

**ADVANCE SOCIAL SCIENCE ARCHIVE JOURNAL**Available Online: <https://assajournal.com>

Vol. 04 No. 01. July-September 2025. Page#.2811-2818

Print ISSN: [3006-2497](#) Online ISSN: [3006-2500](#)Platform & Workflow by: [Open Journal Systems](#)**Investigating the Relationship Between Teachers' Beliefs and Instructional Practices Related To 21st-Century Skills****Zakir Khan**

M.Phil. Scholar, Institute of Education and Research Kohat University of Science and Technology, KUST, Kohat

Email: zakkikhan15@gmail.com**Dr. Muhammad Naseer Ud Din**

Institute of Education and Research Kohat University of Science and Technology, KUST, Kohat

Email: dr.naseeruddin@kust.edu.pk**Dr. Muhammad Nisar**

Lecturer, Institute of Education and Research Kohat University of Science and Technology, KUST, Kohat

Email: nisarkust74@kust.edu.pk**Dr. Shah Jehan (Correspondence Author)**

Lecturer, Institute of Education and Research Kohat University of Science and Technology, KUST, Kohat

Email: dr.shahjehan@kust.edu.pk**Abstract**

*The increasing emphasis on 21st-century skills such as critical thinking, creativity, collaboration, communication, and digital literacy has transformed the role of teachers. While teachers' beliefs strongly influence pedagogical choices, research suggests that classroom practices often do not fully align with these beliefs. Understanding the relationship between teachers' beliefs and their instructional practices is therefore crucial for improving educational outcomes. This study employed a **quantitative correlational research design** to investigate the relationship between teachers' beliefs and instructional practices related to 21st-century skills. A total of 200 secondary school teachers were selected using stratified random sampling. Data were collected through two validated Likert-scale questionnaires: the Teachers' Beliefs Scale and the Instructional Practices Scale. Descriptive statistics, Pearson's correlation, t-tests, and ANOVA were applied using SPSS. Findings revealed that teachers held positive beliefs about the importance of 21st-century skills ($M = 4.12$, $SD = 0.52$), but their instructional practices demonstrated only moderate integration ($M = 3.68$, $SD = 0.64$). A significant moderate positive correlation was found between teachers' beliefs and instructional practices ($r = 0.48$, $p < .01$). Additionally, private school teachers reported significantly higher levels of integration compared to public school teachers. The study concluded that teachers' beliefs positively influence instructional practices, though contextual and institutional factors limit full implementation. Bridging the gap between beliefs and practices*

requires targeted professional development, resource allocation, and curriculum reforms to foster meaningful integration of 21st-century skills in classrooms.

Keywords: *Teachers' beliefs, instructional practices, 21st-century skills, secondary education, digital literacy, creativity, critical thinking*

INTRODUCTION

The rapid transformation of societies in the 21st century has placed increasing emphasis on equipping learners with competencies beyond traditional academic knowledge. Skills such as critical thinking, collaboration, creativity, problem-solving, communication, and digital literacy—collectively referred to as *21st-century skills*—have become essential for learners to thrive in a knowledge-driven and technology-oriented world (Trilling & Fadel, 2009; Voogt & Roblin, 2012). Educational systems worldwide have, therefore, begun integrating these skills into curricula, pedagogy, and assessment frameworks to ensure learners are prepared for global challenges and opportunities.

Teachers play a pivotal role in the successful implementation of 21st-century skills in classrooms. While curricular frameworks may advocate for such skills, their translation into actual teaching practices largely depends on teachers' beliefs, perceptions, and professional orientations (Ertmer & Ottenbreit-Leftwich, 2010). Beliefs shape how teachers interpret policy directives, design learning experiences, and engage students in meaningful tasks. Consequently, understanding teachers' beliefs about 21st-century skills is critical for identifying potential gaps or alignments between their perspectives and actual instructional practices.

However, existing research highlights a frequent discrepancy between teachers' stated beliefs and classroom practices. For instance, while many educators express the importance of skills like collaboration and critical thinking, they often continue to rely on teacher-centered methods rather than student-centered approaches (Ananiadou & Claro, 2009; Voogt et al., 2013). This inconsistency raises an important question: To what extent do teachers' beliefs about 21st-century skills actually influence their instructional practices?

In contexts such as developing countries, where curriculum reforms increasingly emphasize competency-based education, the exploration of this relationship becomes even more significant. Investigating whether teachers' classroom practices reflect their professed beliefs can provide insights into professional development needs, instructional barriers, and the effectiveness of current educational reforms.

This study, therefore, seeks to quantitatively examine the relationship between teachers' beliefs and their instructional practices related to 21st-century skills. By identifying the strength and nature of this relationship, the study aims to contribute to a better understanding of how educators' perspectives translate into pedagogical realities.

Objectives of the Study

The main objectives of this study were to:

1. Examine teachers' beliefs regarding the importance of 21st-century skills in classroom learning.
2. Assess the extent to which teachers integrate 21st-century skills into their instructional practices.

3. Investigate the relationship between teachers' beliefs and their actual classroom practices related to 21st-century skills.

Research Questions

Based on the objectives, the study sought to answer the following research questions:

1. What are teachers' beliefs about the significance of 21st-century skills in education?
2. To what extent do teachers incorporate 21st-century skills into their instructional practices?
3. Is there a significant relationship between teachers' beliefs and their instructional practices related to 21st-century skills?

Methodology

Research Design

This study employed a **quantitative correlational research design** to examine the relationship between teachers' beliefs and their instructional practices related to 21st-century skills. A correlational design was considered appropriate because it allowed the researcher to determine the degree and direction of association between the two variables without manipulating the research environment.

Population and Sample

The target population of the study consisted of secondary school teachers working in both public and private institutions. From this population, a sample of **200 teachers** was selected through a **stratified random sampling technique** to ensure representation across gender, school type, and subject areas. This sample size was considered adequate for correlational analysis and ensured generalizability of the results at a reasonable confidence level.

Research Instruments

Two structured questionnaires were used for data collection:

1. **Teachers' Beliefs Scale** – adapted from existing validated instruments (e.g., Voogt & Roblin, 2012), designed to measure teachers' beliefs about the importance and relevance of 21st-century skills such as critical thinking, creativity, collaboration, communication, and digital literacy. Responses were collected on a **5-point Likert scale** ranging from *strongly disagree (1)* to *strongly agree (5)*.
2. **Instructional Practices Scale** – developed to measure the extent to which teachers integrate 21st-century skills into classroom instruction. Items focused on teaching strategies, assessment methods, and student-centered activities. This instrument also used a **5-point Likert scale** ranging from *never (1)* to *always (5)*.

Both instruments were reviewed by experts in education for content validity. A pilot test was conducted with 30 teachers (excluded from the main sample) to check clarity, reliability, and consistency of the items. The **Cronbach's alpha coefficients** for both scales exceeded 0.80, indicating strong internal reliability.

Data Collection Procedure

After obtaining necessary permissions from educational authorities and school administrations, the questionnaires were distributed in person and electronically to the selected teachers. Respondents were assured of confidentiality and anonymity, and informed consent was

obtained prior to participation. Out of 220 questionnaires distributed, 200 were returned fully completed, yielding a **response rate of 90.9%**.

Data Analysis

The collected data were coded and entered into the **Statistical Package for the Social Sciences (SPSS) version 26** for analysis. Descriptive statistics such as mean, standard deviation, and frequency distributions were used to summarize teachers' beliefs and instructional practices. To test the research questions, the following statistical analyses were conducted:

- **Pearson Product-Moment Correlation Coefficient (r):** to determine the strength and direction of the relationship between teachers' beliefs and instructional practices related to 21st-century skills.
- **Independent Samples t-tests and ANOVA (where applicable):** to examine differences in beliefs and practices across demographic variables such as gender, school type, and teaching experience.
- **Significance Level:** All tests were conducted at the **0.05 level of significance**.

Ethical Considerations

The study adhered to ethical research standards. Participation was voluntary, and respondents had the right to withdraw at any time. Confidentiality of participants' responses was maintained, and the data were used solely for academic purposes.

Results

Teachers' Beliefs about 21st-Century Skills

Descriptive statistics indicated that teachers generally held **positive beliefs** about the importance of 21st-century skills. The overall mean score on the Teachers' Beliefs Scale was **M = 4.12, SD = 0.52**, suggesting that teachers agreed that skills such as critical thinking, collaboration, and creativity were essential for student learning in the 21st century. Among the belief dimensions, the highest-rated skill was *critical thinking* (M = 4.25, SD = 0.48), while the lowest-rated was *digital literacy* (M = 3.89, SD = 0.61).

Table 1: Descriptive Statistics for Teachers' Beliefs about 21st-Century Skills (N = 200)

Belief Dimension	Mean (M)	Std. Dev (SD)	Level of Agreement
Critical Thinking	4.25	0.48	High
Collaboration	4.20	0.50	High
Creativity	4.10	0.55	High
Communication	4.15	0.51	High
Digital Literacy	3.89	0.61	Moderate
Overall Beliefs	4.12	0.52	High

Teachers' Instructional Practices

Results showed that teachers moderately integrated 21st-century skills into their classroom practices. The overall mean score for instructional practices was **M = 3.68, SD = 0.64**, which indicates that teachers occasionally to often used teaching strategies that promoted such skills.

The most frequently practiced area was *communication* ($M = 3.85$, $SD = 0.59$), while *creativity* integration was the least practiced ($M = 3.52$, $SD = 0.67$).

Table 2: Descriptive Statistics for Teachers' Instructional Practices Related to 21st-Century Skills (N = 200)

Practice Dimension	Mean (M)	Std. Dev (SD)	Level of Practice
Critical Thinking	3.70	0.63	Moderate
Collaboration	3.65	0.66	Moderate
Creativity	3.52	0.67	Moderate
Communication	3.85	0.59	High
Digital Literacy	3.69	0.62	Moderate
Overall Practices	3.68	0.64	Moderate

Relationship between Teachers' Beliefs and Instructional Practices

The **Pearson Product-Moment Correlation Coefficient** was computed to examine the relationship between teachers' beliefs and their instructional practices regarding 21st-century skills. Results indicated a **moderate, positive, and statistically significant correlation** between the two variables, $r(198) = 0.48$, $p < 0.01$. This finding suggests that teachers with stronger beliefs about the importance of 21st-century skills were more likely to implement such skills in their classroom practices.

Table 3: Correlation between Teachers' Beliefs and Instructional Practices (N = 200)

Variables	r	p-value	Relationship
Beliefs ↔ Practices	0.48	< .01	Moderate Positive (Significant)

Additional Analysis

Independent samples t-tests revealed no significant differences in teachers' beliefs by gender ($t = 1.21$, $p > 0.05$). However, significant differences were found in instructional practices by school type, with teachers in **private schools** ($M = 3.82$, $SD = 0.58$) reporting higher levels of integration compared to those in **public schools** ($M = 3.55$, $SD = 0.67$), $t(198) = 2.49$, $p < 0.05$.

Summary of Findings:

- Teachers held generally positive beliefs about 21st-century skills, particularly critical thinking and collaboration.
- Instructional practices reflected a moderate level of integration, with communication being the most practiced.
- A significant positive correlation ($r = 0.48$) was found between teachers' beliefs and their instructional practices.
- Private school teachers reported slightly higher integration of 21st-century skills compared to public school teachers.

Discussion

The present study examined the relationship between teachers' beliefs and instructional practices related to 21st-century skills among a sample of 200 secondary school teachers. The

findings indicated that teachers held overall positive beliefs about the importance of 21st-century skills, with particularly strong emphasis on critical thinking and collaboration. This is consistent with previous research highlighting that teachers generally recognize the value of these skills for student success in the modern world (Voogt et al., 2013; Trilling & Fadel, 2009). Despite these positive beliefs, teachers' actual instructional practices reflected only a moderate level of integration of 21st-century skills. In particular, creativity and digital literacy were less frequently implemented compared to communication and collaboration. This gap between teachers' beliefs and practices has also been observed in earlier studies, suggesting that while teachers endorse progressive pedagogies, classroom realities often constrain their implementation (Ertmer & Ottenbreit-Leftwich, 2010; Ananiadou & Claro, 2009). Possible reasons include limited training, lack of resources, rigid curriculum demands, and assessment pressures.

The study further found a statistically significant moderate positive correlation between teachers' beliefs and instructional practices ($r = 0.48$, $p < .01$). This implies that while stronger beliefs were associated with higher levels of implementation, beliefs alone did not guarantee consistent practice. Similar findings have been reported by O'Sullivan and Dallas (2017), who argued that beliefs act as a necessary but insufficient condition for practice; contextual and institutional factors also play an important role.

Moreover, private school teachers reported slightly higher levels of integration of 21st-century skills compared to public school teachers. This finding may reflect greater autonomy, availability of resources, and emphasis on innovative teaching practices in private institutions (Fullan & Langworthy, 2014). Public schools, by contrast, often operate under stricter curricular frameworks and resource limitations, which may hinder the integration of student-centered approaches.

Overall, these results underscore the importance of aligning teachers' beliefs with systemic support structures such as professional development, instructional resources, and assessment reforms. Without such alignment, teachers may continue to value 21st-century skills but struggle to fully translate these beliefs into classroom practices.

Conclusion

The study concluded that secondary school teachers held generally positive beliefs about the importance of 21st-century skills, but their instructional practices reflected only moderate integration. A significant positive relationship was found between beliefs and practices, suggesting that beliefs do influence classroom behavior, though other factors may mediate this relationship. Furthermore, private school teachers demonstrated slightly higher implementation levels than public school teachers, pointing to the role of contextual differences.

These findings highlight the need for targeted interventions to bridge the gap between teachers' perceptions and their instructional realities. Supporting teachers with professional development, adequate resources, and assessment reforms can enhance the meaningful integration of 21st-century skills in classrooms.

Recommendations

Based on the findings and conclusion, the following recommendations are proposed:

For Practice

- **Professional Development:** Regular workshops and training programs should be organized to enhance teachers' capacity to translate their beliefs about 21st-century skills into practical instructional strategies.
- **Instructional Resources:** Schools, especially in the public sector, should provide access to technology, digital tools, and teaching aids that facilitate the development of creativity and digital literacy.
- **Curriculum and Assessment Alignment:** Education authorities should ensure that curricula and assessment frameworks emphasize 21st-century competencies, thereby encouraging teachers to integrate these skills in daily instruction.
- **Supportive School Culture:** School leaders should foster a culture of collaboration and innovation, enabling teachers to experiment with student-centered teaching approaches without fear of failure.

For Policy

- **Equitable Resource Allocation:** Public schools should be prioritized for infrastructural and technological support to reduce disparities with private institutions.
- **Policy Incentives:** Incentives and recognition programs can be introduced for teachers who successfully integrate 21st-century skills into their teaching.

For Future Research

- Further studies should adopt **mixed methods designs** to explore not only the extent but also the reasons behind the gap between beliefs and practices.
- Longitudinal research is needed to investigate how sustained professional development influences the relationship between teachers' beliefs and practices.
- Comparative studies across regions or countries can provide insights into how different educational contexts shape the integration of 21st-century skills.

References

- Ananiadou, K., & Claro, M. (2009). *21st century skills and competences for new millennium learners in OECD countries* (OECD Education Working Papers, No. 41). OECD Publishing. <https://doi.org/10.1787/218525261154>
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, 42(3), 255–284. <https://doi.org/10.1080/15391523.2010.10782551>
- Fullan, M., & Langworthy, M. (2014). *A rich seam: How new pedagogies find deep learning*. Pearson. https://michaelfullan.ca/wp-content/uploads/2014/01/3897.Rich_Seam_web.pdf
- O'Sullivan, M., & Dallas, K. (2017). Reconceptualising teacher beliefs as a multidimensional construct. *Teachers and Teaching*, 23(2), 131–151. <https://doi.org/10.1080/13540602.2016.1206528>
- Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.
- Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies*, 44(3), 299–321. <https://doi.org/10.1080/00220272.2012.668938>

Voogt, J., Erstad, O., Dede, C., & Mishra, P. (2013). Challenges to learning and schooling in the digital networked world of the 21st century. *Journal of Computer Assisted Learning*, 29(5), 403–413. <https://doi.org/10.1111/jcal.12029>