

Why 6 Cs?

The Urgency of Learning at Elementary School

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ABSTRACT

Science and technology continue to develop and bring about changes and new orders in various fields of human life, including the education system. The implication is that current learning practices must be oriented towards learning following the demands of human competence in the 21st century. This study aims to obtain information about 21st century skills that are important to implement in elementary school classrooms. The method used is a systematic literature review of a number of data related to 21st century skills. The results show that six skills must be instilled in elementary schools, character, critical thinking, creativity, citizenship, collaboration, and communication, so-called the 6 Cs. The 6 Cs are important because elementary school students must be equipped with various skills to have more complex skills, have mastery of technology, and understand information in a globalized world. This research impacts the availability of information about the 6 Cs for elementary school students and opens opportunities for further research on the use of appropriate methods and learning media, and conditions learning environments to develop 6Cs in elementary schools as a whole.

Keywords: *the 6 Cs, the 21st century skills, elementary school*

1. INTRODUCTION

Science and technology continue to develop and have brought changes and new orders to various fields of human life. Along with the changing times, the education system has also changed [1]. In fact, technology has radically changed teaching and learning practices [2]. So at this time, learning practices carried out in elementary schools must also be oriented towards learning in accordance with the demands of human competence in the 21st century.

Since 2013, the Indonesian government has enacted the 2013 Curriculum, which has a philosophical foundation as a curriculum that underlies the development of various student potentials so that the national education objectives can be achieved, namely to become quality Indonesian human beings. Good quality education, strong and resilient character, and high competence will impact overcoming and fulfilling new needs, challenges, and demands in various fields of life [3].

This study aims to obtain information about 21st century skills that are important to inculcate in

elementary school classrooms. This study is important because today's students must be prepared to face the increasing complexity of life and work in the 21st century [4]. Key skills that are very important in the 21st century include cognitive and noncognitive skills [5]. These competencies can also be in the form of knowledge, skills, attitudes, and other attributes that can help children and youth to reach their full potential [6]; [7]; [1].

Concerning the implementation of 21st century learning, four important rules must be implemented. They include (1) learning must be student – centered, (2) learning must be done collaboratively, (3) learning must have context, and (4) learning must be integrated with the community [8].

1.1. 21st Century Skills

Much attention has been paid to the importance of 21st century skills since entering the 90s. The 21st century learning paradigm emphasizes developing student competencies that are in accordance with the demands of the 21st century. 21st century skills and competencies are competencies and skills that young

people must possess to become effective workers and citizens in society [9]. The emergence of 21st century skills was initiated by the existence of a three-part foundation issued by The Secretary’s Commission On Achieving Necessary Skills [10], then enGauge 21st century learning skills by the North Central Regional Educational Laboratory (NCREL) [11].

Further identification of the deepest competencies and skills most needed in the 21st century is called the 4Cs (The Four Cs) [4]. Furthermore, a formula for 21st century skills are called 3 Rs x 7 Cs = 21st Century Learning [12]. 21st century skills are also divided into 10 sections and four categories, from now on, referred to as the Assessment and Teaching of 21st Century Skills (ATC21S) [13].

Then based on new pedagogies for deep learning (NPD) with learning outcomes in the form of *Six Cs of Deep Learning* [14]. Furthermore, there are 6 C's of Education for the Future [15]; there are eight competencies in the Ministerial Order on Student Learning [16]; 6 Cs [17] skills 5 C's [18]; and ISTE standards for students to prepare students of this century so that they can prepare themselves in the ever-evolving world of technology [19].

2. METHOD

The method used is a systematic literature review through the stages of planning, selection, extraction, and execution [20] of literature data according to a number of opinions and institutions that focus on developing 21st century skills. The data sources used are ten kinds of literature, with examines 21st century skills that often appear in the literature.

3. RESULTS AND DISCUSSION

Based on an analysis of ten data sources relating to the development of 21st century skills, the results can be seen in **Table 1**.

Table 1 The 21 Century Skills

| Source | 21 Century Skills | | | | |
|------------------------------------|---|---|---|--|--|
| [10] a three-part foundation | Basic Skills Reading, Writing Arithmetic/ Mathematics Listening, Speaking | Thinking Skills Creative Thinking Decision Making Problem Solving Seeing things in the mind’s eye Knowing how to learn Reasoning | Personal Qualities Responsibility Self-Esteem Sociability Self-Management Integrity/ Honesty | | |
| [11] enGauge Skills | | Inventive thinking Adaptability, managing complexity, and self- direction Curiosity, creativity, and risk-taking Higher-order thinking and sound reasoning | High productivity Prioritizing, planning, and managing for results Effective use of real-world tools Ability to produce relevant, high- quality products | Effective communication Teaming, collaboration, and interpersonal skills Personal, social, and civic responsibility Interactive communication | Digital-age literacy Basic, scientific, economic, and technology literacies Visual and information literacies Multicultural literacy and global awareness |
| [4] P21 Skills | | Learning and innovation skills Critical thinking and problem solving Creativity and innovation | Career and life skills Flexibility and adaptability Initiative and self- direction Social and cross- cultural interaction Productivity and accountability Leadership and responsibility | Learning and innovation skills Communications and collaboration | Digital literacy skills Information literacy Media literacy ICT literacy |

Table 2. The 21 Century Skills (Continued)

| Source | | 21 Century Skills | | | |
|---------------------------------------|--------------------------------------|--|---|---|---|
| [13] ATC21S | | Ways of thinking Critical thinking, problem-solving, decision making; Creativity and innovation; Learning to learn, Metacognition | Living in the world Citizenship – local and global; Life and career; Personal and social responsibility - including cultural awareness and competence | Ways of working Collaboration (teamwork) Communication | Tools for Working Information literacy ICT literacy |
| [14] NDPL 6 Cs | Character | Critical thinking | Citizenship | Collaboration | |
| | | Creativity | | Communication | |
| [15] 6 C's | | Think critically | Embrace Culture | Work collaboratively Communicate clearly Utilize connectivity | |
| | | Develop creativity | | | |
| [16] | Personal growth and well being | Critical thinking Problem-solving Creativity and innovation | Cultural and global citizenship | Collaboration | Managing information |
| | | | | Communication | |
| [17] 6 Cs | Content | Critical Thinking | Confidence | Collaboration | |
| | | Creative Innovation | | Communication | |
| [18] 5 C's | | Critical thinking | Citizenship | Collaboration | |
| | | Creative thinking | | Communication | |
| [19] ISTE Standard for students | Empowered learner | Knowledge constructor Innovative designer | Digital Citizen | Global collaborator Creative communicator | Computational thinker |
| Result | Character | Critical thinking Creativity | Citizenship | Collaboration Communication | ICT literacy |

Based on the analysis of the development of 21st century skills in Table 1, it can be concluded that the six 21st century skills need to be developed in the practice of learning in elementary schools. The six skills include Character, Critical thinking, Creativity, Citizenship, Collaboration, and Communication (hereinafter referred to as the 6 Cs). Whereas, the ICT literacy in this study is not included because it is the part of multiliteracy that has another focus discussion.

This study is important because elementary school is a formal education pathway [21]. Elementary school is a systematic process to develop the basic intellectual, social, personal, and character abilities based on national values. So that elementary school students should also be given space to develop 21st century skills, especially 6 Cs.

Previous research related to the 21st century and skills and competencies in primary education shows special attention to skills and competencies related to information and communication, technological developments, globalization, and the need for innovation [22]. Here is the following explanation about the 6 Cs that must be instilled in elementary schools in the 21st century.

3.1. Character

Good character cannot be formed automatically but must be developed through a learning process, exemplary, and practiced continuously from time to time through character education [23]. Character education must act as a knowledge intermediary, so what must be done is to repackage information in an effective way to accept changes that can be made in teacher training and education policy [24]. Character education programs can help students learn the importance of community in their schools [25].

In Indonesia, the development of character education at the elementary school level is implemented in "Profil Pelajar Pancasila" (see Figure 1. retrieved from [26]). Students who have a profile as a result of education focus not only on cognitive aspects but also on attitudes and behavior that are in accordance with the identity of the nation and citizens of the world [27].



Figure 1 Profil Pelajar Pancasila (Pancasila Student Profile)

3.2. Critical Thinking

Critical thinking is the key in preparing students to live and work in the 21st century and as a basis for effective learning [28]. Someone who has critical thinking skills will be very helpful when he analyzes information, solve problems systematically, produce innovative solutions, plan strategically, think creatively, and presents his work or ideas to others in a way that is easy to understand [29]. Critical thinking skills are very important for students because this plays a role in developing students' thinking skills [30].

3.3. Creativity

Creativity is one of the most important skills for achieving success in the 21st century [31]. Student creativity can be built through various conditions of the learning environment, such as combining creativity in the classroom, having the opportunity to choose, imagining and exploring, providing motivation to learn, and using creativity as a means to achieve learning goals [32]. Student creativity cannot be built in a traditional passive classroom in which the students only imitate the teacher without question. According to the Victorian Early Years Learning and Development Framework, creativity should be built by involving students in learning and allowing students to choose and make decisions [33]; students also must be open to any idea, dare to take a risk, and be able to adapt to all changes [34].

3.4. Citizenship

Currently, citizenship education following global standards is needed and reflected in the curriculum objectives [35], which can be empowered through knowledge, skills, and values to assist in taking action, to overcome social, political realities, culture, and the interconnected world [36]. Therefore, students must be prepared for work and a sustainable economy and must be equipped with skills and values, strong personal

development, and responsible citizenship in living life on the 21st century [37].

3.5. Collaboration

Learning with a good collaborative environment and strong teacher collaboration abilities will lead to high learning achievement [38]. Collaboration is also associated with a number of other important learning outcomes, namely critical thinking, metacognition, and motivation [39]. However, collaboration has a low effect on the learning motivation of elementary school students [40], but in learning, collaboration can have a strong effect, especially for students who have low learning achievement [39].

3.6. Communication

Students in elementary school must be prepared to be good communicators. Students must have mastery and fluency in digital communication, writing, and speaking in various contexts[14]. The results of The Met Life research [41] show that effective communication and collaboration skills and skills in using technology and skilled social media will enable collaboration with other groups internationally. Thus, teachers must facilitate so that students in elementary schools can develop students' communication skills. This activity can be done through learning planning, choosing learning methods, dividing student study groups, being an example in communicating, providing opportunities for active students to ask and express opinions, paying attention to passive students, and giving awards to active students [42].

4. CONCLUSION

The analysis results show that there are six skills must be embedded at elementary schools, it is character, critical thinking, creativity, citizenship, collaboration, and communication, referred to as the 6 Cs. The 6 Cs in elementary schools can be instilled through conditioning the learning environment, 6 Cs-oriented learning planning, group division in learning, the application of innovative learning models, the use of interactive ICT-based learning media, the participation of teachers as role models, and the provision of attention and rewards for students. This research contributes to the availability of information about the 6 Cs and opens opportunities for further research on the use of appropriate methods, learning media, and conditioning of learning environments to develop 6Cs in elementary schools as a whole.

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