

Preparing competent citizens through appropriate instructional approach: How do instructors in three Ethiopian universities conceptualize and practice 21st century pedagogical skills?

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Abstract

This study aimed to investigate how instructors at three Ethiopian universities conceptualize and practice 21st century skills in classrooms. To achieve this purpose, a qualitative case study design was employed. Using a purposive sampling method, three universities in the Amhara national regional state of Ethiopia were selected. From these universities, ten participants were selected purposively. Semi-structured interviews and observation were used to collect data essential for the study. The data collected through these methods were thematically analyzed. The results revealed that participants had a limited understanding of 21st century skills. To be specific, their conceptions reflected the conventional pedagogical approach rather than the pedagogy of the 21st century. On the other hand, participants believe that 21st century skills are important for both instructors and their students. However, they had difficulties to practice these skills in the teaching-learning process. Finally, the implications of these findings for future research and policy initiatives are presented.

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Introduction

Until the introduction of modern curriculum ideas by Bobbitt (1918), educational thoughts were largely rooted in traditional contexts. By emphasizing a more systematic and scientific approach to curriculum development, Bobbitt's ideas revolutionized educational systems, curriculum design, and pedagogical practices. Building upon Bobbitt's work, later scholars such as Slattery (2006) have delved into postmodern curriculum theories. Postmodernism has led to a greater emphasis on diversity, inclusivity, and critical thinking within curricula. Pinar (2004), who introduced the re-conceptualist view of curriculum and pedagogy, also further expanded the

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discourse on educational practices. This approach encourages educators to critically examine and challenge existing educational structures and practices.

Later, in the third millennium, the concept of 21st century skills gained prominence. The term refers to a set of competencies that are deemed essential for individuals to thrive in the modern world. These skills go beyond traditional academic knowledge and focus on equipping individuals with the tools they need to succeed in an increasingly complex and interconnected global society (Corinne, 2022; Pink, 2005; Trilling & Fadel, 2009). The skills include critical thinking, creativity, collaboration, communication, digital literacy, and global awareness, among others (Binkley et al., 2012; OECD, 2011; Partnership for 21st century skills, 2009).

Different organizations and scholars (e.g., Binkley et al., 2012; Chalkiadaki, 2018; Clarke & Care, 2017; Hixson, Ravitz & Whisman, 2012; Mills & Kim, 2017; OECD, 2011; Owen & Vista, 2017; and Partnership for 21st century skills, 2009) have tried to indicate the dimensions of 21st century skills. Binkley et al. (2012), for instance, identified four domains, starting with "ways of thinking" encompassing creativity, critical thinking, problem-solving, decision-making, learning to learn, and meta-cognition. The second domain covers "ways of working," including communication and collaboration (Binkley et al., 2012). The third domain is "tools for the working" that includes information and ICT literacy, emphasizing the importance of technology as a learning tool that enables students to engage in productive learning (Binkley et al., 2012). The fourth domain, "living in the world," includes local and global citizenship, life and career skills, personal and social responsibility, as well as cultural awareness and competence (Binkley et al., 2012). Similarly, OECD (2011) classified 21st century skills into three categories: the skills to use interactive tools, the ability to collaborate with heterogeneous groups, and the ability to act independently.

The concept of 21st century skills has gained prominence in educational discourse as educators and policymakers recognize the need to prepare students for the challenges and opportunities of the digital age. The emergence of these skills has necessitated a shift away from traditional curriculum and pedagogy models that primarily focused on content delivery and memorization. Instead, there is now a greater emphasis on developing students' abilities to think critically, solve problems, and adapt to an ever-changing global landscape. In this regard, Ornstein and Hunkins (2018) argue that education should be more student-centered, with a focus on fostering creativity, innovation, and interdisciplinary learning. Additionally, UNESCO (2018) has played a significant role in promoting the integration of 21st century skills into educational systems worldwide. UNESCO's initiatives aim to ensure that learners are equipped with the necessary skills to navigate the complexities of the modern world.

The 21st century pedagogical skills are of utmost importance in the education, pedagogy, and socioeconomic sectors. Scholars have highlighted these skills as crucial tools for facilitating critical pedagogy in the teaching-learning process (Giroux, 1992). These skills also encourage experimental-based instruction that empowers students to exercise their future work and learn through inquiry and thinking, as advocated by Freire (1972), Dewey (1933), and Reeves (2004). Furthermore, engaging in 21st century pedagogical activities enables instructors to develop domain-specific and pedagogical competencies, enhance creativity, and adapt to new situations

for teaching and learning (Zhao, 2009). For this purpose, instructors need to be equipped with these skills to effectively teach and orient learners with the conceptual age, which requires competencies beyond subject-specific knowledge (Lee & Tan, 2018; OECD, 2011).

The contemporary skills of the 21st century not only contribute to pedagogy and education but also play a significant role in socioeconomic transformation. Critical thinking, problem-solving, reflection, interaction, and transaction skills are essential for addressing sociocultural problems and making societies fit for personal and social responsiveness (Doll, 1993; Zhao, 2009). They facilitate the transition from a manufacturing-based economy to knowledge-based economies and empower individuals and communities to cope with the challenges of the digital age, such as artificial intelligence, robotics, and virtual reality (Pink, 2005; World Economic Forum and Asian Development Bank, 2017). Moreover, 21st century skills are valued as a reliable means of producing new knowledge and solutions to complex problems in the contemporary world (Binkley et al., 2012; Friedman, 2017).

The Problem

Despite the importance of the 21st century skills, their implementation in education faces several challenges. These include resistance to change, technological infrastructure limitations, teacher training and professional development needs, and curriculum design and assessment considerations (Binkley et al., 2012; Jeffery & Craft, 2001; Kay, 2010; World Bank, 2005).

One of the primary challenges in implementing 21st century pedagogical skills is related to curriculum and assessment. Traditional curricula often focus on rote memorization and standardized testing, which do not align with the goals of these skills (Ornstein & Hunkins, 2018)). Implementing 21st century skills requires a shift in curriculum design to emphasize critical thinking, problem-solving, collaboration, creativity, and digital literacy. However, designing and implementing new curricula incorporating these skills is challenging due to factors like time constraints, standardized testing requirements, and resistance from stakeholders (Lee & Tan, 2018; OECD, 2011). Moreover, traditional assessment methods may not effectively measure students' mastery of 21st century skills. Developing new assessment strategies that accurately evaluate proficiency in these skills is essential.

The successful implementation of 21st century pedagogical skills heavily relies on well-trained and knowledgeable teachers. However, many educators did not receive adequate training or professional development opportunities to effectively integrate technology and modern teaching methods into their classrooms (Lee & Tan, 2018; OECD, 2011). Likewise, the implementation of 21st century pedagogical skills necessitates a shift in the roles of educators. Teachers are no longer just providers of information but facilitators of learning experiences. They need to adapt their instructional strategies to foster student-centered learning environments that promote collaboration, critical thinking, and creativity. This shift can be challenging for educators who are accustomed to more traditional teaching methods and may require support and training to effectively transition into their new roles (Lee & Tan, 2018; OECD, 2011).

Technological infrastructure is also a significant challenge in implementing these skills. Schools need reliable internet connectivity, up-to-date hardware and software, and appropriate

digital tools and resources. Yet, many schools, particularly in developing countries, lack the necessary infrastructure to support these advancements (OECD, 2011; UNESCO, 2018; World Bank, 2005).

Coming to Ethiopia, the introduction of transformative 21st century pedagogy in the country's education system has been recent. Due to this, higher education institutions continue to implement traditional pedagogical practices (Damtew & Muluken, 2020; Daniel, 2004; Tadesse & Melese, 2016; Worku, 2021). Many teachers in Ethiopia have been trained using traditional teaching methods. Because of this, they lack exposure for innovative 21st century pedagogical skills. As Kedir (2009) noted, instructors have been deskilled and de-professionalized, resulting in lesser knowledge and skills attained by teachers upon graduation. Furthermore, there exist gaps between pedagogical skills and assessment (Mulugeta, 2012; Tadesse et al., 2018), inadequate differentiation of instructional practices (Melese, 2019), and limited alignment between teaching methods and the world of work (MoE, 2018; Mulugeta, 2011).

Another challenge is the lack of adequate infrastructure in many parts of Ethiopia. Access to technology and internet connectivity is limited, especially in rural areas (OECD, 2011; UNESCO, 2018). This hinders the implementation of modern teaching methods that heavily rely on digital tools and online resources. Without proper infrastructure, it becomes difficult to integrate technology into classrooms and provide students with the necessary digital literacy skills.

In addition to these challenges, there are other factors that hinder the implementation of 21st century pedagogical skills in Ethiopia. These include limited funding for educational initiatives, a large student-to-teacher ratio, inadequate learning materials and resources, and a predominance of the knowledge mastery concept in the education system (OECD, 2011; UNESCO, 2018; Worku, 2023).

Therefore, this study aims to provide empirical evidence on instructors' conceptualizations of and competence in practicing 21st century pedagogical skills. For this purpose, the study is organized under the following research questions: (1) How do instructors conceptualize 21st century pedagogical skills? (2) How do instructors understand the importance of 21st century pedagogical skills? (3) How do instructors practice 21st century pedagogical skills?

Methods

Design

As indicated earlier, the purpose of this study is to investigate instructors' understanding of 21st century skills and their ability to apply them in the teaching and learning process. To achieve this goal, a qualitative research approach with a case study design was utilized. The case study design was chosen because it was found to be appropriate provide a detailed description of research participants' understanding and pedagogical competence in practicing the 21st century skills (Kumar, 2011).

Sampling

The study was conducted at three purposively selected public universities located in the Amhara National Regional State, Ethiopia. The universities were selected based on their varying levels of experience in terms of the number of years they have been established. Specifically, Bahir Dar University (first-generation), Debre Tabor University (third-generation), and Injibara University (fourth-generation) were selected. The proximity of these universities to the researchers was also considered for ease of access and data collection.

From these universities, 30 participants (21 instructors and nine students) were selected. To be specific, 10 participants (seven instructors and three students) were selected from each university. Five of the participants were drawn from different natural science faculties/colleges (two from engineering, two from agriculture, and one from mathematics) while the remaining five were from social science colleges (two from the College of Business and Economics and three from the College of Education and Behavioral Sciences). The participants were selected purposively based on their prior experiences. Participants who have experiences in relation to the issue were selected with the consultation of academic leaders.

Data Gathering

The primary data gathering instrument of this study was semi-structured interview with seven open-ended guiding questions. The interviews were conducted with 10 participants (7 instructors and 3 senior undergraduate students) at each of the universities selected. The interviews focused on instructors' understanding and competence in teaching 21st century skills. All interviews lasted approximately an hour, and the data were recorded, transcribed, and narrated according to the identified themes.

The other data collection instrument was observation anecdotal note. It was conducted by the researchers themselves. The purpose of the observation was to understand instructors' competence in practicing the 21st century skills in their respective classrooms. The observations were made in two classrooms of the first-generation university (one from engineering and another from educational planning and management departments) and one in the classroom of an instructor member from the third-generation universities (in the department of accounting). Each observation took approximately 50- 60minutes in the selected three classrooms.

The interview was conducted with 10 participants (seven instructors and three undergraduate senior students) at the three selected universities. The interview focused on the conceptualization and actual competence of instructors in teaching 21st century skills. Each interview with a study participant was carried for an hour. The data were first recorded, then transcribed and narrated as per the themes coded in relation to the basic questions.

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from the third-generation universities (in the department of accounting). Each observation took approximately 50- 60minutes in the selected three classrooms.

Data Analysis

Data analysis was done qualitatively through descriptions and narrations. From the transcripts, the data were labeled into categories that help to describe instructors' conception and competence in practicing 21st century skills. For a better description of the issue, similar contents were placed together based on the explanations of most participants, as indicated by (Creswell, 2015). Anecdotal notes of observation data were used to explain further the observed practices of instructors on the 21st century pedagogical skills.

Results and Discussion

Instructors' Conceptualization of 21st Century Pedagogical Skills

This theme examines the conceptions of instructors regarding skills like critical thinking, creativity, communication, collaboration, information and communication technology skills. As prominent scholars of the field consistently indicated, these skills fare at the heart of the teaching and learning process and are especially relevant in modern-day teaching (Voogt & Roblin, 2012; Kivunja, 2015; Partnership for 21st Century Skills, 2015; Urbani et al., 2017).

Despite this, the data collected from the research participants revealed that instructors have a limited understanding on the practical application of 21st century skills. The following verbatim epitomizes this.

In my perspective, the pedagogy for developing 21st century skills involves designing and executing learning plans alongside monitoring progress through evaluations. This approach aims to translate education plans into practical application. However, I personally lack the necessary practical experience in honing pedagogical skills that encourage learners to attain 21st century skills and integrate them into assessment practices (Instructor 1, personal communication, March 24, 2023).

Other instructors also shared their perspectives on 21st century pedagogical skills. One view, as expressed by Instructor 2, is that these skills encompass a range of competencies that promote student-centered learning, including subject matter expertise, technology proficiency, and facilitation of self-directed learning. Effective assessment, such as assessment for learning and assessment as learning, is also a key component (Instructor 2, personal communication, March 24, 2023).

In addition, the development of 21st century pedagogical skills entails employing diverse teaching methods and instructional strategies. These skills are not only competencies but also instructional approaches. Yet, “many of our colleagues, as well as myself, lack sufficient knowledge and understanding of these skills, leaving us unsure how to teach or assess students in these areas” (Instructor 3, personal communication, March 24, 2023).

Instructor 4 also highlighted the importance of 21st century pedagogical skills as an innovative teaching approach. However, this respondent noted that many instructors lacked familiarity with these skills and believed that they were not essential to the teaching and learning process. Meanwhile, Instructor 7 expressed that 21st century skills were often limited to delivering prescriptive content knowledge, with teachers acting as the sole knowledge source and students simply following instructions. This teaching style was a reflection of their traditional practices and did not align with the innovative strategies of 21st century pedagogy.

Unfortunately, many of the participants in the study shared a similar misconception, equating 21st century pedagogy with conventional teaching practices. They failed to recognize that these skills could transform teaching and learning, encouraging student-centered approaches that fostered creativity and critical thinking. Furthermore, the participants did not integrate 21st century skills in their assessment methods.

Observational data also indicated that instructors lacked an understanding of 21st century pedagogical skills in the contemporary context. Instructors had limited conceptions of critical thinking, often overlooking the importance of evidence-based arguments and comparative analysis. Similarly, creativity was not valued as a means of generating original ideas and concept mapping. Furthermore, the participants did not view communication as a dialogical process, and they failed to recognize the value of utilizing ICT tools to facilitate e-learning, blended learning, and information sharing. Ultimately, instructors favored traditional lecturing methods and were not using the latest pedagogical methods that utilize 21st-century skills.

The participants in this study prioritized Shulman's (1986) categories of knowledge, which included knowledge of content, general pedagogy, the curriculum, and Pedagogy Content Knowledge (PCK), when it came to their traditional pedagogical practices. However, their conceptualization of pedagogical competence did not align with the expectations established by various organizations and scholars, such as OECD (2011), Partnership for 21st Century Skills (2009), Binkley et al. (2012), National Research Council (2012), UNESCO (2015), and European Commission (2013).

The instructors' understanding of the practical skills related to teaching and learning in the 21st century was not expressed in the modern-day context. They did not reflect an adequate conception of the practical skills of the 21st century as important components of teaching and learning and as necessary components for students' future employment as discussed in Dede (2010). Their ideas of 21st century skills did not reflect the core values of the teaching and learning process in 21st-century education and were not in line with various notable frameworks (Partnership for 21st Century Skills, 2015; Roblin, 2012; Urbani et al., 2017; Voogt & Kivunja, 2015).

To sum up, instructors exhibited a lack of understanding of the various dimensions of 21st century skills, particularly in relation to the teaching and learning process. In their conventional pedagogical practices, they demonstrated limited knowledge and understanding of the lower levels of 21st century skills. In addition, they faced difficulties in utilizing non-traditional assessment methods, including assessment as learning. Consequently, in the universities studied, the

development of 21st century skills was not given the attention required and instructors' pedagogical competence was limited to traditional pedagogy.

Instructors' Conceptions on the Importance of 21st Century Pedagogical Skills

The participants interviewed expressed that the mastery of 21st century pedagogical skills by instructors presents challenges. They believed that these skills are important and shared the following insights:

These skills are demanding but they are also relevant. They enhance the academic experience for students and are imperative for their entrepreneurial and employability development. Interestingly, we find that possessing these skills is more critical than subject matter knowledge. It's unfortunate that many graduates with subject matter knowledge are currently jobless. Therefore, integrating these skills into the instructional process needs to be compulsory for our higher education institutions (Instructor 3, personal communication, March 24, 2023).

Teaching these skills is important and I have no desire to return to a discipline-based pedagogy. It is my belief that mastering these skills is essential to become competent and ready for employment. Communication is the key to success in the world of work and possessing information and communication technology (ICT) skills would make us apt to fit into the fifth generation of technology utilization. These skills have an interdisciplinary nature which fosters success in any workplace (Student 2, personal communication, March 26, 2023).

There is no doubt about the importance of these skills; they are demanding because the world is dynamic, and they are necessary to adapt to change. Cooperation is essential for problem-solving and technology-driven societies require not only technology in teaching and learning but also in any activity. Our lives are gradually becoming more dependent on technology and this trend is expected to continue (Instructor 7, personal communication, March 25, 2023).

During the interview, other participants also highlighted the importance of 21st century skills for learners, urging that educational practices need to evolve from the usual practices. These skills can provide opportunities for performing more creative and unique tasks that differ from rote work. According to Student 1 and Instructor 4, understanding these skills will enable learners to be more effective in the workplace and to increase employability. Instructor 5 too stated that integrating content knowledge with 21st-century skills will make students full-time workers who take responsibility in their jobs. Quite in a similar fashion, Instructor 6 noted that these skills are advantageous in preparing students to succeed in modern scientific fields.

Overall, the majority of participants agreed that instructors should prioritize the importance of these skills in their instructional methods. Teaching skills such as critical thinking, creativity, communication, collaboration, and technology use can transform discipline-based pedagogy into an innovative and interdisciplinary way of solving complex issues that affect global society.

Leveraging these skills can help prepare students for the information age and ensure the success of their careers through working creatively and uniquely.

This study's findings align with concepts discussed in existing literature. UNESCO (1996) outlines the four pillars of education as key components of 21st-century thinking. These pillars include skills like communication, collaboration, critical thinking, numeracy, self-management, problem-solving, study skills, and information technology, all of which are necessary for higher-order thinking (Dede, 2010; Marsh, 2009).

The findings also reflect the views of critical pedagogy educators. These educators, such as Doll (1993), Freire (1972), and Giroux (1992), stress the link between authority, power, and knowledge from a critical perspective. By engaging in problem-solving, reflective action, interaction, and transaction, critical pedagogy can emancipate individuals from any socio-cultural issues. The study also highlighted rising global, social, economic, environmental, and political issues that require contemporary global education (Biggs, 2003; Kirkwood, 2001; Partnership for 21st Century Skills, 2019; Sibbel, 2009).

Generally, the results of the study are consistent with the views of the scholars mentioned above. As such, instructors of selected Ethiopian universities acknowledged the importance of 21st-century pedagogical competence as a means of innovatively improving pedagogical practices.

Instructors' Practice of 21st Century Pedagogical Skills

The study found that the instructors lacked competence in developing 21st century skills. According to one respondent (Instructor 3), their ability to teach these skills was limited due to various factors. They were only able to teach the reasoning aspect of critical thinking, rather than developing it fully. Additionally, they struggled to promote effective communication as their classroom interaction was one-way, with the lecturer lecturing and the students listening. The respondent also aimed to complete the course in less time than allocated in the syllabus. Most of the students preferred to be grouped with those from the same ethnic group and want to communicate in their mother tongue during group discussions. This hindered collaboration and reduced the creativity aspects of 21st-century teaching competence. As evidenced by this participant (Instructor 3), instructors were not encouraged to be innovative or generate new ideas in their instruction. When it came to using technology as a learning tool, the respondent believed that the students were not keeping up with the increasing demand for technological fluency as they only relied on PowerPoint presentations.

In connection with this, instructors 1, 2, 4, 6, and 7 revealed that they have not effectively implemented 21st century skills due to the time constraints they faced in covering the syllabus in just one and a half months of a semester. As a result, students were not able to fully comprehend these essential skills such as critical thinking, creativity, communication, and collaboration. While Instructor 7 acknowledged some efforts to incorporate 21st-century pedagogy, he observed that the teachers' approach remained largely traditional, transferring content knowledge in a one-way communication style. Moreover, the individualistic culture among the instructors limited collaboration and resource sharing, creating difficulties in forming diverse groups of students. Instructor 2 also reported that students preferred to group themselves according to their ethnic

backgrounds, hampering inter-ethnic collaboration. This approach resulted in limited dialogue and interaction in the classroom, as evidenced by the students' subdued response during lectures.

In addition, students who took part in the study also praised their professors' perspectives, with one stating the following:

From my perspective as a student, there is little emphasis placed on 21st-century pedagogy, and it is rarely utilized in the classroom. Teachers aim to teach us new things, such as recently selected seeds, and encourage us to participate in new projects. However, in terms of classroom communication, students are mostly listeners while teachers do most of the talking. We tend to focus more on PowerPoint presentations, and there is little practical use of technology as a learning tool. The attention is more on theoretical knowledge (Student1, personal communication, March 26, 2023).

Furthermore, another participating student (Student 3) echoed this sentiment, expressing that in the university they attend, the professors fail to foster innovation, critical thinking, and the ability to perform 21st-century skills among their students. They claimed that the teachers' primary responsibility was to cover course content while ignoring teaching standards.

The data presented above suggests that the pedagogical practices of instructors were insufficient. Even techniques for teaching specific skills were only occasionally utilized. The instructor seemed to adhere to their traditional, teacher-centered approach to pedagogy. They appeared to be resistant to modern teaching methods that focus on cultivating creativity, critical thinking, communication, collaboration, and the use of ICT.

The data collected indicates that the pedagogical practice of instructors was inadequate and showed little indication of change. Even existing practices for specific skills were discovered to be infrequent. The instructors tended to stick to their traditional method of teaching, one that is dominated by them. They do not appear to be very receptive to modern trends that are linked to the development of creativity, critical thinking, communication, collaboration, and the utilization of ICT.

Furthermore, the results obtained from classroom observation complemented the data gathered from interviews. The instructors seem to overlook the goals of facilitating students' ability to analyze complex problems, investigating questions without clear-cut answers, and evaluating different points of view or sources of information. They also showed little emphasis on developing students' ability to draw appropriate conclusions based on evidence and reasoning to generate and refine solutions to complex problems.

The observed classrooms appeared to have very limited use of technology, with the utilization of ICT being minimal. For instance, instructors' use of technology was limited to PowerPoint presentations, with no use of e-learning, blended learning, sharing, or analyzing information.

The combined data indicated that instructors' pedagogical proficiency did not meet the required competence issues. The trend observed seems resistant to modern pedagogical practices centered on developing creativity, critical thinking, communication, collaboration, and the use of ICT.

The above results of the study are found to be consistent with various research findings. According to previous research, instructors in universities lack competence in practicing 21st century pedagogical skills. For instance, Kouwenhoven's (2003) study revealed weak teaching and learning processes in generic competencies, while Voogt and Roblin (2012) found that educational practices were similar to the industrial model of schooling. Furthermore, Kasule et al. (2014) reported that teachers' competencies were unsatisfactory in several areas, including innovating, facilitating knowledge society, collaborating and networking, developing higher education, and entrepreneurship. Due to these findings, the OECD (2019) recommended the re-skilling of current teachers and upgrading their knowledge base to incorporate 21st century skills such as problem-solving, collaboration, communication, and creativity.

The instructors' competence in Ethiopian universities also did not meet the expectations set by the Ethiopian Higher Education Proclamation (FDRE, 2009) and the Education Road Map (MoE, 2018). The proclamation aimed for a competitive higher education system with a curriculum focused on creativity, critical thinking, and maintaining professional values that address global perspectives. Similarly, the Education Road Map of the ministry of education emphasized balancing domain and generic skills, as well as using ICT for academic and research purposes, none of which were satisfactorily practiced in the sample universities of this study. Therefore, the study results suggest that policies should be implemented to improve the pedagogical competence of instructors in developing 21st century skills.

Conclusion and Implications

The purpose of this study was to examine instructors' understanding of 21st century pedagogical skills and their ability to put those skills into practice at selected universities in the Amhara national regional state, Ethiopia. The results revealed that instructors' understanding of 21st century skills was mainly based on conventional teaching practices. They mostly relied on lectures and focused on content coverage, neglecting pedagogical aspects, such as inquiry-based teaching, innovation, and creativity. Their assessment methods also did not incorporate essential skills like employability and value judgments.

Despite this, the study found that instructors appreciated the significance of 21st century pedagogical skills. In this regard, they acknowledged that they assist students in acquiring self-management, independent thinking, and entrepreneurship skills. Moreover, students can learn and adapt to different global and local contexts and improve employability prospects. This shift towards comprehensive and transformative pedagogical skills advocated a sustainable education system and aimed to empower graduates to tackle the ever-changing challenges of the workplace.

However, the study found that instructors' pedagogical competencies were inadequate in implementing 21st century skills. Their instructional methods emphasized teacher-dominated pedagogical approaches over creativity, critical thinking, communication, and collaboration. The use of innovative teaching materials, including technology, was also limited. This could lead to graduates lacking essential skills for success in the workplace.

The findings of this study have far-reaching implications. To begin with, they imply an urgent need for universities to re-evaluate their curriculums and provide appropriate training to instructors. The task needs to be geared towards enabling instructors to grasp the key concepts of 21st-century pedagogical skills and employ them effectively in their classrooms. It is through this approach that instructors can make a meaningful shift from conventional, teacher-centered methods to a more creative, imaginative, and collaborative approach and incorporate value judgments, innovation, talent, and other essential 21st century skills in their teachings.

Further, a disparity between instructors' knowledge and practical competency was observed, indicating a need for universities to bridge these gaps. In this regard, universities need to provide a platform for global knowledge sharing, information, and technology to create a new generation of innovative and talented graduates. Finally, educational institutions need to integrate 21st-century pedagogical skills in their curriculum and classroom practices, from kindergarten to tertiary education. This will ensure that graduates are equipped with the necessary skills to meet the ever-changing needs of society.

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