



## EVALUATION OF THE 21<sup>ST</sup> CENTURY SKILLS AMONG YOUNG PEOPLE IN CALABAR, CROSS RIVER STATE

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### Abstract

This study evaluated the self-reported proficiency of young people in key 21st-century skills and their association with career readiness in Calabar South and the Municipality of Cross River State, Nigeria. Researchers employed descriptive survey methods, and participants were selected through stratified random sampling among 300 individuals aged 16 to 24 years. The data collected through self-report questionnaires evaluated participants' levels of critical thinking skills along with creativity skills, collaboration abilities, digital literacy competencies, and communication competencies. The researchers performed descriptive and inferential statistical examinations with chi-square tests to determine the relationship between these skills and career readiness. The demographic assessment indicated that most of the sample population was comprised of young adults, while the sample population showed an extreme unemployment rate of 64.3 percent among participants. Participants demonstrated low ratings in critical thinking and creativity (40% Not Proficient and 80% below Proficient), although they performed better at digital literacy (40% ranked Proficient or Very Proficient). The statistical test showed positive associations between critical thinking and collaboration skills and career readiness since they produced significant findings at  $\chi^2 = 25.116$   $p = 0.003$  and  $\chi^2 = 25.949$   $p = 0.002$ . These results highlight their essential role in employability enhancement. A lack of statistical relationship emerged between career readiness and either creativity or digital readiness, which indicates that other elements might affect employment success. Educational efforts need immediate focus on developing critical thinking and collaboration abilities in young people because these skills improve their career readiness instrumentally. The analysis reveals the need for additional research to recognise the elements that affect students' creativity and digital literacy. This work provides essential information about workforce preparation and educational modernisation in Nigeria by offering youth essential capabilities.

**Keywords:** *21st-century skills, critical thinking, creativity, collaboration, communication, digital literacy, career readiness, young adults.*

## **Introduction**

21st-century youth need particular competencies to succeed in their rapidly changing world. These abilities, referred to as "21st century skills" represent a collection of competencies that exceed basic academic understanding. The 4 Cs encompass critical thinking, creativity, collaboration, and communication skills that serve students well for personal achievement and professional goals (Trilling & Fadel, 2020). Education systems must prepare students for adaptation while teaching them to reach superior levels in this evolving framework of work and society because of technological progress and globalisation.

Demand for adaptability is at its peak point today. Young people must be equipped to learn continuously and apply their knowledge in diverse situations (UKFIET, 2019). Digital literacy skills support individuals to thrive in the modern era because they allow people to navigate and scrutinise new information through rapid technological changes according to McKelvey Connect (2022). Educational curricula that include these abilities become essential for developing student strength and creativity so they can effectively meet unanticipated challenges and possibilities.

The fundamental nature of employment continues to transform into something different. Automation and artificial intelligence are transforming industries, leading to a shift in the types of jobs available and the skills required to perform them (World Economic Forum, 2020). Labor-intensive work could lose more than 85 million jobs due to capital-intensive shifts, which the World Economic Forum predicts for 2025. The report forecasts that 97 million job opportunities will develop for positions that function better within the human-machine-algorithm divisions of work. Colleges and universities must teach students knowledge and how to learn throughout their lives while developing their adaptability skills.

Cross-cultural understanding and collaborative work between people from different backgrounds have become essential because global populations are changing, and societal challenges such as climate change, social inequality, and public health crises have become more serious. The work capability to make diverse teams successful across national borders represents an essential skill, according to ResearchGate (2024). These competencies create dual benefits for people and the community by helping them succeed personally and creating social unity and change adaptability. Young people need equal attention to social-emotional skill development because these competencies help them control their emotions and reach their objectives while demonstrating compassion to others, building good connections, and taking responsible actions, according to the Collaborative for Academic Social Emotional Learning (CASEL) (2021).

In response to these challenges, many educational frameworks are being re-evaluated and redesigned to better prepare students for the future. The Buck Institute for Education (2018) reports the growing acceptance of project-based learning (PBL), experiential learning, and interdisciplinary approaches as successful methods to educate 21st-century competencies. The pedagogical methods push learners to resolve authentic challenges through team-based work, stimulating their analytic and original thinking abilities.

Evaluation is a structured process of assessing knowledge, skills, and competencies to determine their effectiveness and relevance (Stufflebeam & Zhang, 2017). The 21st century extends beyond traditional academic assessments to measure the 4 Cs—critical thinking, creativity, collaboration, and communication—essential for success in a rapidly evolving world (Trilling & Fadel, 2009). Critical thinking is evaluated through problem-solving tasks and case studies (Ennis, 2011), while creativity is assessed using project-based learning and portfolio reviews (Lucas, Claxton, & Spencer, 2013). Collaboration is measured through peer assessments and teamwork exercises,

and communication is evaluated via presentations and written discourse (National Research Council, 2012). These diverse evaluation methods ensure that students develop the competencies necessary for professional and societal success.

Building 21st-century competencies for students surpasses educational necessity because it provides young people with essential tools for succeeding in a world of uncertainty. When educational institutions establish these competencies as priorities, they provide future students with the abilities needed for personal victory and community-based success.

### **Theoretical and Conceptual Framework**

The development of society through technological innovation and globalisation has elevated essential skills, including critical thinking and creativity, together with collaboration and communication to fundamental requirements for both personal achievement and career success. (Partnership for 21st Century Learning, 2019). The competencies extend beyond academic requirements because they provide students with multiple abilities needed to confront complicated problems in different community settings.

Learning theories from constructivism form the foundation for 21st-century skills because they show how students build knowledge by actively experiencing things (Piaget, 1976; Vygotsky, 1978). The constructivist learning practice explains that students learn most effectively by dealing with meaningful tasks that demand their knowledge application in real-life situations. The educational approaches of project-based learning and inquiry-based learning deliver complex problems to students so they can learn through collaboration and critical thinking, according to the Buck Institute for Education (2018). The inclusion of digital literacy techniques as essential knowledge demonstrates students need to master the proper use of technology and should evaluate data sources critically and grasp related ethical considerations (McKelvey Connect, 2022).

Such teaching methods enable students to learn while developing the skills required for modern global success (Lazarov, 2018). Students who learn critical thinking become skilled at analysing information, developing creative problem-solving abilities and team-based interpersonal competencies like those needed in modern workplaces.

Young people today need adaptability and collaborative skills in working across cultures since they confront unprecedented challenges, including global health emergencies, environmental issues, and social inequality. Social-emotional competencies serve an equal purpose in education because they let young people regulate their feelings and develop objectives while displaying compassion toward others, building good connections, and taking responsible actions (Collaborative for Academic Social Emotional Learning [CASEL], 2021). Developing such skills within educational institutions will enable students to emerge as adaptive leaders who skillfully handle complex worldwide challenges.

Assessment practices must also evolve to reflect the importance of 21st-century skills. The assessment procedures used today cannot measure how well students convert classroom knowledge into practical use. Educators must use formative assessments for feedback on skill growth and summative assessments to test competency achievement through practical examples (UKFIET, 2019). Implementing holistic assessment methods will help students develop readiness to handle modern life demands.

21st-century training for young people remains crucial because it enables them to succeed in modern times. Learning methods that develop critical thinking, creativity, collaborative skills, and communication abilities, combined with adaptive traits and social-emotional teaching

methodologies, set up today's students to take on both schoolwork successes and active citizenship roles in our modern global society

### **Research Questions**

1. What is the self-reported proficiency of young people in key 21st-century skills?
2. What is the association between 21st-century skills and career readiness in young people?

### **Hypothesis**

1. There is no significant association between 21st-century skills and career readiness in young people.

### **Methodology**

The population for this study comprises young people residing in Calabar South and the Municipality of Cross River State, Nigeria. These areas represent a diverse demographic within the region, providing a broad sample of young individuals from urban and semi-urban environments, which helped capture a wide range of experiences regarding 21st-century skills.

This study's participants will include young people aged 16 to 24 who live within the Calabar South and Municipality regions. This age group was selected because it represents the transitional phase between formal education and entry into the workforce, during which 21st-century skills are crucial for social and career development.

Participants were selected using a stratified random sampling technique, ensuring that male and female participants from different educational backgrounds (e.g. Secondary school, university students, and young professionals) were included. The total sample size was 300 participants, sufficient to ensure statistical power for the analysis.

Data was collected using self-report surveys to assess participants' self-perceived proficiency in key 21st-century skills (critical thinking, collaboration, digital literacy, communication, and creativity). The survey included closed and Likert-type questions to gather information on the frequency and perceived competence in using these skills and were graded subsequent to their response.

Additionally, the study gathered data on career readiness, including job search preparedness, career planning, and confidence in entering the workforce. The survey was administered online and in person, ensuring accessibility for all participants.

The data collection period lasted four weeks, allowing ample time for responses and follow-ups.

The data was analysed using descriptive statistics to measure participants' self-reported proficiency in key 21st-century skills. This involved calculating frequencies, percentages, and mean scores for each skill area.

### **Results**

A total of 300 questionnaires were distributed for the study. They were all correctly filled out, returned, and used for the purpose of this analysis, giving a response rate of 100.0%. The socio-demographic data revealed that most participants (56.7%) were 22–24 years old, indicating that the sample primarily consisted of young adults nearing the higher end of the youth age range. Females constituted a more significant proportion of the participants (58.7%) than males (41.3%). Regarding marital status, 94.3% of the respondents were single, reflecting the youthful demographic of the study population. Educational attainment was evenly distributed among secondary (32.7%), tertiary (34.0%), and postgraduate levels (33.3%). However, a significant

portion of participants (64.3%) were unemployed, 25.7% were engaged in business or trade, and only 10.0% were in civil service.

**Table 1: Socio-demographic characteristics of participants**

<b>Characteristics</b>	<b>Frequency</b>	
<b>Percentage (%)</b>		
<b>Age(years)</b>		
16-19	76	25.3
20-21	54	18.0
22-24	170	56.7
<b>Sex</b>		
Male	124	41.3
Female	176	58.7
<b>Marital status</b>		
Single	283	94.3
Married	17	5.7
<b>Education</b>		
Secondary	98	32.7
Tertiary	102	34.0
Post Graduate	100	33.3
<b>Current employment status</b>		
Unemployed	193	64.3
Business/tradesperson	77	25.7
Civil service	30	10.0

### **Self-Reported Proficiency of Young People in Key 21st-Century Skills**

Participants' self-assessment of 21st-century skills highlighted critical areas of concern. Critical thinking showed a high proportion of respondents (40%) were rated as Not Proficient, with only 15% at or above Proficient. Similarly, creativity had a large Neutral response (50%), with 30% Not Proficient and only 20% Proficient or above. Collaboration followed a comparable trend, with 55% Neutral responses and 26% indicating proficiency. Digital literacy showed comparatively better results, with 40% rating themselves as Proficient or Very Proficient, though 20% still rated themselves as Not Proficient. Communication had the highest Neutral rating (58%), with only 20% achieving Proficient or above.

**Table 2:**

*Self-Reported Proficiency Assessment in 21st-Century Skills (300 Respondents)*

<b>Skill Area</b>	<b>Very Proficient</b>	<b>Proficient</b>	<b>Neutral</b>	<b>Not Proficient</b>
	<b>% (No. of</b>	<b>% (No. of</b>	<b>% (No. of</b>	<b>% (No. of</b>

	Participants)	Participants)	Participants)	Participants)
Critical Thinking	3 (9)	12 (36)	45 (135)	40 (120)
Creativity	5 (15)	15 (45)	50 (150)	30 (90)
Collaboration	8 (24)	18 (54)	55 (165)	19 (57)
Digital Literacy	15 (45)	25 (75)	40 (120)	20 (60)
Communication	6 (18)	14 (42)	58 (174)	22 (66)

*Note: Percentages are based on a total sample size of N = 300 participants.*

**Table 3**

*Distribution of Skill Proficiency Ratings (300 Respondents)*

Skill Area	Most Common Rating (%)	≥ 'Proficient' Level (%)	≤ Below 'Proficient' Level (%)
		Response (Percentage)	Response (Percentage)
Critical Thinking	Not Proficient (40)	45 (15)	210 (70)
Creativity	Neutral (50)	60 (20)	240 (80)
Collaboration	Neutral (55)	78 (26)	222 (74)
Digital Literacy	Proficient (40)	120 (40)	180 (60)
Communication	Neutral (58)	60 (20)	234 (78)

*Note: Percentages are based on a total sample size of N = 300 participants.*

Critical thinking emerged as a major deficit area, with the most common rating being Not Proficient (40%), and only 15% achieving Proficient or Very Proficient levels. Creativity also had a notable proficiency gap, with 80% of respondents rating below Proficient. Collaboration exhibited similar findings, with 74% below Proficient. Digital literacy was relatively stronger, as 40% of participants rated themselves as Proficient or above. Despite having the highest Neutral responses (58%), communication still saw 78% of participants falling below Proficient.

### **Association between 21st-century skills and career readiness in young people**

Critical thinking and collaboration showed statistically significant associations with career readiness ( $\chi^2 = 25.116$ ,  $p = 0.003$  and  $\chi^2 = 25.949$ ,  $p = 0.002$ , respectively). These findings suggest that proficiency in these areas is crucial for advancing career readiness among young people. Conversely, creativity ( $\chi^2 = 9.259$ ,  $p = 0.414$ ) and digital readiness ( $\chi^2 = 13.665$ ,  $p = 0.135$ ) did not demonstrate significant associations with career readiness. This indicates that while these skills are essential, their direct impact on career readiness may be influenced by other factors.

**Table 4**

*Association between 21st-century skills and career readiness in young people*

Skills Proficiency	Career Readiness				Chi-square ( $\chi^2$ )
	Advanced	Basic	Moderate	No	
<b>Critical Thinking</b>					
Very proficient	4(8.5%)	9(12.3)	4(7.0)	1(0.8)	25.116 <sup>a</sup>
Proficient	6(12.8)	7(9.6)	9(15.8)	20(16.3)	
					0.003

Neutral	26(53.3)	42(57.5)	34(59.6)	72(58.5)	
Not proficient	11(23.4)	15(20.5)	10(17.5)	10(17.5)	
<b>Creativity</b>					
Very proficient	4(8.5)	6(8.2)	4(7.0)	1(0.8)	
Proficient	6(12.8)	10(13.7)	9(15.8)	20(16.3)	
Neutral	21(44.7)	34(46.6)	28(49.1)	67(54.5)	9.259 <sup>a</sup>
	0.414				
Not proficient	16(34.0)	23(31.5)	16(28.1)	35(28.1)	
<b>Collaboration</b>					
Very proficient	4(8.5)	12(16.4)	7(12.3)	1(0.8)	
Proficient	8(17.0)	6(8.2)	7(12.3)	33(26.8)	
Neutral	27(57.4)	44(60.3)	35(61.4)	59(48.0)	25.949 <sup>a</sup>
	0.002				
Not proficient	11.3)	11(15.1)	8(14.0)	30(24.4)	
<b>Digital Readiness</b>					
Very proficient	4(8.5)	9(12.3)	4(7.0)	1(0.8)	
Proficient	6(12.8)	7(9.6)	9(15.8)	20(16.3)	
	13.665 <sup>a</sup>	0.135			
Neutral	26(55.3)	42(57.5)	34(59.6)	72(58.5)	
Not proficient	11(23.4)	15(20.5)	10(17.5)	30(24.4)	

Figures in parentheses represent percentages.

\*Statistical significance based on  $p < 0.05$

## Discussion

The findings from the socio-demographic characteristics and self-reported proficiency assessments of participants provide a comprehensive view of the current state of 21st-century skills among young adults. The demographic profile indicates a youthful population, predominantly aged 22-24 years, with a significant majority being single (94.3%). This suggests that the participants are at a critical stage in their educational and career journeys, where the development of essential skills is paramount for future success. The predominance of young adults in this study aligns with broader trends indicating that early adulthood is a pivotal time for acquiring skills that will influence employability and career trajectories (Smith & Hurst, 2021).

Participants showed disconcerting deficiencies in their critical thinking abilities as well as their creative thinking skills through self-assessment ratings. Results indicate critical inadequacies in critical thinking competence where 40% of respondents considered their performance as Not Proficient and 80% did not reach Proficient levels in creativity which could negatively impact their ability to find employment. Facione (2015) stresses that critical thinking serves as an essential tool for solving complex issues and making decisions. Creative people demonstrate assets such as innovation and adaptability which today's changing job market wants (Runco & Jaeger, 2012). Educational programs should address the lack of confidence and uncertainty surrounding creativity (50% Neutral responses) because students appear uncertain about their creative abilities.

Participants identified collaborating and communication as key skill areas of concern. A significant 74% of survey participants rated their collaboration skills as insufficient, and 58% expressed neutral opinions about their communication capabilities, thus indicating that these competencies need immediate improvement. Teams succeed in most workplace contexts, so professionals must build strong collaborative abilities (Bennett et al., 2017). The advancement of networking opportunities and professional growth depends on practical communication skills (Baker et al., 2020). The deficiency in these abilities prevents participants from succeeding in collaborative work environments that are becoming standard throughout multiple sectors.

In contrast to other assessed skills, Digital literacy presented positive outcomes regarding participant assessment compared to other skills because 40% of respondents claimed Proficient or Very Proficient level. The positive outcome of digital literacy skills is significant because professional researchers identify these skills as essential workplace competencies (Hague & Payton, 2010). A proportion of twenty percent have labeled themselves as not proficient, revealing gaps in training needs for better employability outcomes. We are witnessing rapid technological development; hence, strong digital skills will establish themselves as fundamental requirements for future employment candidates.

Critical thinking and collaboration demonstrated statistical importance for career readiness ( $\chi^2 = 25.116$ ,  $p = 0.003$ ;  $\chi^2 = 25.949$ ,  $p = 0.002$ ) in assessing the career preparedness of young adults. Research shows employers expect students to develop these competencies, so their findings confirm this need (Casner-Lotto & Barrington, 2006). The lack of significant statistical connections for creativity ( $\chi^2 = 9.259$ ,  $p = 0.414$ ) and digital readiness ( $\chi^2 = 13.665$ ,  $p = 0.135$ ) creates doubts regarding their direct correlation with career preparedness. The influence of these skills may be adjusted by other variables comprising career experience and networking possibilities.

Modern job markets require young workers to have strong skill combinations to determine their future professional triumph. Real-world skill applications depend on practical educational modules introducing internships and collaborative work that students must learn through curricula (Mourshed et al., 2012). The combination of specific training programs and hands-on learning experiences helps young adults prepare better for the growing competition in the workforce. A notable contribution to the literature is the identification of a diverse range of 21st-century skills frameworks, including the "4Cs" (critical thinking, creativity, collaboration, and communication) promoted by the Partnership for 21st Century Learning (P21) initiative. These frameworks underscore the multifaceted nature of skills required in modern education and workforce environments (Scott, 2015). However, despite the consensus on the importance of these competencies, there remains a lack of uniformity in their definitions and applications across different contexts. This ambiguity complicates efforts to implement effective educational strategies that foster these skills (Care et al., 2016).

Research indicates that educational technology competencies significantly correlate with students' 21st-century learning skills. A study involving secondary school students found a moderate positive relationship between their educational technology competencies and their overall 21st-century skills, suggesting that integrating technology into learning environments can enhance students' preparedness for future challenges (Ipekyolu et al., 2021). This finding aligns with broader trends indicating that digital literacy is an essential component of modern education, as it equips students with the necessary tools to navigate and succeed in a technology-centric world (Hague & Payton, 2010).



Moreover, integrating project-based learning (PBL) has emerged as an effective pedagogical approach for developing 21st-century skills among teachers and students. A case study demonstrated that teachers who engaged in PBL training reported increased self-efficacy in teaching these skills, highlighting the importance of professional development in preparing educators to meet curricular demands (Mourshed et al., 2012). This underscores the critical role of teacher education programs in fostering an environment conducive to skill development.

Despite these advancements, challenges remain in effectively embedding 21st-century skills into educational systems. Many institutions struggle with limited exposure to these competencies due to a lack of clear guidance on their implementation (Ghafar, 2020). Consequently, educators often feel ill-equipped to teach these essential skills, hindering students' preparedness for the workforce. Addressing this gap requires a concerted effort from educational stakeholders to prioritise skill development and create comprehensive training programs that empower teachers.

Furthermore, as advanced technologies evolve, the demand for specific skill sets such as data literacy, problem-solving, and creative thinking becomes increasingly critical (Lavi et al., 2021). The World Economic Forum has emphasised that graduates equipped with these skills are more likely to be valued by employers in today's competitive job market (World Economic Forum, 2016). Consequently, higher education institutions must actively engage with industry stakeholders to ensure that curricula remain relevant and aligned with workforce needs.

## **Conclusion and Recommendations**

The findings of this study highlight critical gaps in 21st-century skills proficiency among young people in Calabar South and the Municipality of Cross River State, Nigeria. Young people in Calabar South and the Municipality of Cross River State demonstrated the most deficiencies in critical thinking (40% Not Proficient) and creativity (80% below Proficient) skills compared to digital literacy, where 40% reported either Proficient or Very Proficient levels of competency. The statistical analysis showed that critical thinking, together with collaboration, directly contributed to career readiness based on chi-squared values of 25.116 ( $p = 0.003$ ) and 25.949 ( $p = 0.002$ ), respectively. Statistical analysis revealed no significant correlations between career readiness and creativity ( $\chi^2 = 9.259$ ,  $p = 0.414$ ) alongside digital literacy ( $\chi^2 = 13.665$ ,  $p = 0.135$ ), thus indicating these skills might not strictly influence employment outcomes without related experience and industry training aspects.

Educational programs requiring focused efforts should focus on teaching critical thinking and collaboration because they substantially affect career readiness. The study needs further exploration to identify creative and digital literacy deficiencies, which will help discover their root causes and appropriate solutions.

By strengthening educational curricula, promoting experiential learning, and integrating 21st-century skills development programs, young people can be better equipped for the demands of an evolving job market. Without strategic interventions, deficiencies in these skills may continue to hinder employability and economic opportunities for young adults in Nigeria.

Based on the findings of this study, the following recommendations are proposed to enhance the proficiency of young adults in 21st-century skills and improve their career readiness: Educational institutions should integrate 21st-century skills, including critical thinking, creativity, collaboration, and digital literacy, into their curricula through interdisciplinary approaches that connect these skills with core subjects. Teachers and educators should receive professional development focused on innovative teaching strategies that promote the development of these

competencies. Regular assessments of students' proficiency in 21st-century skills should be conducted, accompanied by constructive feedback to help students identify areas for improvement.

Furthermore, educational institutions should partner with local businesses and organizations to provide students real-world experiences that enhance their skills through internships, mentorship programs, and workshops. Specific initiatives to foster creativity and problem-solving skills should be implemented, including workshops and extracurricular activities that encourage innovative thinking. Given the importance of digital skills in today's job market, educational programs should prioritise digital literacy training.

Awareness campaigns to inform young adults about the importance of 21st-century skills for employability and career success are also essential. Finally, further research should be conducted to explore the underlying factors affecting proficiency in creativity and digital readiness among young adults to inform targeted interventions. By implementing these recommendations, educational institutions can better prepare young adults for the challenges of the modern workforce, ultimately enhancing their employability and career success.

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