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An Investigation of Teachers' Role in Promoting 4Cs, to Improve the Competences of Teachers at Non-Formal Primary Schools in District Chiniot

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Abstract
An Investigation of Teachers' Role in Promoting 4Cs, to Improve the Competences of Teachers at Non-Formal Primary Schools in District Chiniot. The study was a descriptive qualitative research design was used to gather data from 20 teachers from non-formal primary schools in Chiniot District were interviewed using semi-structured interviews by purposive sampling technique selected. Thematic analysis techniques were used to analyze the data. The results showed that teachers understood the significance of 4Cs and applied the questioning technique, interactive discussion, collaborative learning, problem solving, and creative classroom practices to develop the 4Cs. The effective implementation was however hampered by a lack of professional development opportunities, insufficient teaching materials, lack of curricular flexibility, lack of space in schools, and examination-focused pedagogy. The study found that a successful integration of the 4Cs takes place when there is continuous professional development were existed; the presence of supportive educational policies; curriculum changes; availability of the teaching resources; and teaching approach that is learner-centered. Educational authorities are advised to improve teacher training courses and ensure that teacher training equips them with the necessary competencies to integrate 21st century skills effectively in their teaching methods to boost up instructional effectiveness and the quality of primary education.
***Keywords**: Critical Thinking, Communication, Collaboration, and Creativity.*

Introduction

The context of education in Chiniot District is a unique one to study the implementation of the 4Cs because not only are there public schools and private schools, but they also differ in quality in terms of resources and teaching styles. In many public schools, the problem is overcrowding, lack of infrastructure, lack of access to modern teaching tools, etc. which may impede the use of innovative pedagogies. Private schools, on the other

hand, may have greater resources and flexibility to institute student-centered teaching strategies to encourage the 4Cs. These differences result in disparities to the quality of education and emphasize the importance of examining the process of building these competencies in various educational contexts. The dynamics washelp in understanding the gaps and enhance the quality of education in the region (Zainuddin, 2024).

Therefore, this transformation towards the 21st century education is considered vital in the development of skills that cannot be limited to knowledge gained in the classroom. 4Cs is a holistic framework that helps students develop the skills they was require in an ever-changing world. Primary education is an important time to develop these skills and teachers are a key part of their implementation. But there are certain constrictions like lack of resources, the traditionalism in the teaching methods and the systemic constraints can create hurdles in implementing the 4Cs effectively in other developing areas like Faisalabad. Thus, it is critical to investigate how primary teachers are integrating these competencies into their lessons, what needs to be done to improve, and how to help support the preparation of future-ready learners (Thornhill-Miller et al., 2023).

The 4Cs Critical Thinking, Communication, Collaboration, and Creativity is a well-rounded model for understanding the necessary skills of the 21st century. It is based on the most recent theories of learning, which focus on the active learning of students, participatory teaching and learning, and skills rather than the memorization of knowledge. The 4Cs together incorporate the cognitive, interpersonal and innovative aspects of learning, which are very relevant in preparing students to meet challenges in the real world. Educational scholars claim these abilities have the capacity to help students actively engage with content, peers, and environment to promote deeper understanding and retention. This framework is used in the primary sector to provide a structure to tie in higher order thinking and social skills to the early learning experiences, which was enable students to establish strong academic and professional foundations for the future (Voogt & Roblin, 2021).

Critical thinking is the ability to analyze, interrogate and make informed decisions about information and evidence. This requires a questioning attitude, awareness of their own assumptions and biases, and a systematic approach to problem-solving. In primary schools, students was learn to think critically in an inquiry-based environment, by solving problems and engaging in activities that require them to consider different viewpoints. Teachers support this process through open ended questioning and opportunities to reflect and discuss. Early development of critical thinking has been shown to positively impact pupils' understanding of complex concepts and academic achievement across all subjects. Furthermore, it promotes self learning and self-decisiveness, a sign of the complexity of the modern life. Hence, it is important to incorporate critical thinking into teaching to create analytical and reflective learners (Facione & Gittens, 2022).

Communication is a key element of the 4Cs and is the skill of conveying one's ideas effectively orally, in writing and without the use of words. It also involves skills such as listening and understanding and responding to other people's messages. In primary education, communication skills are developed in a variety of activities, including storytelling, group discussions, presentations and interactive learning tasks. Communication is not only important for students' education, but it is also crucial in their social and emotional development, as it helps them express their thoughts and feelings with confidence. Teachers are critical in setting the tone for effective communication and encouraging discussion and engagement in their class. Research has indicated that the 4Cs

of communication are closely interrelated and that good communication skills are crucial to better collaboration and learning outcomes (Mercer & Dörnyei, 2020).

Collaboration: to work together with other people to reach shared objectives. It includes the exchange of ideas, respecting other points of view, and working cooperatively. Group projects, peer learning activities and cooperative problem-solving tasks are common mechanisms by which cooperation is encouraged in primary school classrooms. Students was learn how to build Interpersonal relationships and the value of team work for success in life through this skill. This collaborative approach to learning has been shown to improve students' motivation, interest, and knowledge of the subject through the sharing of knowledge and experience of the other members of the group. Teachers promote teamwork by structuring group tasks, establishing ground rules, and coaching students to establish effective team work strategies. This positive impact of collaboration thus extends beyond academic achievement to preparing students for future social and career interactions (Gillies, 2021).

The fourth C of creativity is the ability to think out of the box, to be innovative and to generate original ideas. It is a very important skill to promote innovation and adaptation in a changing world. Creativity is nurtured in primary education in a variety of ways, including art, music, storytelling, role play and project work. These activities help students tap into their imagination and be creative, enriching their cognitive and emotional growth. A flexible learning environment; encouraging experimentation; and appreciating different ideas are effective strategies for supporting the creative process in teachers. The study noted that creativity is also relevant to the problem-solving and critical thinking skills of students, where creativity is able to provide students with solutions that are new to solve problems that are complex. So, creating an environment for children which encourages creativity in early childhood education is crucial to support innovative and flexible learners (Beghetto & Kaufman, 2020).

Statement of the Problem

While the world has been focused on 21st century skills, very few classroom environments have a strong presence of the 4Cs – Critical Thinking, Communication, Collaboration, and Creativity. Most schools still continue to have teacher-centred approaches to teaching and learning, where learning is achieved through memorization and repetition, rather than through learning skills, limiting students' potential to acquire higher-order thinking and application skills. The lack of training of teachers and their ability to use 21st century pedagogical approaches are also important problems. However, many teachers have not been provided with sufficient professional development to integrate the 4Cs in their instructional methods, leaving the theoretical knowledge of new teaching methods and their application in the classroom to be disconnected. In addition, a significant gap between the curriculum statements and actual classroom practices, especially in districts like Faisalabad, can be seen. While curricular intentions may focus on skill building and learner-centered practices, factors such as structure, institutional, and instructional constraints may not be present in the classroom. Thus, the need to evaluate teachers' knowledge and skills to use the 4Cs in teaching is like a strong force. Assessment of these competencies can be utilized to show where a gap exists and evidence can be provided to enhance teacher training and improve instruction in order to meet the growing 21st century educational needs so there is a dire need to An Investigation of Teachers' Role in Promoting 4Cs, to Improve the Competences of Teachers at Non-Formal Primary Schools in District Chiniot.

Objectives of the Study

1) To An Investigation of Teachers' Role in Promoting 4cs, to Improve the Competences of Teachers at Non-Formal Primary Schools in District Chiniot

Research Questions

1) How does An Investigation of Teachers' Role in Promoting 4cs, to improve the Competences of Teachers at Non-Formal Primary Schools in District Chiniot?

Significance of the Study

This study is important because it has global challenges and local educational issues of Pakistan. As the issues of the 21st century are constantly emerging, like unemployment, population growth, poverty, and lack of job opportunities, development of 21st century skills are of great significance to prepare a competent and skilled workforce. The study was be applied to the 4Cs (Critical Thinking, Communication, Collaboration, Creativity), thus enabling to bridge the gap between traditional education and the requirements for modern skill based learning. The results of this study was be advantageous to the teacher as he or she was be able to better develop better teaching strategies to develop and teach the 4Cs skills in the classroom. It was also enable learners to build core skills needed for learning and employment. Moreover, the research was serve as a guide to curriculum designers when developing and updating curricula in accordance with the standards of education and labor market requirements around the globe.The findings of this research was equip teachers with a profound understanding of the challenges students face, particularly in terms of anxiety. This knowledge was enable teachers to create a more supportive and inclusive learning environment, implement effective interventions, and provide personalized guidance to students struggling with mental health issues.administrators: This study was provide administrators with a crucial perception of the prevalence of anxiety among learners and its contributing factors. This information was be invaluable in developing and implementing comprehensive mental health support programs within educational institutions, ensuring students can access the resources they need to thrive.Future Researchers: This lays the foundation for further studies into student anxiety since these findings and insights gained in this study would play a direct role in developing future feasible interventions and support systems for students.The findings from this research affected the needs of all three groups including students as well as educators and policy makers.

Limitations

The study was delimited to District Chiniot due to limitations of time, financial resources, and accessibility.

Delimitations

- The study was limited to non-formal basic education teachers belonging to the Chiniot District only.
- The findings of the study were used for generalizable only to non-formal teachers within the same division and may not represent other educational settings or regions.
- The scope of the study was restricted to a specific category of teachers, excluding those from formal, special, and private educational institutions.
- Due to contextual and institutional differences, the results may not fully reflect the situation of other districts or provinces in Pakistan.
- The study was dependent on the responses and perspectives of selected participants, which may introduce subjectivity in the findings.

Review of Literature

The third theme explored the role of teachers in facilitating the development of critical thinking, communication, collaboration, and creativity among primary school students. The findings revealed that teachers considered themselves as facilitators of learning rather than only providers of information. They emphasized the importance of creating learning environments where students actively participate, express ideas, solve problems, and engage in meaningful classroom activities.

The analysis showed that teachers' instructional roles, classroom management approaches, and professional competencies significantly influence the successful implementation of 4Cs. Teachers who adopted interactive and student-centered approaches were more likely to provide opportunities for students to develop these competencies.

The findings indicated that teachers viewed their role as facilitators who guide students in constructing knowledge rather than simply delivering information. Participants emphasized that effective teaching requires encouraging students to explore ideas, ask questions, and participate actively in learning activities. The analysis revealed that teachers who adopted facilitation roles created more opportunities for students to practice critical thinking and creativity. Instead of providing direct answers, teachers encouraged students to find solutions independently and engage in classroom discussions. These findings are consistent with recent research highlighting that teachers' pedagogical roles have shifted from traditional knowledge transmission toward learning facilitation. According to Bellibaş et al. (2021), teachers' instructional beliefs and classroom practices strongly influence the development of student-centered learning environments.

The findings showed that teachers considered a supportive classroom environment essential for developing the 4Cs. Participants emphasized that students need a safe and encouraging environment where they can share opinions, ask questions, and participate without fear of making mistakes. Teachers identified respect, encouragement, and equal participation as important elements of an effective learning environment. The findings suggested that students become more engaged and confident when teachers appreciate different ideas and provide opportunities for active involvement. The findings support recent educational research indicating that positive classroom environments enhance student engagement, communication, collaboration, and creative expression. Wang et al. (2022) found that supportive teacher-student relationships contribute significantly to students' active participation and development of transferable skills.

The results showed that professional learning is an important element for effective 4Cs implementation for teachers. Participants were many who noted the need to provide training on modern teaching style, activity-based learning and assessment in 21st century skills to uplift classroom practices.

It was recommended by the analysis that teachers might be aware of the significance of the 4C competencies, but need concrete suggestions on how to build on these competencies in their everyday teaching practices. It was found that CPD was an important factor for enhancing teachers' confidence and effectiveness in teaching. These findings are corroborated by recent research that has revealed that teachers' participation in teacher training programs has a significant impact on teachers' use of innovative pedagogical approaches. Darling-Hammond et al. (2022) highlighted that ongoing professional development helps teachers to create effective teaching methods and adapt to the evolving needs of the education system.

The third theme emphasised the importance of the teacher in supporting the 4Cs in primary school learners. The teachers were identified as facilitators who facilitate opportunities for active learning, encourages student's participation, and facilitates students' creative and collaborative activities. The results showed, however, that it is necessary for teachers to engage in ongoing professional development and institutional support to help them integrate the 21st century skills into their teaching methods. Pedagogical knowledge of teachers and training opportunities can help to improve the implementation of 4Cs in primary schools.

Methodology

Population

The population of present study is 20 teachers of primary schools engaged in Non Formal Education in District Chiniot. These teachers are the people who know first-hand of classroom practices and can offer excellent feedback on how the four competencies – critical thinking, communication, collaboration and creativity – are being developed and implemented.

Sampling Technique

Purposive sampling was used for selecting participants in this study. Purposive sampling is a sampling strategy that enables the researcher to intentionally select individuals who have certain characteristics and experiences pertaining to the phenomenon of the research. For this study, teachers were chosen based on involvement in primary level teaching and having useful information on the integration of 4C in teaching.

Sample Size

In the present study the number of sample teachers is 20 from primary level teachers of District Chiniot. This is deemed to be an appropriate number, as the results of the qualitative interviews with a focused group of participants can give detailed information about the experiences and perspectives of the teachers on the implementation of the 4Cs.

Research Instrument

The interview guide was open-ended questions based on the four dimensions of 4Cs – critical thinking, communication, collaboration and creativity. The questions were directed to teachers' awareness of these competencies, to strategies implemented in the classroom to encourage these competencies, and to difficulties encountered in implementing the competencies.

Validity

To ensure credibility, the interview guide was carefully developed, participants were chosen carefully, and participants' responses were interpreted accurately. The researcher was keep comprehensive records of the research process to increase the dependability and conformability of the research.

Data Collection

In this study, Semi-Structured interviews were used to gather data from the primary school teachers of Faisalabad. Participants was be contacted and notified about the purpose of the study prior to conducting interviews. Interviews were held in a time and location convenient for participants to ensure a comfortable environment to share their experiences.

Data Analysis (Thematic Analysis)

The researcher were used the technique of thematic analysis to categorize teachers' experiences around critical thinking, communication, collaboration and creativity. This approach was enable the identification of some of the common practices, problems and

contextual factors that affect the development of these competencies among the teachers of primary schools in Chiniot District.

Table 1 *Demographic Characteristics of Participants*

Characteristics	Categories	Frequency (n)	Percentage (%)
Gender	Male	10	50
	Female	10	50
Teaching Experience	1–5 years	6	30
	6–10 years	8	40
	Above 10 years	6	30
Educational Qualification	Name degree	I	%
	Graduation	7	35
	Bachelor of Education (B.Ed.)	9	45
	Master's Degree	4	20

Table 1 indicates that the demographic profile indicates that participants represented a balanced distribution of male and female teachers, with varied professional experience 1–5 years, 30% responses, 6–10 years, 40% responses and Above 10 years have 30% responses. Teachers with different levels of experience contributed diverse perspectives regarding classroom practices, teaching strategies, and challenges associated with integrating 21st-century skills.

Table 2 Teachers' Role in Promoting 4Cs

Categories	Description	Number of Teachers Reporting (n)--%
Teacher as Facilitator	Guiding students through questioning, activities, and discussions	17-75%
Supportive Classroom Environment	Encouraging participation, confidence, and sharing of ideas	16-80%
Student-Centered Teaching	Promoting active learning instead of passive memorization	15-75%
Professional Development	Need for training related to modern teaching practices	18-85%

Table 2 indicates that 75% non formal teachers were agreed about guiding students through questioning, activities, and discussions, 80% non formal teachers were agreed about encouraging participation, confidence, and sharing of ideas, 75% non formal teachers were greed about Promoting active learning instead of passive memorization and 85% non formal teachers were agreed about Need for training related to modern teaching practices

Findings

The study analyzed the implementation of the 4Cs (Critical Thinking, Communication, Collaboration, and Creativity) among primary school teachers in Faisalabad. Based on the data analysis, the following major findings were obtained:

1) Table 1 indicates that the demographic profile indicates that participants represented a balanced distribution of male and female teachers, with varied professional experience 1–5 years, 30% responses, 6–10 years, 40% responses and Above 10 years have 30% responses. Teachers with different levels of experience contributed diverse perspectives regarding classroom practices, teaching strategies, and challenges associated with integrating 21st-century skills.

2) Table 2 indicates that 75% non formal teachers were agreed about guiding students through questioning, activities, and discussions, 80% non formal teachers were agreed about encouraging participation, confidence, and sharing of ideas, 75% non formal teachers were greed about Promoting active learning instead of passive memorization and 85% non formal teachers were agreed about Need for training related to modern teaching practices

Conclusion

1. It was concluded that majority of non formal teachers were agreed about guiding students through questioning, activities, and discussions, as well as encouraging participation, confidence, and sharing of ideas, therefore, promoting active learning instead of passive memorization and need for training related to modern teaching practices

2. It was concluded that teachers viewed their role as facilitators who guide students in constructing knowledge rather than simply delivering information. Participants emphasized that effective teaching requires encouraging students to explore ideas, ask questions, and participate actively in learning activities.

3. It was concluded that majority of non formal teachers were agreed about regular workshops and professional development opportunities, as well as some inclusion of activity-based and skill-oriented learning, some agreed about availability of instructional materials and technology, and maximum were agreed evaluation of creativity, problem-solving, and practical skills.

Discussion

The diversity of participants strengthened the findings because teachers' experiences and professional backgrounds influence their understanding and application of innovative teaching approaches. Previous research has highlighted that teachers' qualifications, experience, and professional exposure influence their ability to adopt student-centered approaches and promote higher-order skills among learners (González-Pérez & Ramírez-Montoya, 2022).

Overall, the study provides valuable evidence for policymakers, educational administrators, and teacher educators seeking to enhance the quality of primary education in Chiniot Districtand promote effective implementation of the 4Cs framework. According to Facione (2021) critical thinking is a purposeful cognitive process with an interpretation, analysis, evaluation, inference, and self-regulation interpretation. Although the idea was put forward before, critical thinking has remained a key twenty-first century competence as it is essential for making informed decisions and for tackling complex issues. In the classroom, critical thinking is designed to help students think beyond a memorization of facts and to form a more comprehensive understanding by questioning, reflecting and reasoning from evidence. Having good critical thinking skills is important for teachers as

it affects their instructional decision making processes, classroom management and the development of meaningful learning experiences.

Rahmat, et al (2024) studied the effectiveness of reflective teaching practice on increasing the critical thinking abilities of teachers. The study revealed that reflection helped teachers to assess their teaching practices, gain insights into the difficulties they encountered in the classroom, and propose better teaching strategies. The study highlighted the importance of reflective practice in teacher professional development, as it involves a process of critical reflection and analysis of the teacher's experiences. The results suggest that in the continuous professional development programmes teachers should be supported in enhancing their critical thinking skills and their classroom effectiveness through reflective activities.

Hidayati et al. (2024) explored the relationship between critical thinking instruction and learner-centred teaching approaches. They found that classrooms focused on discussion, inquiry, and problem-solving practices had higher levels of student participation and engagement. The researchers found that instructional beliefs and competencies of teachers have a significant impact on students' critical thinking skills. The study shows the need to prepare teachers in changing their learning patterns from learning as a mere process of giving knowledge to learning as a process of facilitation, and to align it with the twenty first century learning.

Rahman and Karim (2024) explored the communication and reasoning practices in collaborative classrooms and emphasized the relationship between critical thinking and social interactions. They found that through classroom discussion and cooperative learning, students were able to think about various viewpoints and build their reasoning skills. The researchers pointed out that critical thinking is not created in a vacuum, but by providing opportunities for discussion and sharing information. Thus, teachers must provide students with cooperative classrooms in which they can ask questions, articulate and assess ideas.

Taqwa et al. (2025) synthesised twenty-first century skills research across the world to determine that critical thinking is one of the most studied competencies under the 4Cs. They found that there is a strong correlation between critical thinking and academic success, problem-solving skills, and lifelong learning. The researchers insisted that developing critical thinking skills should be a priority in teacher training programs as the skills of teachers directly influence the implementation in the classroom. The study also recommended that professional development programs emphasize action learning to the point of inter-disciplinary integration of critical thinking skills.

In the paper Idrizović and Dedić Bukvić (2025) analysed an issue of teacher education programmes in the context of the creation of critical thinking of future teachers. Their analysis revealed that teacher candidates gained their analytical skills in reflective assignments, group activities and problem-based learning activities. The researchers stressed that teachers need to be critical thinkers in their teacher education to be able to nurture critical thinking in students. The discovery underscores the need to incorporate development of critical thinking into teacher training and teacher preparation programs.

Alrajhi (2026) studied the relationship between teacher professional development and the application of critical thinking classroom practices. However, the study identified that teachers with targeted training had higher confidence levels in the creation of activities based on questioning, analysis and problem-solving. The researcher reached the conclusion that continuous education is very critical for teachers to improve their skills as teachers of critical thinking in learners. The cultivation of critical thinking skills may play

a significant role in enhancing the effectiveness of teaching and the quality of education in non-formal primary school education settings where educators are frequently under-resourced and serving a range of learners.

Riemer (2021) pointed out that communication skills are one of the most critical skills needed in effective teaching and learning in the 21st century. Communication is the skill of expressing ideas clearly, understanding information well, listening actively and responding appropriately in various social and educational environments. Effective communication helps teachers to clarify ideas, give feedback, inspire students, and build positive relationships with students in the classroom. The researcher pointed out that teachers' communication competency is a positive effect on classroom interactions, student participation, and teaching learning processes.

Recommendations

1. For teachers, the study may highlights the need to adopt student-centered teaching approaches that encourage questioning, discussion, teamwork, and creative expression. Teachers should focus on creating interactive classrooms where students actively participate and develop skills beyond textbook knowledge.
2. For school administrators, the findings emphasize the importance of providing supportive environments, teaching resources, and professional development opportunities. Schools may encourage innovative teaching practices and facilitate activities that promote students' practical skills and creativity.
3. For curriculum developers and policymakers, the study suggests the need to integrate 4Cs explicitly into primary education objectives, learning activities, and assessment frameworks.

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