical and Conceptual Framework

Constructivism by Jean Piaget

Jean Piaget 1896- 1990 was a Swiss Psychologist and father of constructivism. His theory advocates that students/ learners actively construct knowledge rather than gaining it from outside passively (Harlow et al., 2007). Additionally, learning is not imposed on learners. They think logically, participate in activities, and build opinions. Constructivism, as part of contemporary educational philosophy, is closely connected to humanistic psychology and postmodern theory. It reflects a human-centred approach to structuring the educational process in both secondary and higher education institutions (Karpenko & Doroshenko, 2023) indicate that it is rooted in modern educational philosophy, which vividly emphasises that learners actively construct their own understanding through experiences. Furthermore, it is closely tied to humanistic psychology, which focuses on personal growth and self-actualization. Additionally, it is related to postmodern theory, which challenges traditional ways of thinking. This approach puts the learner at the centre of education, prioritising their individual needs, experiences, and perspectives. In both secondary and higher education, constructivism encourages interactive, student-driven learning rather than passive absorption of information.

Critical Thinking from Educational Perspective

Bloom taxonomy is a true picture of components of critical thinking as it presents the processing of information at different layers of thinking; knowledge, comprehension, application, analysis, synthesis and evaluation (Rehman et al., 2023).

Critical Thinking Presented by Paul and Elder

Paul and Elder have presented the foundation for critical thinking in 2010. The researchers have developed a critical thinking mini-guide where they have talked about the routine of critical thinkers, stages pertaining to critical thinking and why it is important. According to researchers critical thinking is the skill of examining and assessing thought processes with the aim of enhancement (Elder & Paul, 2010). As further supported by Almulla and Rahmi (2023), critical thinking involves rational, reflective thought focused on determining what to believe and how to act.

METHODOLOGY

Research Approach and Research Design

A qualitative research paradigm approach and case study design was employed. The case study design seems to be the most appropriate for this research as the objective of a case study is to understand the complexity and dynamic nature of the particular entity and to discover systematic connections among experiences, behaviours, and relevant features of the context. Amidst discussing the key features of case studies, Duff (2014) stipulates the six basic principles including singularity, multiple perspectives or triangulation, in-depth study, particularity, contextualization, and interpretation. All the principles discussed about case study as a research design, which has been specified by Duff (2014) have been incorporated in current research. Qualitative paradigm was used for this research comprising a triangulation method for collecting data as it was a case study where there was a comprehensive need of understanding a phenomenon by choosing teachers for interviews who deemed fit to participate in this research.

In order to increase the credibility as well as validity of the results, the data collected from the Focus Group Discussions (FGD) and interview guide were methodologically triangulated. This approach ensured an effort to thoroughly explore and explain the depth and complexity of human behaviour by examining it from multiple perspectives. Furthermore, for validation this technique is also used in qualitative research to ensure that an account is robust, rich, comprehensive and well-developed. Additionally, the criteria introduced by Lincoln et al., (1985), comprising credibility, transferability, dependability and conformability, was followed to establish trustworthiness. The research tools in this study were semi-structured interview guides and FGD (Fazeeha Azmi, 2023). The general population for this study included all secondary level public school teachers. The targeted population was secondary level public school teachers of Karachi and the accessible population was one secondary level school teacher of a public school in Karachi. The sampling technique was convenient and the sample size comprised 10 public school teachers of a secondary level school. The FGD was administered by 6 teachers of the same school.

Ethical Considerations

The researchers strictly adhered to the ethical considerations to assure the credibility of this work. None of the participants was forced to be part of study in order to give interviews or to be part of FGD. In order to take care of confidentiality and ease for participants, the names of the participating teachers in the entire work were not used. The timetable of the participating teachers was also taken due care.

Data Analysis

The participants' responses to the items in each section of the interviews and FDGs were analysed with the aim to determine the frequency of using student-centred approach and strategies incorporated to facilitate active participation of students in the classroom. In data analysis, interviews of 10 teachers were transcribed into text. For in-depth study, data was divided into sections followed by coding and finding themes.

RESULTS & FINDINGS

Parental Involvement

Parents are a key factor in fostering children's educational success. The data collected via interviews revealed that interdependence of critical thinking and active participation of students in constructivist approach is highly influenced by students' background and parental involvement. As one of the respondents explained,

Parents are illiterate and they do odd jobs because of financial issues, they do not take interest in what their children are doing in schools.

[Ziada tar Maa baap un parh heyn aur maashi halaat ke wajha se mazdoori karty heyn, unhe koi dilchaspi nahi unke bache school me kya parhte heyn].

Similarly, students' lack of interest and attention in active participation is connected with the tough job routine of their parents which makes them lethargic. Parents are not interested in their academic involvement, rather they are encouraged for jobs and they also do not get time to interact with their children, they think about survival. A respondent depicted,

They often go to jobs from here and come back at 2 am. How can they be active in classes?

Lack of Resources

It is claimed by all respondents that active participation and critical thinking depend on each other and it's very important but lack of resources significantly influence students' active participation and habit of becoming a critical thinker. A respondent said,

Students misbehave at times, but they like active participation but we don't even have a laboratory for science highlighted by a researcher. The students were deprived of the practical component of the science.

Furthermore, a respondent said,

We have to bring scissors and papers from home when we want to keep any activity.

Government Negligence in Providing Resources and Poor Educational Policies

It was found that teachers bring their own resources like multimedia. A respondent explained,
I bring my own projector for classes. If I apply for it, that will take 1 year; we can't wait to teach that grade.

This indicates the negligence of the government to facilitate schools. Moreover, the Urdu medium shift to English medium from primary to secondary level causes learning difficulty and language barrier where students struggle for understanding. One of the respondents explained,

One important factor that is a barrier to active participation at secondary level is board exam pressure and syllabus that do not resonate with constructivist approach and critical thinking as it's based on pure content knowledge and fixed board pattern.

It shows a weak policy framework. The education system in Pakistan is plagued by the impact of the internal inconsistencies and the trial of numerous educational policies.

Language Barrier

It was found that mostly students were Pashtun and did not take interest in Sindhi. Additionally, they were hesitant to participate due to lack of understanding. A respondent said,

I motivate them to learn this language because they need government offices also but they do not take interest in Sindhi.

This attitude hinders their participation. The respondent further said,

Even if I want, I cannot include any activity in my class due the nature of my subject. The Sindhi Language class needs translation.

[Mera subject aysa he ke mein agar chahu bhi koi activity rakhna tu unko smjh nahai ati Sindhi, tarjuma batana hota he, hur cheez smjhana, Dosri language].

Lack of Continuous Professional Development

Pakistan as a whole has given minimal attention to the education sector, especially in terms of hiring qualified teachers, as one of the respondents explained,

In Math, activities can't be designed, it is not English.

The respondent had a very different perspective,

It's the teacher's responsibility how she integrates critical thinking with content

[Ye teacher ka kam hey ke apne subject ke mutabik students me critical thinking ke ability paida kare]

It highlights the need of Continuous Professional Development (CPD) to train teachers in order to analyse context based learning and teaching intricacies and to evaluate need assessment based on incorporating new pedagogies. The respondent further elaborated,

Critical thinking is not a separate subject, once teachers plan classes, they will not suppress students' questions. Our students are very intelligent and they respond when engaged properly.

[Public schools me bachy bhut practical heyn. Me ise baat se ikhtilaf karti hoon ke public schools ke bachy duffer hyn]

It depicts that students can be involved in active participation and they might participate energetically as they are already having problem solving skills.

Discussion

The findings of this study provide insights into the teacher's valued beliefs, instructional practices, challenges confronted, and suggested solutions regarding critical thinking teaching and learning. Jamil et al., (2023) have explored a Pakistani secondary school science teacher's perspective on developing critical thinking skills among students. However, the narratives of the study uncover gaps between vision and actual practices constrained by systemic challenges like the rote learning-focused examination system as argued by Rehman et al., (2023) learning in public schools is primarily focused on the curriculum and students generally excel in subjects that rely on rote memorization but struggle with fundamental comprehension and deeper understanding, depicts the traditional teaching methods and approaches practised in public schools thus adds value to the current study which emphasises the importance of constructive approach.

Moreover, large classes, resource limitations, and lack of teacher training reinforce the findings of current research in public sector at secondary level, as Ali et al., (2020) state that although teacher

trainings have been conducted in public schools but unfortunately, individual needs and competencies are not taken into considerations which influence the performance of teachers. The current study further identified barriers like language problems. Pakistani educational institutions, students face numerous challenges, but a significant issue that cannot be overlooked is learning English as a second language (Umar et al., 2023). Waheed et al., (2024) highlights the language problems in public schools in particular. Additionally, parental involvement, intense and odd jobs impact on students' attention.

Children whose parents are more involved in their lives tend to achieve better results. Parents stay informed about their children's progress, provide support, help with homework, or hire a tutor, all of which significantly enhance their performance (Umar et al., 2023) advocates parental attention but financial issues and illiteracy keeps the parents unaware of their child's status. This argument has been supported by Triroso et al., (2022) that in public schools, parental involvement is usually absent; they show little or no interest, and as a result, children underperform. This lack of attention leads to poor outcomes for the students. The core issues have been identified as to attain matric degree to get a peon job assured by parents via their connections (Kalim, & Bibi, 2024). From school to job for hours detach the sense to observe, think, participate and socialize. There is a need for awareness via guidance and counselling not only for students but for their parents also to break norms (Begum et al., 2023).

CONCLUSION

Students are active, bold and have problem solving skills because they face real life issues and have potential to handle them. They can be critical thinkers to address their issues on a global forum with little grooming, thought provoking sessions and counselling. Both school and home environment are correlated. If students have a neglected environment at home, they can't work properly in school. Additionally, they are not motivated to study and participate because there is no check and balance. Similarly, lack of enthusiasm in school does the same. Student – Teacher relationship is vital for health, cognitive and non-cognitive development of students.

Limitations

The strength of this study is its scope. It provides a thought-provoking platform for researchers to have generalizable quantitative research on teaching learning systems in the public sector. Moreover, this research is an insight into the lifestyle of lower middle- and lower-class students who face drastic hurdles to live a moderate life where they can enjoy activities or logical reasoning. On the contrary, the first limitation is convenient sampling because of limited resources and timeframe which is prone to research bias. Furthermore, a vivid limitation of this study I found was further in-depth analysis based on classroom observations that I had to skip because of the time frame restriction as observation requires time for analysis and interpretations. The study would have covered perceptions and experiences of students and parents also in order to understand and examine the whole system.

Recommendations

- A qualitative study on students and parents' perception on active participation and development of critical thinking as compared to conventional degree attainment can be insightful
- An audit analysis can be influential as a case study and mix method approach to analyse resources and expenditure management
- On the basis of this qualitative research, a quantitative study can be conducted to address key issues and barriers in the public sector that hinder constructivist approach in learning

COMPETING INTERESTS

The authors declared no competing interests.

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