

## **From Non-Formal Schooling to Real-World Challenges: Alumni Reflections on Preparedness for 21st-Century Skills**

**Saima Jabeen**

PhD Scholar, Department of Education, Hamdard University Karachi.  
Email: [saimayasir13@yahoo.com](mailto:saimayasir13@yahoo.com)

**Zafar Iqbal Lilla**

Assistant Professor, Department of Distance and Non-Formal Education  
Allama Iqbal Open University, Islamabad.  
Email: [zafar.iqbal@aiou.edu.pk](mailto:zafar.iqbal@aiou.edu.pk)

**Salman Khalil**

Lecturer, Department of Early Childhood and Education,  
Allama Iqbal Open University, Islamabad.  
Email: [salman.khalil@aiou.edu.pk](mailto:salman.khalil@aiou.edu.pk)

### **ABSTRACT**

In the rapidly evolving landscape of education, this study investigates the blurring boundaries between formal and non-formal schooling through alumni reflections, aiming to illuminate the efficacy of non-formal education in preparing learners, including street-connected children, for the complexities of the modern world. Drawing upon insights from individuals, it explores the learning of 21st-century skills during non-formal schooling and alumni perceptions of preparedness for real-world challenges, adequacy, and challenges faced in applying acquired skills. A representative sample of 103 alumni from Pehli Kiran schools was selected using stratified random sampling, supplemented by interviews with 10 alumni chosen through purposive sampling. Data analysis, including descriptive and inferential tests (t-test), and thematic analysis, reveals strong self-perceived skills across crucial dimensions, underscoring the importance of non-formal schooling in nurturing competencies such as character, citizenship, collaboration, communication, creativity, and critical thinking among street-connected children. Gender differences were not statistically significant, indicating uniform perceptions of skill development. Insights from non-formal schooling experiences highlight the transformative impact of practical skill acquisition. Despite challenges, respondents expressed satisfaction and fulfillment, emphasizing non-formal education's profound influence on their lives. The research underscores the need for ongoing assessment and adjustment of instructional strategies to foster holistic, future-ready learners in today's rapidly changing world.

**Keywords:** Alumni reflections, non-formal schooling, 21st-century skills, real-world challenges, street-connected children

### **INTRODUCTION**

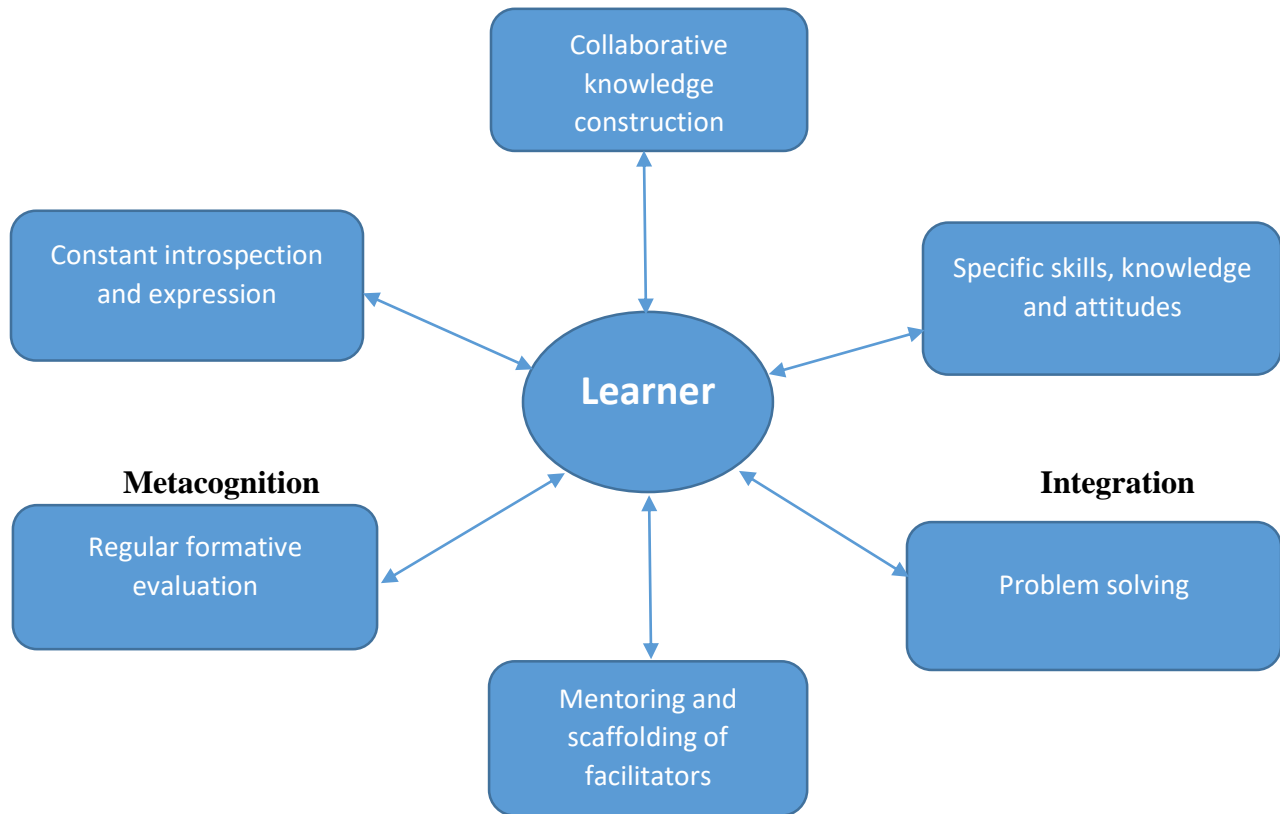
In the rapidly evolving landscape of education, the traditional boundaries between formal and non-formal schooling are blurring as educators seek innovative methods to equip students with essential 21st-century skills such as adaptability, critical thinking, and innovation (OECD, 2019;

Rahmi & Safitri, 2020). The "traditional boundaries" in education refer to the historic separation between formal classroom-based learning and non-formal, experiential education methods. This delineation is evolving as educators blend both approaches to equip students with 21st-century skills (UNESCO, 2015). Non-formal schooling, characterized by flexibility, experiential learning, and real-world application, has emerged as a promising avenue to cultivate these competencies (Kicherova & Trifonova, 2023). This research endeavors to delve into the intersection between non-formal schooling experiences and the challenges encountered in the real world through alumni reflections. Through the reflections of alumni who have traversed the terrain of non-formal education and confronted real-world challenges, this research aims to uncover the nuanced ways in which non-formal schooling experiences contribute to the development of 21st-century skills (Islahi & Nasrin, 2022). By examining the lived experiences, insights, and perceptions of individuals who have transitioned from non-formal education settings to real-world contexts, the researchers seek to glean valuable lessons for educators, policymakers, and stakeholders invested in fostering holistic and future-ready learners.

The 21st century presents a landscape defined by rapid technological advancements, globalization, and interconnectedness, necessitating a paradigm shift in educational paradigms (Stetsenko, 2017). Learning is no longer confined to traditional classrooms; instead, it extends into diverse environments where students engage with authentic problems and collaborate with peers (Douglass, Scott & Anderson, 2018). Non-formal schooling encapsulates this ethos, providing learners with opportunities to develop academic proficiency alongside critical skills essential for success in the 21st-century workforce (Wolf & Schiefer, 2017). As researchers embark on this study, it is imperative to recognize the multifaceted nature of 21st-century skills. Beyond academic prowess, these skills encompass communication, creativity, collaboration, and problem-solving – attributes that are indispensable in navigating the complexities of contemporary society (Sharma, Chawla & Karam, 2021). The Figure 1 further illustrates the interconnectedness of active learning, 21<sup>st</sup>-century skills and their relevance in real-world contexts.

The diagram explains that collaborative knowledge construction, problem-solving, mentoring, formative evaluation, and reflection are interconnected elements that foster active learning, critical thinking, and skill development among learners. These components work together to support the holistic development of 21st-century skills, emphasizing the integration of academic knowledge with practical application and real-world problem-solving. In ensuring the effectiveness of efforts to cultivate 21st-century skills, Rotherham and Willingham (2009) assert that a comprehensive approach is necessary, incorporating three key elements: a better curriculum, improved teaching methods, and enhanced assessment practices. They argue that merely outlining skills and emphasizing content knowledge separately is inadequate; instead, skills development should be integrated with specific content knowledge, recognizing their intertwined nature. Regarding curriculum development, the authors emphasize the importance of not just paying lip service to content knowledge but integrating it meaningfully with skills instruction. They caution that simply urging the teaching of content alongside skills without detailed planning is destined to fail. In terms of teaching methods, the authors highlight the need for effective teacher training to ensure successful implementation. While student-centered approaches like problem-based learning and project-based learning are lauded, they note a gap between teachers' awareness of these methods and their actual use in classrooms. They advocate for engaging experienced teachers in the planning and execution of professional development programs to bridge this divide. Regarding assessments, the authors stress the necessity of investing in evaluations that measure thinking skills effectively. They acknowledge the potential for producing assessments that gauge

skills while being reliable and comparable between students and schools, but they also recognize the challenges in implementing such assessments on a large scale (Rotherham & Willingham, 2009; Silva, 2008).



*Figure 1 Authentic Learning Environment*

Moyer, L. A. (2016). *Engaging students in 21st century skills through non-formal learning* (Doctoral dissertation, Virginia Tech).

In Pakistan, the education system grapples with challenges including limited access, quality issues, and low literacy rates, particularly in slum areas (UNESCO, 2020). Efforts to improve education access and quality persist, with various initiatives and NGOs working towards this goal (The World Bank, 2021). However, significant disparities remain, underscoring the need for continued attention and investment in Pakistan's education sector. The Pehli Kiran Schools in Islamabad illustrate the implementation of non-formal schooling initiatives targeting street-connected children from lower socio-economic backgrounds. A street-connected child, defined as a child aged 1 to 18 who spends the majority of their time living or working in the streets, represents a demographic often overlooked by traditional educational institutions (UNICEF, 2020). Established in 1995 by the Jamshed Akhtar Qureshi Education Trust, these schools operate within portable sheds located in katchi abadis, aiming to provide education, skills, and opportunities to underprivileged children. This approach reflects the principles of non-formal schooling, emphasizing flexibility, experiential learning, and real-world application (UNESCO, 2015). In Islamabad's slum areas, where educational facilities are lacking and illiteracy rates are high, these schools play a crucial role in promoting literacy and equipping children with the skills

necessary for a better future (UN-Habitat, 2010). Despite facing challenges such as limited resources, lack of government attention, and the transient nature of the population, the Pehli Kiran Schools persist in their efforts to provide quality education to out-of-school children (UNICEF, 2020). These challenges underscore the importance of innovative approaches to education that prioritize flexibility, community engagement, and real-world relevance (Douglass, Scott & Anderson, 2018).

Street-connected children in Pakistan face numerous challenges hindering their access to education, healthcare, and socio-economic opportunities. These obstacles, stemming from poverty, geographic isolation, and cultural norms, emphasize the critical need to cultivate specific 21st-century skills for effective empowerment (UNESCO, 2020). Limited access to quality education, exacerbated by socio-economic disparities and inadequate infrastructure, underscores the necessity for skills such as digital literacy, problem-solving, and adaptability (Government of Pakistan, 2017). Additionally, the lack of essential healthcare services and adequate nutrition contributes to poor health outcomes, highlighting the importance of skills like health literacy, advocacy, and collaboration (Khan et al., 2023). Social exclusion and discrimination based on factors such as gender, ethnicity, and disability further compound challenges, emphasizing the significance of empathy, cultural competence, and leadership. Environmental degradation and natural disasters disproportionately affect street-connected children, necessitating skills such as environmental literacy, resilience, and community engagement. Non-formal schooling programs focusing on these 21st-century skills can empower street-connected children to overcome barriers, seize opportunities, and achieve holistic development (Islahi & Nasrin, 2022).

In the modern era, the concept of "21<sup>st</sup>-century skills" encompasses essential knowledge, abilities, and traits crucial for success and deep learning, extending beyond traditional academic content and technological literacy (Queensland Curriculum and Assessment Authority, 2018). Mirjam (2019) identifies six key 21st-century skills, referred to as the 6Cs, including character, citizenship, collaboration, communication, creativity, and critical thinking. Street-connected children in Pakistan confront a multitude of real-world challenges that impede their holistic development and access to opportunities, as emphasized in the recent report 'Pakistan@100: Shaping the Future' by the World Bank (2019). In this context, the cultivation of 21st-century skills is crucial for empowering street-connected children and adequately confronting these challenges. Character, citizenship, collaboration, communication, creativity, and critical thinking are foundational skills that can profoundly impact the lives of street-connected children and enhance their resilience and prospects for success. One significant challenge faced by street-connected children is the limited access to quality education due to socio-economic disparities, cultural barriers, and inadequate infrastructure (UNESCO, 2020).

Developing character traits such as perseverance, resilience, and empathy is crucial for street-connected children to overcome obstacles and persist in their educational journey. These character traits enable them to navigate adversity, build positive relationships with peers and educators, and maintain motivation despite challenges. Furthermore, citizenship education is essential for street-connected children to understand their rights, responsibilities, and roles as active members of society. By fostering a sense of belonging and civic engagement, citizenship education empowers street-connected children to advocate for their rights, participate in community development initiatives, and contribute positively to society (Anderson, 2023). Collaboration skills are vital for street-connected children to work effectively with others, leverage collective strengths, and address complex challenges collaboratively. Through collaborative projects and group activities, street-connected children learn to respect diverse perspectives,

negotiate differences, and achieve common goals (Johnson & Johnson, 2014). Effective communication skills are essential for street-connected children to express themselves confidently, articulate their ideas, and advocate for their needs. Communication skills enable them to engage with peers, educators, and community members, fostering meaningful connections and opportunities for collaboration and support (García & Ortiz, 2013). Creativity plays a crucial role in empowering street-connected children to think outside the box, explore innovative solutions to problems, and express themselves authentically. By nurturing creativity through arts, storytelling, and project-based learning, street-connected children unleash their potential, develop a sense of agency, and discover new possibilities for personal and collective growth (Robinson & Lee, 2011). Lastly, critical thinking skills are essential for street-connected children to analyze information critically, question assumptions, and make informed decisions. By developing critical thinking skills, street-connected children become discerning learners, capable of evaluating evidence, identifying biases, and advocating for social justice and equity (Willingham, 2007).

In addressing these multifaceted challenges, equipping individuals with 21st-century skills such as critical thinking, communication, collaboration, creativity, and adaptability becomes paramount. By harnessing these skills, individuals are empowered to contribute effectively to tackling complex real-world issues. Reflecting on their non-formal schooling experiences, alumni offer valuable insights into the efficacy of educational interventions in fostering these essential skills and preparing individuals to confront and overcome challenges in Pakistan's context. This study aims to investigate the extent to which non-formal education in Pakistan equips students with 21st-century skills, such as critical thinking, creativity, collaboration, and communication. By examining the reflections of alumni, we seek to understand the real-world applicability of the skills acquired and the effectiveness of non-formal education in addressing the unique challenges faced by learners in Pakistan. The research problem, therefore, revolves around assessing the preparedness of individuals who have undergone non-formal schooling and how well these educational interventions translate into practical, real-world competencies essential for thriving in the 21st century.

The objectives of the study were to:

- i. Determine the extent to which alumni consider their non-formal learning experiences equipped them with these 21st-century skills.
- ii. Explore the perceptions of alumni regarding the adequacy of their non-formal schooling in preparing them for real-world challenges, particularly in relation to 21st-century skills.
- iii. Investigate challenges faced by alumni in applying 21st-century skills to navigate real-world challenges.

The study addressed following research questions:

1. What is the perceived level of development of 21st-century skills (Character, critical thinking, collaboration, communication, creativity, and citizenship among alumni who have undergone non-formal schooling at Pehli Kiran?
2. How do alumni from different genders perceive the development of 21st-century skills like character, citizenship, critical thinking, collaboration, communication, and creativity during their non-formal schooling experiences? Are there noticeable differences in their perspectives and experiences based on gender?

3. What are the perceptions of alumni regarding the effectiveness of non-formal schooling in equipping them with the necessary skills to navigate real-world challenges, including those specific to the 21st century?
4. How do alumni perceive the long-term impact of their non-formal schooling experiences on their career paths and personal development, specifically in terms of the acquisition and application of 21st-century skills?
5. What are the primary obstacles or difficulties encountered by alumni when attempting to apply the skills they acquired through non-formal schooling to address real-world challenges?
6. How do alumni perceive the effectiveness of the support structures or resources provided during their non-formal schooling in helping them overcome challenges in applying acquired skills to real-world situations?

## **RESEARCH METHODOLOGY**

The study adopts an interpretivist paradigm, prioritizing the understanding of individuals' interpretations and meanings within their social contexts. Through this lens, the research aims to explore how alumni perceive and interpret their non-formal schooling experiences, examining how these experiences shape their beliefs, attitudes, and skills. Emphasizing the diverse array of interpretations and perspectives among alumni, the research delves into the intricate fabric of individual experiences, considering factors such as personal backgrounds, cultural influences, and social interactions. By embracing an interpretivist approach, the study seeks to illuminate the subjective nature of knowledge construction in the context of non-formal schooling, offering valuable insights into the role of education in shaping perceptions and beliefs about 21st-century challenges.

### **Research Design**

The study employed a parallel mixed-methods research design to comprehensively investigate alumni reflections on their non-formal schooling experiences and their perceived readiness to tackle 21st-century challenges. This approach involved integrating both quantitative and qualitative methods to gather a comprehensive understanding of the phenomena under investigation. In the quantitative phase, numerical data was collected through questionnaire administered to a sample of alumni. This phase facilitated the systematic quantification of responses, enabling statistical analysis to identify patterns and associations between variables (Rosenberg et al., 2020). Concurrently, in the qualitative phase, in-depth insights were obtained through interviews capturing detailed narratives and perspectives. Qualitative methods allowed for the exploration of nuanced experiences, and challenges faced by alumni in real-world scenarios (Creswell & Creswell, 2017). The mixed-methods approach was chosen to get data from multiple sources, enhancing the validity and reliability of the study findings (Schoch et al., 2020). By integrating sequential explanatory design, the study aimed to provide a comprehensive understanding of how non-formal schooling experiences influence alumni perceptions of their preparedness to face 21st-century challenges.

### **Population and Sample**

Alumni of Pehli Kiran schools constituted the research population. A representative sample of alumni was selected using a stratified random sampling technique (Babbie, 2016), with nine branches of the schools considered as distinct strata, resulting in 5 branches having 11 respondents



each and 4 branches having 12 respondents each, making a total sample size of 103 alumni, ensuring representation from all branches. Inclusion criteria for both the main sample and the interview sample were established based on factor i.e. the duration of attendance at the school, with a minimum requirement of three years. This criterion aimed to include alumni who had substantial exposure to the non-formal schooling experiences offered by Pehli Kiran schools. Strata were defined based on gender to ensure representation from both female and male alumni. The main sample consisted of 103 alumni, with 49 females and 54 males. Additionally, for the interview component, a purposive sampling technique was employed to select 10 alumni (5 males and 5 females) who met the inclusion criteria. These individuals were chosen to provide diverse perspectives and experiences, enriching the qualitative component of the study.

### **Research Instruments**

A questionnaire was developed through extensive literature review and reading variety of theoretical frameworks pertaining to 21st-century skills and non-formal education (Babbie & Benaquisto, 2015). The questionnaire comprised thirty closed-ended statements of behavior, each representing six components of 21st-century skills based on a 5-point Likert scale: 5 (Always), 4 (Often), 3 (Sometimes), 2 (Rarely), and 1 (Never). This approach allowed for quantitative analysis of responses (Dillman et al., 2014). The survey instrument underwent rigorous validation procedures to ensure its reliability and validity. Initially, five experts in the field reviewed the instrument to assess its content validity. Subsequently, pilot testing was conducted with 25 participants to evaluate clarity, validity, and reliability before full-scale implementation. Adjustments were made based on feedback received during this phase, aiming to enhance the survey's reliability and validity. Additionally, the Cronbach's alpha value was calculated to assess internal consistency reliability, resulting in a high value of 0.916, which indicated strong reliability. Moreover, the Scale-Content Validity Index (S-CVI) value of 0.96 indicated strong content validity, reinforcing the robustness of the instrument's design and implementation. In addition to the survey, semi-structured interviews were conducted to gather in-depth insights from participants. The interview guide was developed based on the literature review and aimed to explore participants' perceptions, experiences, and challenges related to non-formal schooling and 21st-century skills.

### **Data Collection**

Data was collected by researcher through a questionnaire and semi-structured interviews administered to the selected alumni participants. Ethical guidelines were followed throughout the research process to protect participants' rights and confidentiality. Informed consent was obtained from all participants, and measures were taken to anonymize their responses in reporting findings. Participants were assured of their voluntary participation and the confidentiality of their data, and any potential risks to participants were identified and addressed. The interviews were audio-recorded by taking permission from interviewees and transcribed verbatim for further analysis.

### **Data Analysis**

The researchers employed quantitative data analysis techniques, utilizing both descriptive and inferential statistics, to analyze the quantitative data (Field, 2013). Descriptive statistics were utilized to offer a snapshot of the primary characteristics of the dataset, encompassing measures such as the maximum, minimum, mean and standard deviation, which provide insights into the central tendency and variability of survey responses. In addition to descriptive statistics, inferential statistics (t-test) were applied to investigate mean differences across gender groups within the

dataset. Furthermore, thematic analysis was conducted for the semi-structured interviews. Thematic analysis involved systematically coding and categorizing qualitative data to identify recurring themes and patterns within the interview transcripts. By identifying common themes across interviews, the researchers were able to enrich their understanding of the qualitative data and complement the quantitative findings obtained from the survey analysis.

## FINDINGS

The research findings offer valuable insights into individuals' perceptions of their competencies across various 21st-century skills, illuminating their development and behaviors. The results are presented in the table below:

Table 1  
*Perceptions of Alumni of Pehli Kiran Schools Regarding Their Preparedness for 21<sup>st</sup>-Century Skills*

Skills	Items	Max	Min	Mean	SD
Character	I have the courage to express or do what is true/right	5	2	3.44	0.68
	I help others solve the problems and manage conflict	5	2	3.27	0.58
	I have the courage to be honest	5	2	3.51	0.59
	I seek to anticipate the needs of others	5	2	3.21	0.68
	I show patience and tolerance	5	2	3.2	0.75
	I know my rights and responsibilities	5	2	3.57	0.64
Citizenship	I respect social and cultural differences	5	3	3.55	0.5
	As a citizen, I abide by the law	5	2	3.45	0.57
	I believe in equal rights of human beings	5	2	3.31	0.7
	I offer my services for the country	5	2	3.56	0.61
Collaboration	I involve my team members at my work	5	2	3.48	0.56
	I interact effectively with my team members	5	2	3.48	0.54
	I work effectively in diverse groups	5	2	3.47	0.65
	I enjoy being part of the group	5	1	3.47	0.65



	I take suggestions and critiques from others and implement them into work	5	2	3.35	0.64
	I convey my message to the audience clearly	4	2	3.47	0.62
	I understand and interpret spoken language	3	2	3.34	0.6
Communication	I share the information in useful and meaningful manner orally	4	2	3.5	0.56
	I express my ideas clearly in written text	4	2	3.43	0.59
	I communicate confidently	5	2	3.56	0.52
	I use common typical ideas in new ways	5	2	3.33	0.65
	I am able to see the things from different perspectives	5	2	3.45	0.57
Creativity	I use knowledge and understanding to create something different/new	5	2	3.4	0.6
	I try to bring originality in my work	5	3	3.39	0.7
	I put together known elements in unique ways	5	2	3.3	0.65
	I reason and evaluate facts and evidence	5	2	3.53	0.56
	I am capable of solving problems	5	2	3.48	0.57
Critical Thinking	I am able to draw inferences and conclusions	5	2	3.47	0.61
	I have curiosity to know the things	5	2	3.42	0.57
	I justify choice by giving valid reasons supported by evidence	5	2	3.43	0.6

Table 1 reveals a comprehensive picture of individuals' self-perceived competencies across various 21st-century skills, such as character, citizenship, collaboration, communication, creativity, and critical thinking. Within the domain of character, participants reported a moderate to high level of agreement with statements reflecting qualities like honesty, empathy, and patience. Notably, items related to having the courage to express what is true or right (max=5, min=2, mean=3.44, SD=0.68), the courage to be honest (max=5, min=2, mean=3.51, SD=0.59), seeking to anticipate the needs of others (max=5, min=2, mean=3.21, SD=0.68), and showing patience and

tolerance (max=5, min=2, mean=3.20, SD=0.75) garnered particularly high scores, indicating a strong self-perception in these areas. Moving to citizenship, participants demonstrated a strong awareness of their rights and responsibilities, with mean scores of 3.57 (SD=0.64) for knowing rights and responsibilities and 3.55 (SD=0.50) for respecting social and cultural differences. Additionally, items relating to abiding by the law (max=5, min=2, mean=3.45, SD=0.57) and offering services for the country (max=5, min=2, mean=3.56, SD=0.61) were met with moderate to high levels of agreement, further underscoring a sense of civic duty and responsibility among respondents.

In terms of collaboration, participants exhibited positive attitudes toward teamwork and group dynamics, with mean scores ranging from 3.47 to 3.48 across various items (max=5, min=2, SD=0.54-0.65). This suggests an inclination towards effective communication and cooperation within diverse teams, coupled with a willingness to engage with feedback and suggestions from peers. Communication skills were also perceived favorably, with participants expressing confidence in conveying messages clearly (max=4, min=2, mean=3.47, SD=0.62) and sharing information effectively orally (max=4, min=2, mean=3.50, SD=0.56). However, items related to understanding and interpreting spoken language received slightly lower mean scores (max=3, min=2, mean=3.34, SD=0.60), indicating a relatively moderate level of proficiency in this aspect.

Regarding creativity, participants demonstrated a moderate level of innovation and originality, with mean scores ranging from 3.30 to 3.45 across relevant items (max=5, min=2, SD=0.57-0.70). While respondents reported utilizing knowledge and understanding to create something different, efforts towards bringing originality to work were perceived as slightly less pronounced. Finally, critical thinking skills were viewed positively, with mean scores ranging from 3.42 to 3.53 across relevant items (max=5, min=2, SD=0.56-0.61). Participants expressed confidence in reasoning, problem-solving, and drawing inferences, suggesting a solid foundation in critical thinking abilities. Overall, the findings highlight a generally positive self-assessment of 21st-century skills among participants, emphasizing strengths in character, citizenship, collaboration, communication, creativity, and critical thinking domains. These findings underscore the importance of ongoing self-awareness and skill development in navigating the demands of the contemporary landscape.

Table 2  
*Comparative Analysis of Perceptions of Alumni Regarding Their Preparedness for 21<sup>st</sup>-Century Skills Between Male And Female*

Variables	Male		Female		t (101)	p	Cohen's d
	M	SD	M	SD			
Character	21.02	1.536	21.53	1.082	-1.9	.34	0.383881
Citizenship	21.59	1.174	21.57	1.339	0.85	.310	0.015883
Collaboration	21.50	1.285	21.27	1.366	.898	.584	0.173438
Communication	19.96	2.781	19.20	3.208	1.286	.236	0.253156
Creativity	21.44	1.160	21.18	1.333	1.06	.788	0.208084

Critical Thinking	21.46	.966	21.57	1.258	-.493	.147	0.098079
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Table 2 shows that male participants ( $M = 21.02$ ,  $SD = 1.536$ ) reported slightly higher perceptions of character development compared to female participants ( $M = 21.53$ ,  $SD = 1.082$ ). However, this difference was not statistically significant ( $t(101) = -1.9$ ,  $p = .34$ , Cohen's  $d = 0.383881$ ). Similarly, there was no significant difference in citizenship between males ( $M = 21.59$ ,  $SD = 1.174$ ) and females ( $M = 21.57$ ,  $SD = 1.339$ ), with a p-value of  $.310$ ,  $t(101) = 0.85$ , and a small effect size of Cohen's  $d = 0.015883$ . Additionally, no significant difference was found in collaboration between males ( $M = 21.50$ ,  $SD = 1.285$ ) and females ( $M = 21.27$ ,  $SD = 1.366$ ), as indicated by a p-value of  $.584$ ,  $t(101) = 0.898$ , and Cohen's  $d = 0.17343$ . Furthermore, the data showed no significant difference in communication ( $p = .236$ ,  $t(101) = 1.286$ , Cohen's  $d = 0.253156$ ), creativity ( $p = .788$ ,  $t(101) = 1.06$ , Cohen's  $d = 0.208084$ ), or critical thinking (p-value not reported,  $t(101) = -0.493$ , Cohen's  $d = 0.098079$ ) between males and females. These findings collectively suggest that there were no statistically significant differences in perceptions of character development, citizenship, collaboration, communication, creativity, and critical thinking between males and females. Although slight variations in mean scores were observed, they did not reach a level of significance to establish gender-based differences. Thus, the data indicate that both males and females perceive themselves similarly across these dimensions of skill development and behavior.

Table 3

*Perceptions of Alumni Regarding the Effectiveness and long term impact of Their Non-Formal Schooling in Preparing Them for Real-World Challenges*

Themes	Sub Themes	Theme Description	Number of respondents N (%)
Approaches to skill enhancement	Practical skill acquisition	Real-world relevance	8 (80)
	Problem-solving in daily life	Development of tangible, hands-on abilities such as problem-solving	7 (70)
Skills most effectively cultivated	Critical thinking and problem-solving	The ability to analyze situations and evaluate information	8 (80)
	Communication skills	The capacity to convey ideas, information, and opinions clearly and effectively through various channels	4 (40)

	Collaboration and teamwork	The ability to work effectively with others towards a common goal	8 (80)
	Character development	The cultivation of personal values, integrity, and ethical behavior,	9 (90)
	Creativity and innovation	The ability to think creatively and generate original ideas	5 (50)
	Citizenship and social responsibility	Involves active participation in community activities	7 (70)
	Leadership and initiative	The ability to take charge, inspire others, and drive positive change	7 (70)
	Career advancement	Contributing to career progression and professional development	8 (80)
Influence on career trajectory and personal growth	Skill acquisition	Acquisition and application of 21st-century skills	9 (90)
	Confidence building	Boost in self-confidence leading to enhanced performance and opportunities	6 (60)
	Self-discovery and exploration	Opportunities for self-discovery and exploration, shaping career paths and personal development journeys	7 (70)
	Problem-solving in career	Utilizing problem-solving skills acquired in professional endeavors	7 (70)
Long-term benefits of non-formal schooling skills	Public speaking skills	Effective communication skills learned in non-formal schooling contributing to career success	5 (50)
	Leadership development	Leadership qualities nurtured during non-formal schooling facilitating career growth and personal achievements	6 (60)

The table presents a comprehensive overview of the perceptions of alumni regarding the effectiveness and long-term impact of their non-formal schooling in preparing them for real-world challenges. In terms of skill enhancement approaches, practical skill acquisition emerges as highly significant, with 80% of respondents highlighting its real-world relevance. Additionally, problem-solving in daily life is noted by 70% of respondents, indicating the development of tangible problem-solving abilities. The skills most effectively cultivated during non-formal schooling include critical thinking and problem-solving, collaboration and teamwork, and character development, with 80%, 80%, and 90% of respondents mentioning them, respectively. These findings underscore the importance of fostering essential skills beyond traditional academic settings. Regarding the influence on career trajectory and personal growth, skill acquisition stands out, mentioned by 90% of respondents, followed by career advancement at 80%. This suggests that non-formal schooling experiences significantly contribute to alumni's professional development. Long-term benefits of non-formal schooling skills are evident in areas such as problem-solving in career and leadership development, with 70% and 60% of respondents mentioning them, respectively. These findings highlight the enduring impact of non-formal education on alumni's career success and personal growth. In summary, the table illustrates the multifaceted nature of non-formal schooling experiences and their profound influence on alumni's skills, career paths, and personal development journeys.

Table 4

*Perceptions of Alumni Regarding the obstacles or difficulties encountered the effectiveness of the support structures or resources provided*

Themes	Sub Themes	Theme Description	Number of respondents N (%)
Addressing 21st century challenges	Embracing change	The willingness to embrace and navigate uncertainty and change in various aspects of life and work	6 (60)
	Global awareness	Understanding of diverse cultures, perspectives, and global issues	7 (70)
	Technological literacy	Ability to effectively use digital tools and platforms	9 (90)
Challenges in applying non-formal schooling skills to real-	Limited resources	Resource constraints, such as access to technology or educational materials	8 (80)
	Resistance to change	Unwillingness to change hindered the application of non-formal schooling skills in real-world contexts	5 (50)

world situations	Lack of relevance	Difficulties due to the perceived lack of relevance of skills acquired	7 (70)
	Improved access to resources	Providing better access to resources, such as technology, training programs, and educational materials	8 (80)
Overcoming obstacles in applying acquired skills	Promoting change management	Implementing change management strategies to address resistance and foster a culture	3 (30)
	Enhanced relevance	Increasing the relevance of non-formal schooling skills to real-world scenarios through curriculum adaptation and field exposure	7 (70)
Effectiveness of support structures and resources	Adequacy of guidance	Quality of guidance and support received	6 (60)
	Availability of resources	Accessibility of resources, such as mentors, counselors, and learning materials	6 (60)
	Tailored guidance	Suggestions for personalized guidance and support tailored to individual needs	7 (70)
Enhancing support systems for skill application	Expanded resource availability	Increasing the availability and diversity of resources including mentorship programs, career counseling, and access to relevant tools and technologies.	8 (80)
	Continuous learning opportunities	Providing ongoing learning opportunities, workshops, and skill development programs	7 (70)
Satisfaction with non-formal education	Sense of achievement	Feelings of fulfillment and pride resulting from personal achievements.	7 (70)
	Personal fulfillment in learning journey	A deep sense of satisfaction and contentment derived from educational journey and personal growth.	8 (80)

Table 4 illustrates the perceptions of alumni regarding the obstacles encountered and the effectiveness of support structures or resources provided during their non-formal education. Addressing 21st-century challenges such as embracing change (60%), global awareness (70%), and technological literacy (90%) were identified as crucial areas where respondents encountered obstacles. Challenges in applying non-formal schooling skills included limited resources (80%), resistance to change (50%), and lack of relevance (70%), indicating significant barriers to skill



application in real-world scenarios. To overcome these challenges, respondents highlighted the importance of improving resource access (80%), promoting change management (30%), and enhancing the relevance of acquired skills (70%) through curriculum adaptation and field exposure. The effectiveness of support structures and resources, including guidance adequacy (60%) and resource availability (60%), played pivotal roles in facilitating skill application and personal development despite encountered obstacles. Enhancing support systems involved tailored guidance (70%), expanded resource availability (80%), and continuous learning opportunities (70%) to meet individual needs and foster ongoing skill development, reflecting respondents' recognition of the value of these resources in overcoming challenges. Overall, respondents expressed a sense of achievement (70%) and personal fulfillment (80%) in their non-formal education journey, indicating the positive impact of support structures and resources despite encountered obstacles.

## **DISCUSSION**

The findings of the present study provide valuable insights into the self-perceived competencies of individuals across various 21st-century skills, offering a nuanced understanding of the role of non-formal education in skill development. When compared to previous research, several similarities and contrasts emerge, enriching our understanding of the broader landscape of skill acquisition and character development. Firstly, the study resonates with previous research by Krishna (2010), which emphasized the integration of 21st-century skills into formal education systems. Similarly, the present study extends this discourse by highlighting how non-formal schooling experiences contribute to the acquisition and practical application of these skills among individuals facing real-world challenges. This expansion of the discourse underscores the importance of diverse educational pathways in fostering holistic skill development.

Furthermore, the findings align with the work of Sullivan (2021), who explored the long-term impact of specific non-formal education programs on students' confidence and skill development. While Sullivan's focus was on particular programs, the present study offers broader insights into various non-formal education experiences and their influence on alumni perceptions and skills acquisition. This comparison underscores the significance of non-formal education in preparing individuals for the complexities of the contemporary world. Additionally, the study aligns with the perspective of Hung, Lee, & Lim (2012), advocating for bridging formal and informal learning environments to enhance education. Similarly, the present research emphasizes the synergies between formal and non-formal education, highlighting the role of non-formal schooling experiences in shaping individuals' perceptions and utilization of 21st-century skills in practical contexts beyond the classroom.

In contrast, while Tindowen, Bassig & Cagurangan (2017) investigated the acquisition of 21st-century skills among a specific demographic in the Philippines, the present study examines a broader range of non-formal education alumni. By providing insights into how various non-formal educational pathways contribute to individuals' readiness for the modern workforce, the present research complements and extends the findings of Tindowen et al., offering a more comprehensive understanding of skill development across diverse contexts. Overall, the synthesis of findings from previous research and the present study underscores the importance of character development, citizenship, collaboration, communication, creativity, and critical thinking in preparing individuals for the complexities of the contemporary world. Moreover, the insights gained have practical implications for educational settings and policy decisions, emphasizing the need to recognize and

leverage the potential of non-formal schooling experiences in promoting holistic skill development.

## **CONCLUSIONS**

The analysis of individuals' self-perceived competencies across various 21st-century skills highlights a positive outlook on skill development and behavior. Participants, including alumni from diverse backgrounds such as street-connected children, demonstrated a solid foundation in character, citizenship, collaboration, communication, creativity, and critical thinking, showcasing positive attitudes and self-awareness in these essential domains. Importantly, gender differences were not statistically significant, indicating that individuals perceive themselves similarly across skill development regardless of their background. Insights from non-formal schooling experiences underscore the transformative impact of practical skill acquisition, critical thinking, collaboration, and character development on individuals' personal and professional growth, including those who have experienced street-connectedness. Alumni emphasized the long-term influence of non-formal schooling experiences on their career paths and personal development. Effective support structures were deemed essential in overcoming obstacles. Despite challenges, respondents expressed a strong sense of satisfaction and fulfillment from their educational journey, emphasizing the profound influence of non-formal education on their lives. In conclusion, ongoing self-awareness, skill development, and experiential learning play crucial roles in cultivating 21st-century skills for all learners, regardless of their circumstances. By addressing challenges and leveraging the opportunities provided by non-formal schooling experiences, individuals, including street-connected children, can continue to enhance their skills, pursue meaningful careers, and lead fulfilling lives in today's dynamic world.

## **IMPLICATIONS AND RECOMMENDATIONS**

Understanding the efficacy of non-formal schooling in preparing individuals for 21st-century challenges is crucial for educational policymakers, practitioners, and stakeholders. This study's findings have the potential to inform the development of more responsive and effective educational programs that better equip learners with the skills needed to thrive in today's rapidly changing world. Additionally, insights from alumni reflections offer perspectives for enhancing the design and implementation of non-formal educational initiatives. Organizations can enhance the impact of their non-formal education programs and better support the holistic development of learners, particularly those from marginalized backgrounds such as street-connected children.

Following are some of the recommendations to non-formal educational organizations:

1. There is a need to review teaching methods to match with the industry demands and societal challenges on a regular basis.
2. Incorporate hands-on projects, internships, and community work for practical skill application to give exposure of real life situations.
3. Organize alumni gatherings, workshops, and online networks to promote knowledge sharing and career advancement.
4. Provide training in digital literacy and data analysis to enhance alumni's adaptability and competence in the digital age.

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