Basic Skills of 21st Century Teachers

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Abstract: This study aims to determine the basic skills that 21st century teachers should have. The study is based on the opinions of 79 teachers working in different disciplines on four different campuses in Izmir. The qualitative study used storage technique and content analysis. The opinions of the participants were evaluated to clarify the skill expressions, create themes and determine data categories. The study found that teachers prioritized several core competencies, including creativity, empathy and communication, critical thinking, problem solving and crisis management, and collaboration, curiosity and digital literacy. Other skills were determined as reading comprehension, learning to learn, patience, emotional intelligence, active listening, people management, taking initiative, reasoning, research, general knowledge, imagination, student-centered education, inspiration, psychosocial adaptation, attention-grabbing, knowledge, openness to innovation, self-confidence and learning to teach. According to teachers, creativity is the most important skill for 21st century teachers.

Keywords: teaching basic skills, teacher competences, 21st century skills, storage technique

Introduction

One of the most important functions of education is to prepare future workers and citizens to cope with the challenges of their time. Knowledge work is the kind of work most people will need for years to come. Anyone with the expertise can work anywhere with a mobile phone, laptop and internet connection. However, to produce expert knowledge workers, countries need education systems that can adapt and evolve with contemporary demands, making education a key element for economic sustainability in the 21st century (Abulibdeh et al., 2024; Karaca-Atik et al., 2023; Muzam, 2023). In the 21st century, the understanding of education that will raise the people needed has also brought changes.

Innovations and foundations in education come to the fore with social, psychological, technological and philosophical changes. In the 20th century, the importance given to student-centered, activity-based and cognitive processes greatly affected education and the teaching profession. In the first quarter of the 21st century, it is seen that change is experienced much faster. In this period, following the student-centered, quality-oriented and competency-based education approach, the concept of skill-oriented education has taken its place in educational sciences. This approach aims for the individual to acquire the necessary competences in personal, professional and social life. It is a teaching model that aims to gain competencies related to real life. In this model, instead of teaching only knowledge and theoretical concepts, the development of competencies that will enable the application of this

knowledge is at the forefront. Students develop projects, complete tasks and make connections with real-world applications through basic skills such as critical thinking, problem solving, communication, co-operation, creativity and leadership. This educational approach encourages students to understand and actively use knowledge. This understanding enables students to gain a deep understanding of learning, apply the learned knowledge to real-life contexts, and achieve permanent learning. Skills-based education focuses on acquiring real-world skills and aims to make them successful in their lives, work and social environments.

There is a growing consensus, especially in educational institutions, that life skills, also known as 21st century skills, are essential to meet future societal challenges. These have been defined under different headings and are considered as the basic competences that individuals should acquire and possess in the 'Information Age'. However, even in our best schools, we teach children to memorize rather than think. In the 21st century, memorizing alone cannot carry individuals forward. Instead, critical thinking, problem solving and creative approaches should be at the forefront. Today, information changes instantaneously and grows exponentially. Moreover, much of the information we need is readily available on the nearest computer or PDA (personal digital assistant) screen, provided we know how to access and analyze it. While learning in the 20th century focused on comprehending content, in the 21st century it focuses on creating knowledge and applying it to new situations (Scott, 2015). Perhaps we have now entered a new era, called the 'skills age', and we are completing the era we used to call the 'knowledge age'. For a long time, discussions on 21st century skills have been popular in both education and business. These are defined as the competencies that students need to succeed in their careers (Rios et al., 2020; Waller & Fawcett, 2013). Despite the increasing pressure from governments, companies and schools to develop 21st century skills among young people, academics have struggled to define these core competencies. This makes it more important than ever to understand the needs of the skills age and develop educational policies in line with these needs. The Partnership for 21st Century Skill (P21) is a Washington-based organization founded in 2002 that aims to bring the power of technology to teaching and learning in all its aspects and to prepare young people to be good individuals, citizens and workers in the 21st century. This organization, the American Association of School Librarians (AASL), the International Society for Technology in Education (ISTE), and many other associations and institutions are trying to provide frameworks and guidelines that identify the necessary basic skills (Trilling & Fadel, 2009). These frameworks and guidelines on basic skills can be defined under different headings. Karacaoğlu (2022) summarized 17 basic skills under three main categories, and these categories served as a conceptual reference for this study. These categories guided the grouping and interpretation of the competencies identified by the participating teachers. The categorization is as follows:

- **Primary skills:** Creativity, communication, reading comprehension, active listening.
- **Secondary skills:** Problem solving, critical thinking, empathy, entrepreneurship, innovation, adapting to modern times, being a good person.
- **Tertiary skills:** Environmental awareness, research, self-confidence, collaboration, virtue and respect, professionalism.

In the current study, these categories were adapted to organize teacher-identified competencies (e.g. creativity, digital literacy, empathy) into comparable tiers, allowing for analytical comparison and thematic coherence. The role of the teacher in skill-based education is to provide support and guidance for students to acquire and develop the necessary skills in their lives. In this educational approach, it is of great importance that teachers have certain competencies to support and guide students' skill development. For example, to acquire communication skills, teachers need to have effective communication

competencies. This allows students to both model and learn effectively. Teachers should be role models by demonstrating the values, attitudes and behaviors they aim to instill in their students. The ability to give students clear and unambiguous instructions, respond insightfully to questions, and communicate effectively with students' increases student understanding and engagement. The ability to guide students, motivate them, set goals and monitor their progress supports students' learning and increases their success. Teachers should use strategies to evaluate skill-based tasks and projects, provide students with constructive feedback and monitor student progress. Considering students' different skill levels, interests and learning styles, they should organize their teaching strategies and provide individualized support to students (Karacaoğlu, 2018; OECD Publishing, 2018; Priestley, 2010; Wei et al., 2009). Teachers' use of creative and innovative teaching strategies, methods and techniques will inspire their students to develop their creativity skills. As can be seen, it is fundamental that teachers who are responsible for providing these competencies to students must also have these skills. This harmony enables teachers to effectively model and guide students in acquiring these skills. Therefore, developing 21st century competencies in teachers not only increases their teaching effectiveness, but also facilitates the successful implementation of a skills-based education approach, making them more effective and efficient in achieving educational goals.

21st century teaching skills consist of the knowledge, characteristics and abilities required to meet the needs of students in contemporary educational environments that offer a different perspective from traditional teaching approaches. They focus on providing students with important skills such as critical thinking, communication, collaboration, creativity and digital literacy. Previous research has highlighted a wide range of skills that teachers need to possess. These include student-centered teaching, critical thinking, communication and collaboration, creativity and innovation. Competencies such as learning to learn, digital literacy, flexibility and adaptability, cultural awareness and diversity are also emphasized. Finally, skills such as data management and instructional innovation are increasingly valued in 21st-century education frameworks (Aygün et al., 2016; Collins, 2014; Griffin & Care, 2014; Göksün & Kurt, 2017; Rotherham & Willingham, 2010; Saavedra & Opfer, 2012; Uyar & Çiçek, 2021).

It is clear that basic skills are needed to respond to the changing educational needs of our age. Education should be harmonized with rapid technological advances, globalization and the requirements of business life. Perhaps the most important person to ensure this adaptation is the teacher. Quality learning requires foundational abilities that go beyond literacy and numeracy, often referred to as 21st century skills, with an emphasis on the competencies necessary for effective teaching. Preparing students for modern challenges involves conceptualizing the abilities teachers need for this era, as well as defining how they will be assessed and trained to meet these expectations (Kim et al., 2019). If teachers have 21st century skills themselves, they will be more active in preparing students for future life, work and society. The development of social values such as justice, law, merit, democracy, human rights and sensitivity is closely related to the social, emotional, psychological and cognitive skills of teachers responsible for educating future generations. When teachers acquire competencies that emphasize these values, they can effectively transfer them to their students. Therefore, understanding what skills teachers need to provide students with basic life competencies is a critical area of research. In particular, investigating and prioritizing teachers' perspectives on the basic competencies required for 21st century educators can significantly improve the understanding and implementation of skill-based education. Such research will help determine how teachers can develop 21st century skills, how education programs should be designed, and how teacher training processes can be improved. In line with the problem that is considered worthy of the research, the aim of the research is to

determine the basic skills that should be in the 21st century teacher according to the opinions of the teachers.

Methodology

A qualitative research approach was adopted to determine the basic skills that 21st century educators should have based on teachers' perspectives.

Study Group

Seventy-nine teachers from various branches participated in this study, all of whom work at different campuses (Bornova, Gaziemir, Güzelbahçe, and Karşıyaka) of İzmir Kent Private Schools, a multi-campus private educational institution in İzmir, Turkey. The study group included 18 classroom teachers, 16 foreign language teachers (English and German), 12 Turkish and Literature teachers, 12 science group teachers (science, physics, chemistry, biology), 11 mathematics teachers and 10 social science group teachers (social studies, history, geography, philosophy and religious culture). Following the "Skill-Based Education and Skill-Based Question Preparation" training given to the teachers in the Kent Private School branches, their cognitive preparation for basic skills was increased. All participants were informed about the purpose of the study and their full consent was obtained to participate in the study on a voluntary basis.

Data Collection

In the study, the storage technique developed by Karacaoğlu and Bayrakçı (2020) was used in the data collection phase. This technique aimed to provide information sharing through participant interaction. A glass jar and six different colored papers were used for its implementation. The process was carried out in the following stages:

1. Participants were informed about the purpose of the technique and the procedural stages.
2. Copies of six different colored cards prepared in advance were distributed to each participant.
3. Each participant was asked to write the most important first piece of information that came to his/her mind about the subject on his/her paper.
4. After the writing process was completed, the participants folded the papers and put them in the glass jar. During this process, the participants were asked to remember the color of the paper they used.
5. Then, each participant was asked to take a different colored paper from the glass jar.
6. Participants opened the papers they chose and silently read their contents. Then, they wrote a third important piece of information that they considered important (different from what they had just read and to what they had written before). Then, the papers were folded again and put back in the glass jar.
7. In the evaluation phase, all the papers were taken out of the glass jar one by one and read aloud to the group. Each item was discussed, evaluated and recorded separately. The opinions were grouped and frequencies were extracted. In this way, all the information stored in the glass jar was combined to form the collective product of the group.

As a result, all the information stored in the glass jar was combined to form the collective output of the group. Since the number of participants in the study group was 79, the application was carried out in two rounds; a third round was not required. A total of 158 different opinions were collected regarding the competencies that each teacher should have.

In cases where the number of participants is less, the storage technique can be carried out in three rounds. In such cases, in the third round, the participants are asked to take a paper of a different color than the ones used in the previous two rounds. They read the two items on the paper silently and write down any other information they consider important other than what was written before. This paper is then placed back in the glass jar. Evaluation and analysis are carried out after this third round. The steps of the storage technique are summarized in the diagram in Figure 1.

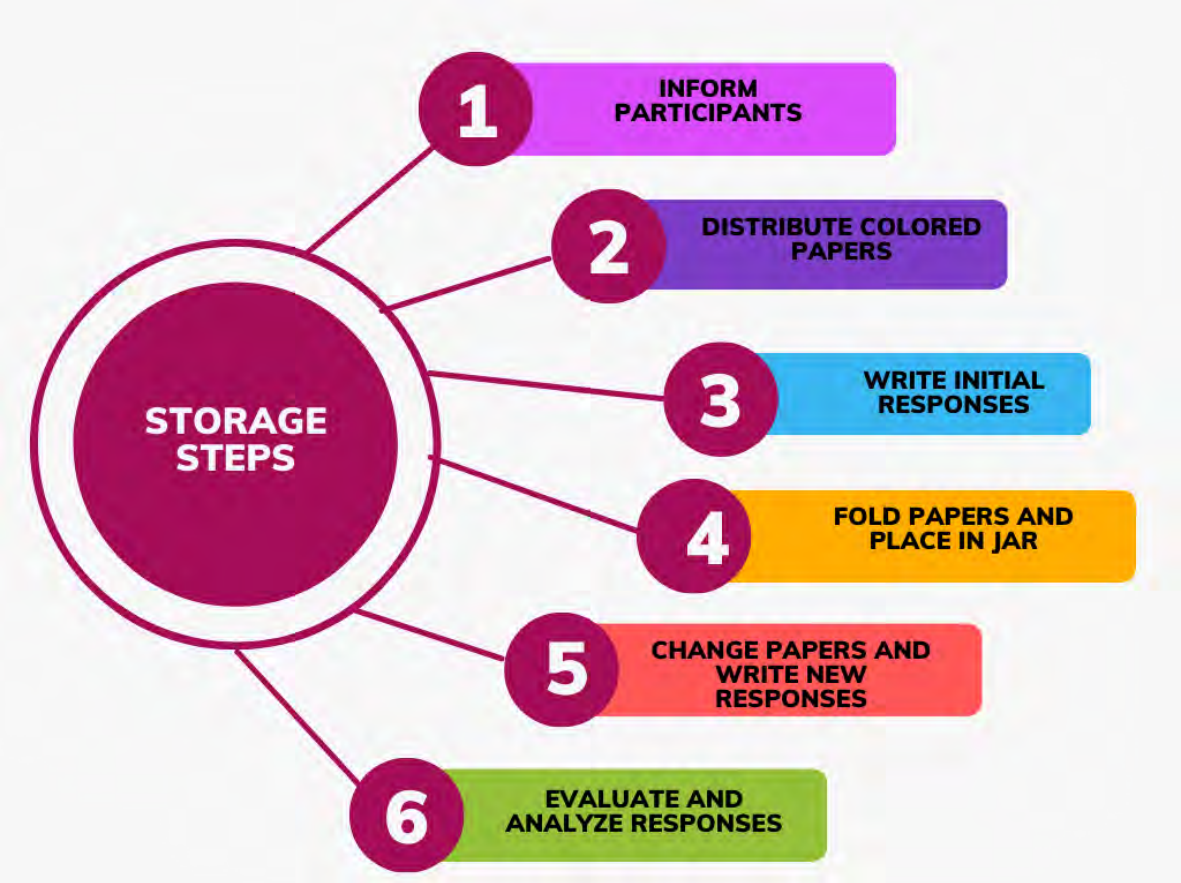

Figure 1. Steps of Storage Technique

Data Analysis

Content analysis was applied while interpreting the data collected by the storage technique. In the content analysis, the data were coded, the themes were obtained, the codes and themes were arranged, and then the findings were identified. The data obtained with the storage technique were classified after being recorded, and then the information was arranged to make the data clearer. Descriptive analysis was used while interpreting the data (Punch, 2013). As a result of the analysis, basic life skills such as communication, critical thinking, emotional intelligence, and adaptability were classified as primary, secondary and tertiary skills; cognitive, social and affective. One of the important advantages of the storage technique is that the analysis of the data can be done with the participants during the

evaluation phase. According to the opinions of the participants, the skill statements were corrected, combined and themes were created. Data were classified according to the joint decisions of the participants. The data obtained were analyzed as the skills that at least seven teachers care about without being influenced by each other, as primary skills, at least four teachers as secondary skills, and the skills that less than three teachers care about as tertiary skills.

Findings

According to the opinions of the teachers, 26 basic skills that a teacher should have were determined. Skills with a frequency of seven or more are grouped and tabulated as primary skills, those with frequencies between four and six are secondary, and those with a frequency of three or less as tertiary skills. The tables were interpreted by subtracting the frequencies according to the teachers' expression of the same skills, unaware of each other.

Primary skills	**N**
Creativity	34
Empathy and communication	25
Critical thinking	18
Problem solving and crisis management	14
Collaboration	9
Curiosity	7
Digital literacy	7

Table 1. Primary Teaching Basic Skills

As seen in Table 1, the most important skill that a teacher should have is creativity, according to teachers' opinions. 34 out of 79 teachers, unaware of each other, stated that creativity is the most important skill that every individual should have. Of 79 teachers, 25 stated that empathy and communication, 18 critical thinking, 14 problem solving and crisis management, nine collaborations, seven active listening and digital literacy skills should be in every teacher. In this case, it can be said that creativity, empathy and communication, critical thinking, problem solving and crisis management, cooperation, curiosity, digital literacy skills are the primary skills that every teacher should have. Specifically, communication includes not only verbal and nonverbal interactions, but also the ability to listen effectively, express ideas clearly, and develop understanding, which is vital for effective problem solving, collaboration, and empathy. Secondary priority teaching basic skills according to the opinions of the teachers are given in Table 2.

Secondary skills	**N**
Reading comprehension	6
Learning to learn	5
Patience	4
Emotional intelligence	4
Active listening	4

Table 2. Secondary Priority Teaching Basic Skills

As seen in Table 2, the most important secondary skill that a teacher should have is reading comprehension and interpretation. Six out of 79 teachers stated that reading comprehension and interpretation skills without being affected by each other are the most important skills that every individual should have. Five out of 79 teachers stated that learning

to learn and four stated that patience, emotional intelligence and active listening should be in every teacher. In this case, it can be said that reading comprehension, learning to learn, patience, emotional intelligence and active listening are the secondary priority skills that every teacher should have. The tertiary priority teaching basic skills according to the opinions of the teachers are given in Table 3.

Tertiary skills	N
People management	3
Taking initiative	3
Reasoning	2
Research	2
General knowledge	2
Imagination	2
Student-centered education	1
Ability to inspire	1
Psychosocial adjustment	1
Attention-getting ability	1
Knowledge acquisition	1
Being open to innovation	1
Self-confidence	1
Teaching to learn	1

Table 3. Tertiary Priority Teaching Basic Skills

In Table 3, the skills that are expressed by teachers without being influenced by each other and that have the least frequency are shown as tertiary basic skills. 3 out of 79 teachers stated that people management and initiative taking skills should be in every teacher. Two of 79 teachers stated that reasoning, research, general knowledge and imagination skills should be in every teacher. One teacher each stated that student-centered education, inspiring, psychosocial adjustment, attracting attention, knowledge acquisition, being open to innovations, self-confidence, teaching learning skills should be in every teacher. In this case, if the skills expressed by at least two teachers but not expressed by more than three teachers are to be listed, they are: people management, taking initiative, reasoning, research, general knowledge, and imagination.

General knowledge skills, although mentioned by a small number of participants, appear to be particularly valuable in connecting with students from diverse backgrounds. Similarly, attention-grabbing skills, which emphasize the ability to capture and maintain student focus during lessons with engaging and dynamic teaching methods, have also taken their place in this ranking, perhaps because practices are still being implemented in a traditional manner.

Discussion, Results and Implications

According to the findings of the research, the basic skills of 21st century teaching are creativity, empathy and communication, critical thinking, problem solving and crisis management, cooperation, curiosity, digital literacy, reading comprehension and interpretation, learning to learn, patience, emotional intelligence, active listening, people management, taking initiative, reasoning, research, general knowledge, imagination, student-centered education, ability to inspire, psychosocial adjustment, attention-getting ability, knowledge acquisition, openness to innovation, self-confidence, and teaching to learn.

Similar issues are encountered in different studies on 21st century skills. According to this research, critical thinking, empathy, curiosity and digital literacy are among the most

important skills that a teacher should have. In a study published by UNESCO, Luna Scott (2015) emphasizes the importance of these competencies and underlines their role in preparing educators for the evolving demands of modern education. In particular, critical thinking, problem solving, communication and collaboration skills come to the fore in studies on 21st century skills (Karacaoğlu, 2022; Karacaoğlu, 2024; Cansoy, 2018; Gelen, 2017; MEB, 2022; Nouri et al., 2017; Partnership for 21st Century Learning, 2017). Aygün et al. (2016) included skills similar to those determined in this study in the scale they developed; these include learning and renewing 21st century teacher skills; life and career skills; information, media and technology skills. Gökdaş et al. (2024) emphasized that the digital development of the processes especially during the COVID-19 process has been improved and the role of this information in education. Similarly, Nartey (2025) and Sugiarto et al. (2024) stated that digital literacy and the privacy of artificial intelligence have been strengthened in the development of teacher skills.

According to teachers' views, creativity is considered the most basic skill for every teacher. Imagination, which is the basis of innovative thinking, plays an important role in the development of this ability. Teachers are encouraged to visualize, design and implement ideas, which summarizes the essence of teaching as "imagine-design-implement". Many studies similarly emphasize the importance of creative thinking in education. Research shows that among the basic skills of the 21st century, creativity is consistently considered fundamental for both teachers and students (Karacaoğlu, 2022). Studies by Flaherty (2005), Hargrove (2013), Mishra and Mehta (2017), and Naamati-Schneider and Alt (2024) further strengthen the role of creativity in preparing educators to meet modern challenges. For example, a teacher can demonstrate creativity by designing a lesson plan that combines multiple disciplines, such as combining art and science to teach ecological sustainability through a creative project. By encouraging students to use their imaginations to design sustainable living spaces or solve real-world problems, the teacher encourages critical and innovative thinking.

The basic skills identified in this study—creativity, empathy and communication, critical thinking, problem solving, collaboration, curiosity, and digital literacy—were categorized into primary, secondary, and tertiary categories based on frequency. These findings are consistent with previous research. For example, Lee and Choi (2021) emphasize the role of innovation, digital literacy, and collaborative learning in teacher development. Similarly, Collins (2014), Han and Brown (2013), Kim et al. (2019), and Griffin and Care (2014) emphasize the importance of critical and creative thinking, problem solving, and digital competencies (skills that are also central to the framework of this study).

Numerous studies on 21st century teaching skills (Aygün et al., 2016; Collins, 2014; Griffin & Care, 2014; Göksün & Kurt, 2017; Rotherham & Willingham, 2010; Saavedra & Opfer, 2012; Uyar & Çiçek, 2021) emphasize core competencies such as critical thinking, communication, collaboration, creativity, and digital literacy. Additional skills emphasized include student-centered teaching, learning to learn, flexibility and adaptability, and teaching innovation. The teacher skills identified in this study strongly resemble these findings.

Based on the findings, a small number of participants highlighted skills such as reading comprehension, learning to learn, emotional intelligence, patience, and active listening as important secondary competencies for teachers. Although these skills were mentioned less frequently, previous research supports their relevance. For example, reading comprehension is widely recognized as foundational to lifelong learning (Karacaoğlu, 2022; OECD, 2003), and emotional intelligence has been linked to reduced stress in teaching (Mérida-López et al., 2019). Similarly, studies emphasize the role of patience and listening skills in creating supportive classroom environments (Kourmousi et al., 2018; Ullah & Atta, 2020).

Although tertiary skills were mentioned less frequently, many participants highlighted competencies such as people management, initiative, reasoning, research and imagination. These findings are partly consistent with broader frameworks such as the World Economic Forum's report on future skills (World Economic Forum, 2020). Imagination and reasoning in particular – although not dominant in this study – have been discussed in the literature as supporting elements of creativity, a skill highly valued in 21st century education (Bulut, 2013).

Skills Identified from Research Findings

The skills determined based on the research findings are shown in Figure 2:

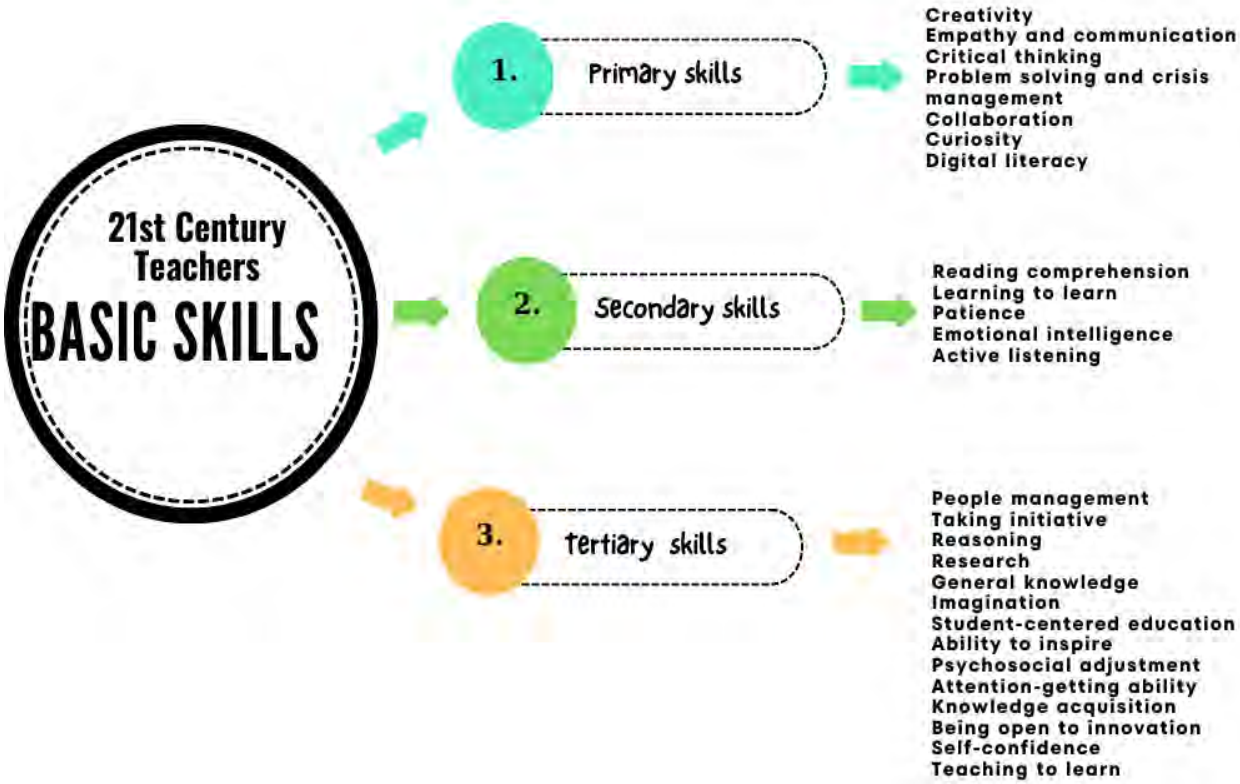

Figure 2. Teaching Basic Skills

Definitions of Teacher Basic Skills

It is useful to define each of these basic skills that a 21st century teacher should have. 21st century teacher skills are defined in the tables below.

Primary Skills	Definitions
1. Creativity	Thinks the unthinkable, says the unsaid, and connects unrelated ideas and objects. Uses broad imagination to explore alternative solutions. Demonstrates flexibility and fluency in generating ideas. Questions, selects, and integrates concepts effectively.
2.Empathy and communication	Putting oneself in another's shoes. Understands the feelings, thoughts and behaviors of others through both verbal and nonverbal communication.
3. Critical thinking	Evaluates and makes decisions based on criteria. Analyzes, organizes, and justifies concepts while integrating theories of teaching, learning, and development.
4. Problem solving and crisis management	Follows a scientific process to identify and address problems. Generates solution options, gathers information and draws accurate conclusions. Establishes effective collaboration using planning and evaluation strategies during crisis periods.
5. Collaboration	Works with others towards a shared goal. Adapts to group dynamics, values diverse opinions, and takes responsibility within a team. Shares knowledge and develops collective understanding in educational settings.
6. Curiosity	Embraces curiosity as a driver of exploration. Seeks new experiences, seeks solutions to complex problems, and demonstrates enthusiasm for learning about obscure or new topics.
7. Digital literacy	Uses technology effectively, accesses resources, conducts research and creates new content from what he/she has learned.

Table 4. Definitions of Primary Teacher Basic Skills

Creativity, critical thinking, problem solving and crisis management, and digital literacy are cognitive competencies. Empathy and communication, collaboration, and curiosity are social and emotional competencies.

Secondary skills	Definitions
1. Reading comprehension	It includes mental operations such as attention, perception, recall, interpretation, synthesis, evaluation, and analysis across written, visual, and electronic texts.
2. Learning to learn	It focuses on self-awareness through cognitive strategies, and enhances meaning through effective learning strategies. It includes understanding, interpreting, and applying information to generate new insights.
3. Patience	It includes waiting calmly without panicking. It demonstrates self-regulation and control in situations of frustration, distress, or challenge.
4. Emotional intelligence	It includes being aware of one's emotions, distinguishing between feelings and thoughts, and effectively using cognitive power to manage emotions.
5. Active listening	It demonstrates understanding by correctly interpreting and evaluating messages. It uses gestures, facial expressions, and body language effectively in the communication process.

Table 5. Definitions of Secondary Teacher Basic Skills

Secondary teacher skills such as reading comprehension and learning to learn are primarily cognitive competencies. Patience and emotional intelligence are classified as emotional competencies. Active listening is considered a social competency that requires interpretation and empathy skills.

Tertiary skills	Definitions
1. People management	Organizes and motivates others while achieving goals, creates a positive and orderly environment. Effectively guides and develops individuals.
2. Taking initiative	Takes necessary actions, makes decisions and affects the outcome of events with deliberate efforts.
3. Reasoning	Includes questioning, comparing, analyzing and developing arguments. Tests hypotheses and produces solutions by creating alternatives.
4. Research	Uses scientific and technological methods to solve problems. Thinks multidimensional, establishes cause-effect relationships and approaches problems scientifically.
5. General knowledge	Stays up to date on social, geographical, political and economic developments. Effectively uses cultural characteristics while adopting universal and national values.
6. Imagination	Designs mentally, investigates unusual ideas and uses innovative thinking methods to achieve goals.
7. Student-centered education	Prioritizes student interests, needs and levels. Encourages active participation in learning and applies modern teaching methods.
8. Ability to inspire	Acts as a role model and motivator. Encourages students to discover their potential and increases group energy.
9. Psychosocial adjustment	Balances psychological and social dynamics by maintaining inner peace while adapting to the external environment.
10. Attention-getting ability	Focuses students' mental activities by encouraging curiosity and attention, which are prerequisites for motivation.
11. Knowledge acquisition	Demonstrates expertise in the field and gains knowledge about broader topics. Guides others to learn in depth about specific topics and global contexts.
12. Being open to innovations	Adapts to change and seeks improvements in established routines. Demonstrates creativity, flexibility, and efficiency.
13. Self-Confidence	Exhibits self-awareness of strengths and weaknesses, uses strengths effectively. Develops self-confidence relative to others.
14. Teaching to learn	Guides students in understanding, interpreting, and applying what they read. Teaches methods for accessing and using information to produce new knowledge.

Table 6. Definitions of Tertiary Teacher Basic Skills

Among the tertiary skills, initiative, reasoning, research, people management, and imagination stand out as key competencies. These skills reflect a blend of cognitive, social, and emotional domains, contributing to teachers' adaptability and innovative capacity in diverse classroom settings.

Research that sees the acquisition and development of 21st century basic teacher skills as a way to improve the quality of teachers' education has also inspired our study (Kim et al., 2019; González-Salamanca et al., 2020; Martinez, 2022; Tican & Deniz 2019; Shafie et al., 2019). An increasingly complex society and a rapidly changing technology-driven economy have presented new and challenging challenges for schools and communities alike. As research from school systems around the world on frameworks that emphasize developing basic teacher skills, knowledge, and attitudes necessary for success in the 21st century increases, a pool of skills will emerge. Of course, priority skills may differ for each country, state or region. On the other hand, universal basic skills that every teacher should have can be common and these skills can be used in teacher education curricula with a skill-based education approach.

Conclusion

In conclusion, this research sought to identify and categorize the essential 21st-century teacher skills based on the perspectives of 79 educators from diverse educational backgrounds. The findings highlight a comprehensive set of skills that encompass cognitive, affective, and social competences. These skills can serve as a valuable guide for teacher education programs, school administrators, and policymakers striving to enhance the quality of education in the 21st century.

The primary skills identified in this study, including creativity, empathy and communication, critical thinking, problem solving and crisis management, cooperation, curiosity, and digital literacy, represent the foundational competences that every teacher should possess. These skills are pivotal for fostering student engagement, addressing complex challenges, and adapting to the rapidly evolving educational landscape. For example, creativity can be implemented in classrooms through activities such as designing interdisciplinary projects, such as combining science and art to teach ecological sustainability. Similarly, digital literacy can be developed by integrating technology into lesson planning, using educational apps to enhance interactive learning experiences.

Secondary skills, such as reading comprehension and interpretation, learning to learn, patience, emotional intelligence, and active listening, are crucial for creating a supportive and inclusive learning environment. These skills empower educators to connect with students on a deeper level, tailor instruction to individual needs, and promote lifelong learning. For example, active listening allows teachers to understand students' concerns and provide constructive feedback during class discussions. Emotional intelligence helps teachers effectively manage classroom conflict while building trust and rapport with students.

Tertiary skills encompass people management, taking initiative, reasoning, research, general knowledge, imagination, student-centered education, inspiring teaching, psychosocial adjustment, attention-grabbing techniques, knowledge acquisition, openness to innovations, self-confidence, and teaching for learning. While these skills may not be universally applicable to all teachers, they play a pivotal role in shaping effective educators with the capacity to adapt to diverse educational contexts. For example, the ability to inspire can be demonstrated through motivational teaching practices, such as sharing real-world success stories to encourage students. Psychosocial adaptability skills can help teachers balance their professional responsibilities while responding sensitively to students' needs, especially in diverse or challenging environments.

The prominence of creativity as the most emphasized skill underscores its significance in modern education. Imagination serves as the precursor to creative thinking, epitomizing the essence of teaching—envision, design, and implement. Furthermore, the alignment of these findings with existing research reinforces the idea that skills like critical thinking, communication, collaboration, and digital literacy are indeed cornerstones of 21st-century teaching.

As education faces ever-evolving challenges in a dynamic society, the cultivation of these skills within the teaching profession is paramount. Teacher education programs can directly address these competencies by including practical examples of skill application, such as collaborative group projects or integrating digital tools into lesson plans. By integrating these findings into teacher education programs and supporting ongoing professional development, educational institutions can better equip teachers to navigate the complexities of the 21st century.

The global perspective presented in this study suggests that while the priority of specific skills may vary by region, there exists a universal foundation of skills essential for every teacher. Therefore, a skill-based education approach that embraces these competences

can serve as a common framework for teacher preparation, ensuring that educators worldwide are well-equipped to meet the diverse needs of students in the 21st century.

Recommendations

Recommendations were developed in the light of the results and discussions of the research.

1. **Embed 21st century essential skills in teacher education:** Teacher education programs should prioritize developing essential competencies such as creativity, critical thinking, collaboration, empathy, and digital literacy. Modules can include interdisciplinary project-based learning, collaborative tasks, and use of educational technologies (e.g., Canva, Google Workspace, Kahoot).
2. **Developing socio-emotional competencies:** Education should address emotional intelligence, patience, active listening, and communication to improve classroom dynamics and teacher-student relationships. Role-playing, mindfulness sessions, and peer feedback activities can support the development of these skills.
3. **Encourage lifelong learning and curiosity:** Programs should foster a culture of curiosity, self-directed learning, and professional development. Examples include book clubs, professional learning communities, and the use of online platforms (e.g., Coursera, Udemy) to foster lifelong learning habits in teachers.
4. **Developing adaptability and innovation capacity:** Future educators must be equipped to adapt to change, integrate new technologies (e.g., AI tools, VR), and adopt flexible teaching strategies. Courses can include scenario-based learning and innovation labs to practice agile thinking.
5. **Integrate leadership and student-centered pedagogy:** Preservice teachers should gain experience with student-centered approaches and leadership skills such as initiative, classroom management, and instructional design. Team-based projects and flipped classroom simulations can model these competencies in action.

These recommendations should be adapted to the local context, taking into account factors such as access to technology, community needs, and cultural values. Education in low-resource settings may emphasize low-tech strategies or culturally responsive pedagogy.

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