



Received: 02-05-2022

Accepted: 12-06-2022

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

The 21st century skills of selected ALS learners in Quezon City vis-à-vis sense of self-efficacy: A correlational predictive study

¹Bryan Louis G Lazaro, ²Emejidio C Gepila Jr, ³Analiza Jalandoni Gabayeron, ⁴Marieta Dizon, ⁵Meshiell Pablo, ⁶Jenilyn Rose B Corpuz

^{1, 5, 6}New Era University & Department of Education, Noveleta Senior High School, Philippines

²New Era University & Polytechnic University of the Philippines-Manila, Philippines

³New Era University & Palawan State University, Narra Campus, Palawan, Philippines

⁴New Era University & Diliman Preparatory School, Metro Manila, Philippines

Corresponding Author: **Bryan Louis G Lazaro**

Abstract

This study investigated (1) the Alternative Learning System (ALS) learners' self-efficacy; (2) their use of 21st-century skills such as critical thinking, collaboration, communication, creativity and innovation, self-direction, global and local connections, and technology; and (3) the association or connection of 21st-century skills to ALS learners' self-efficacy. It utilized the correlational-predictive quantitative design. The study respondents were three hundred eighty-five (385) learners purposively sampled from Alternative Learning System learners in Quezon City. In collecting information, researchers adopted a survey tool,

21st-century learners' skills, from Shear *et al.* (2010) and translated it into Filipino. To measure the performance of the students themselves, the researchers adopted the Self-Efficacy Formative Questionnaire Gaumer *et al.* (2018). Based on the findings, ALS learners have a high sense of self-efficacy. At the same time, they also possess a high degree of 21st-century skills using technology as their top skill. Using Spearman Rho, the students' 21st-century skills and sense of self-efficacy directly correlate. The first variable affects the latter by fifty-seven percent.

Keywords: Alternative Learning System, Non-Formal Education, Self-Efficacy, 21st Century Skills

Introduction

In a developing country like the Philippines, every parent's goal is to send their children to school and be educated. Parents believe that poverty is not a hindrance to success for their children in achieving their ambitions in life. Teachers, too, believe that they were given the task to facilitate learning for the students to attain self-development, have a promising career in the future and be responsible citizens of the country. The government also assures education for all, particularly out-of-school kids and school dropouts who are eager to return to school through the Alternative Learning System, through the Department of Education (ALS). Out-of-School Youth and Adult (OSYA) learners can obtain basic and functional literacy skills as well as equivalent pathways to complete primary education through the Alternative Learning System (ALS) (DepEd Order 13 s.2019.) To ensure that all Filipinos have access to free primary education, the government created the Alternative Learning System (ALS), which allows students to access and complete primary education in a way that best suits their needs and circumstances.

According to the UP School of Economics Student Council (2020) ^[16], ALS enrollment was 384,027 (as of September 21, 2020) for 2020-2021 due to the COVID-19 pandemic. The most pressing difficulty in implementing ALS, according to Chavez *et al.*, (2021) ^[5], is internet connectivity and the availability of gadgets for online learning during the pandemic. Despite the COVID pandemic, every Filipino should have access to a high-quality, egalitarian, and affordable education (Chavez, *et al.*, 2021) ^[5]. Out-of-school kids and those who cannot cope with traditional education can benefit from ALS, according to Atilano *et al.*, 2016. Order 67 of the DepEd 2020 (Guidelines on the Implementation of ALS Programs in Light of the Basic Education Continuity Plan) mandates that the ALS program, including the curriculum, be updated.

Furthermore, research investigations have demonstrated that the COVID pandemic has an impact on the teaching and learning process, as well as the development of 21st-century knowledge and skills. One of the focuses of today's educational difficulties, according to Tindowen *et al.* (2017) ^[15], is encouraging 21st-century abilities among students. According to their findings, ALS students have a low acquisition level of 21st-century abilities. To compete in today's rich global economy, 21st-century abilities are required to handle complex problems, collaborate, and communicate effectively with others, gain

new skills and information independently, and adapt to rapidly changing conditions, according to Gewertz (2008)^[9]. Chalkiadaki (2018)^[4] emphasized the importance of establishing and valuing 21st-century skills and competencies in primary education. Tindowen *et al.* (2017)^[15] pointed out that, given the importance of 21st Century Skills, educational institutions all over the world should be able to promote 21st-century skills to their students through formal education. According to some sources, ALS is a technique for out-of-school youth OSY and individuals to learn basic skills, as well as 21st Century Skills that will allow them to cope with and swiftly respond to changes in their environment (Caoli, 2007; Kim & Taylor, 2008; Le Clus, 2011, in Tindowen, *et al.* 2017)^[15].

The status of 21st Century skill acquisition, as well as the metrics of how ALS learners judge and evaluate such skills, were also investigated through research investigations. The study conducted by Zulieta *et al.* (2021) on the measures of 21st-century skills and ALS learners' sense of efficacy found moderate acquisition of 21st-century abilities, as well as a high sense of effectiveness. The development of 21st Century Skills by ALS students was found to be substantially connected with their self-efficacy in the same research study. In addition, Zulieta *et al.* research (2021) suggested that the study be expanded to get a more comprehensive view of ALS learners' skills and sense of self-efficacy.

The study conducted by Colardyn & Bjornavold (2004) states that, in reality, educational institutions worldwide must be encouraging their pupils to learn 21st-century skills through formal schooling. However, it is also a fact that a huge percentage of the world's population is made up of out-of-school youth, dropouts, and those who do not attend formal schooling. As a result, non-schooled learners struggle to comprehend and develop 21st-century abilities that enable them to succeed in a globalized environment. Alternative learning is being presented and implemented in countries around the world to assist and support individuals in obtaining education through nonformal and formal education, particularly in the Philippines, a developing country, to meet the challenges posed by a rapidly changing world and knowledge economy. As a result, they are better able to communicate and create learning techniques.

Tindowen (2017)^[15] examined the 21st -century skill acquisition of alternative learning system (ALS) learners in the Northern Philippines. The findings revealed that ALS students are not yet prepared to tackle the globalized world because they lack the necessary 21st-century abilities. The only talent that ALS students have is the ability to connect locally. One of the study's advantages is that it stresses and demonstrates how ALS students perform in terms of developing 21st-century abilities, which will serve as a foundation for policy and intervention development to help ALS students cope with globalization concerns. Furthermore, the study reveals that the acquiring of 21st-century skills by ALS in the Northern Philippines is influenced by sex, age, and employment position.

In a study titled "The Philippine Alternative Learning System: Expanding the Educational Future of the Deprived, Depressed, and Underserved," Azardon *et al.* (2015)^[3] found that one common complaint is the fact that ALS teachers teach a broad set of pupils ranging from young children (as young as ten years old) to the elderly is a common theme among them. The vast majority are school

dropouts who were forced to leave for a variety of reasons, such as early pregnancy, the need to work to support themselves and their family or care for a younger sister or being booted from school for disruptive behavior. Indigenous peoples, victims of abuse, children, and youth in high-conflict regions, especially those who have been displaced by typhoons or earthquakes, and children and youth in high-conflict areas ALS classes are mandated by law for domestic workers and juvenile employees.

According to ALS teachers, adult illiterates, who have never attended school or have had to leave school early in their lives, are the most difficult to educate. Itinerant street children are the toughest among the younger population, termed "additional difficulty." Individuals of an indigenous group from the south known as "Bajaus" are included in this category (or "Badjaos").

According to one ALS supervisor, in his region, the middle-aged ladies who dropped out of school early to marry young are an unusual group of students. They can return to school even if they are in their 40s and have raised children. Men and women in penal institutions are another fascinating set of students. Because they are confined, they have more time to study and score better on equivalency exams. In certain jurisdictions, jail wardens are educated to teach ALS. According to accounts, ALS is used to help communist rebels and women who have given up prostitution reintegrate into society.

In concluding thoughts of the research study of Azardon *et al.* (2015)^[3], there is still a perception that ALS education is of poor quality. However, it cannot be denied that NFE programs such as the ALS have provided alternatives in making education more flexible, participative, transformative, and sensitive to the needs of its students throughout time.

The Alternative Learning System (ALS) is classified as a Community-Based Learning Service that strives to build students' intellectual capacity while motivating them to develop a sense of social responsibility by allowing them to serve the community. This puts ALS teachers under pressure to do their best to create a meaningful learning experience for such a diverse set of students. Furthermore, the literature suggests that ALS provides an opportunity for Out-of-School-Youth (OSY) individuals to learn fundamental life skills and 21st-century abilities to help them manage and adapt to changes in their environment. As a result, ALS students are already equipped with at least the 21st-century skills needed for their professional and personal development. (a study by Paller 2021) on ALS learners in the 21st - century. In addition, recent research trends have emphasized the importance of analyzing the performance of nonformal education initiatives such as the Philippines' ALS Program. The practical evaluation of such programs is crucial in revealing their outcomes, particularly in determining whether the programs' objectives are genuinely realized. As a result, one of the most effective ways to measure the efficacy of such programs and ensure that they encourage and help learners in becoming internationally competitive through the acquisition of 21st-century skills is to track student outcomes.

Objectives of the study

There have been research works and reports about the Philippine ALS's impressive or otherwise landscape – teachers, learners, and communities. However, a less

explored connection between self-efficacy and 21st-century skills of ALS learners must be established. In several countries, most especially in Latin America and Europe, inquiries on the same subject have been a constant work in the education sector that ends to a better implementation of the education system at the same time addressing the situation with a more proactive approach (Zemataityte, 2017 & La Belle, 2010^[12]).

Thus, this work investigated (1) the personal abilities and ability to thrive off the ALS Learners; (2) their practice of 21st-century skills such as critical thinking, collaboration, communication, creativity, and innovation, self-direction, global and local connections, and use of technology; and (3) association or connection of the 21st-century skills to self-efficacy of the ALS learners.

Methods and materials

To attain the objectives of the study, the regression analysis design was used to describe the relationship between the 21st-century learners' skills to the sense of self-efficacy of ALS learners. The purpose of regression analysis is to find an equation that best predicts the Y variable as a linear function of the X variables. The study utilized the correlational predictive study design to show the extent or cases of association between variables that are predictor and outcome/criterion (Holton & Burnett, 2005)^[11]. This is appropriate to studies with the same nature that is to explain the causal relationship between variables: 21st Century Skills and self-efficacy of ALS learners (Cohen, Cohen, West, & Aiken, 2003)^[6]. Hence, the results are not limited to showing that there is relationship between variables but explaining the context and causal relationship between variables. Context and causal relationship can further explain how the phenomenon or phenomena exist and to some extent resolve.

The respondents of the study were purposively sampled from Alternative Learning System learners who were currently enrolled in public schools in Quezon City. The respondents of the study are enrolled in the Alternative Learning System (ALS) program of the DepEd Quezon City Division during the School Year 2021-2022. They are the most suitable respondents of the study based on accessibility and availability. One of the researchers supervises the ALS students in the Division. Hence, the communication to the respondents is better. The set of criteria is identified in determining the qualified respondents: currently enrolled as ALS student in the division of legal age, must be actively participating in all the ALS curricular and extra-curricular activities, and willing to participate in this study. After determining the level of precision or sampling error, level of confidence or risk, and degree of variability in the attributes being measured, the researchers used the Cochran formula. Using the mentioned formula with the population of 10,000, +/-5% precision level, and 95% confidence level, 385 respondents were identified as samples for this study. To know who these 385 respondents are, the previously discussed criteria were used and a random sampling technique through a fishbowl method were employed. All data related to the respondents are stored in a cloud that is secured for one (1) year. After the set period, all collected data will be automatically deleted to ensure the confidentiality of data even after the completion of this research works.

In collecting information, researchers adopted a survey tool, 21st-century learners' skills, from Shear et.al. (2010) and translated it into Filipino. The components of the questionnaire are as follows: critical thinking skills, collaborative skills, communication skills, creative and innovative skills, self-direction skills, global communication, local connections, and technology used. Includes 62-item 21st-century skills assessment tools for alternative learning system learners. Respondents rated the survey questionnaire using a five-point Likert scale.

To measure the performance of the students themselves, the researchers adopted the Self-Efficacy Formative Questionnaire Gaumer *et al.* (2018). The questionnaire contains a 13-item tool that measures the sense of self-efficacy of alternative learning system learners. Respondents rated the survey questionnaire using a five-point Likert scale.

The confidentiality of information, including participant's information collected, was stored on Google Drive to protect their privacy. It is important to protect the information collected as this is an agreement between the researcher and participants, which provided certainty that the information be kept confidential. There was no pressure to participate in the study. All researchers declared no conflict of interest in conducting the study. Further, an informed consent form was administered and a clearance from the ethics committee of New Era University was secured before data collection.

Results and discussion

Table 1: Self-Efficacy of Alternative Learning System Learners

S. No	Self-Efficacy	Average	Interpretation	Rank
1	Belief that Ability Grows with Effort	4.12	High	1 st
2	Belief in Personal Ability	4.09	High	2 nd
		4.11	High	

Table 1 shows the Alternative Learning System learners' self-efficacy. As gleaned in the general weighted average of 4.11, students have a *high* sense of self-efficacy. Specifically, the belief that ability grows with effort and confidence in personal ability yielded a "*high*" feeling of self-efficacy as per the weighted average of 4.12 and 4.09, respectively.

As the results imply, the highest among the two self-efficacy factors is the belief that ability grows with effort, with a mean of 4.12. It is the same result as the yielded outcomes from the study of Zulueta *et al.* (2021)^[17]. This result implies that ALS learners have a strong belief that the amount of effort they put forth to enhance their skills and abilities is a factor in the success of their endeavors. ALS learners believe that setting hard work and effort into what they do will yield positive outcomes. This kind of thinking promotes accountability and conviction towards their success.

Furthermore, they also have confidence in the ability of a person to enhance their talents and skills regardless of who they are or what challenges they may face. They also believe that the beholder of the crafts, gifts, and mastery can change it, depending on the mode of phasing they want. Additionally, ALS students recognize that they can develop their minds through training and practice, just like muscles do. It clearly shows that their conviction on growth and

development of their skills and talents through effort dominates their self-efficacy.

ALS learners' belief in personal ability came second among the two self-efficacy subscales. As shown in Table 1, this subscale yielded a *highly* desirable outcome. ALS students are confident that setting goals for themselves produce positive results. They can avoid challenges and hindrances by refraining from reaching their targets by striving hard and venturing the different paths to success. It leads to their firm conviction that they will succeed in any direction they choose in their course of growth and development. They have a strong sense of diligence and perseverance, too. They would not decide to stop when they meet failure. Instead, they are more eager to learn from such mistakes and try again until they fulfill their objectives. This belief is linked to their confidence in drills and practices. ALS learners know that they can improve their skills through training, including reskilling and upskilling. It is a vital part to fulfill their goals in life.

Additionally, these students are also confident that they could succeed in the educational path they would try to venture on through their abilities. They are convinced that they will be able to learn their lesson regardless of the pandemic. Lastly, they chose to focus more on the progress rather than on disappointment and discouragement whenever a challenging task or difficult situation arises. These factors contributed to their belief that personal abilities could bring one's success to life.

During the COVID-19 pandemic, ALS learners possessed a high sense of self-efficacy. These learners believe that they can achieve success through hard work. They also stand that the more effort they put into an activity, the higher the possibility that they will achieve success. ALS students have confidence in their ability. Learners with strong self-efficacy are enthusiastic about their work (Mathwasa & Sibanda, 2022) [14]. Self-efficacy increases human achievement and personal well-being. Someone with strong self-efficacy sees challenges as opportunities to master rather than threats to avoid. These students bounce back faster from setbacks and are more inclined to attribute failure to a lack of effort. They expect to be able to control risky situations when they enter them.

Table 2: 21st Century Skills of Alternative Learning System Learners

21st Century Skills	Average	Interpretation	Rank
1. Use of Technology	3.65	High	1 st
2. Collaboration	3.62	High	2 nd
3. Self-Direction	3.55	High	3 rd
4. Communication	3.53	High	4 th
5. Local Connection	3.52	High	5 th
6. Global Connection	3.50	High	6 th
7. Creativity and Innovation	3.45	High	7 th
8. Critical Thinking	3.41	High	8 th
	3.90	High	

Table 2 reveals the ALS learners' 21st-century skills. As gleaned from the general weighted average, these learners have a *high* gain of 21st-century skills. This outcome is quite different from the results gathered in Zulueta *et al.* (2021) [17] study.

Based on the present research, the use of technology came to be ahead of all the other skills with a mean grade of 3.65. It clearly shows that students evaluated themselves and could

utilize the internet or technology to teach themselves specific topics new to them or they want to explore. They can also select and identify the appropriate technology tools they need to finish their tasks at hand. Furthermore, the ALS learners are also digital natives who can identify credible and relevant online resources. They can use what they have found to analyze and share information. They could utilize different software applications to support teamwork or collaboration, too. Using technology, they were also able to connect with experts or other local and global community members for more credible learning acquisition. Lastly, they also agreed that they were able to maintain their academic standing by monitoring their work and assignments with these advancements.

Second on the list is Collaboration skills, with a mean grade of 3.62, which ranked first in the previous study done by Zulueta *et al.* (2021) [17]. Self-direction and communication skills with a mean grade of 3.55 and 3.53, respectively follows. Furthermore, Local Connection came 5th on the list with an average of 3.52. Global connection and creativity skills were listed as 6th and 7th skills possessed by ALS learners. All the skills mentioned above scored "high." In comparison with the previous study, the result of this study implies that despite the new normal education and the sudden shift in education, ALS students' 21st-century skills show significant growth and development.

Critical Thinking skill is last among the rest of the 21st-century skills of ALS learners. Despite it being the previous, ALS learners' have a high sense of critical thinking skills. They synthesize knowledge from different sources, compare it, and finish various tasks anchored on it. These learners can also formulate conclusions based on statistical, factual, and significant information. Furthermore, ALS learners can also summarize and create interpretations based on their readings and provide analysis, perspectives, and solutions to specific problems. They could also develop credible claims based on supporting evidence. Lastly, ALS learners can solve complex problems and formulate possible solutions and hypotheses on queries that need careful investigations.

As attested in the results, ALS learners' overall 21st century skills are high. Regardless of the current situation of the pandemic, ALS learners were able to keep the growth and development of these skills. The results imply that these students are more equipped with knowledge on the use of technology and other 21st century skills now. These skills are imperative for students to hone. Students, according to Alismail and McGuire (2015) [1], need 21st-century skills to increase their achievements and foster cognitive processes and knowledge generation that will prepare them for future career success. With the results of the study, ALS learners are provided with 21st-century skills that they may need on their future endeavors.

Furthermore, the high result of using technology can help them during the pandemic. In a study by Manco-Chavez *et al.* (2020) [13], students considered themselves proactive on ICT integration since the significant shift in education happened due to the COVID-19 pandemic. The same study revealed the substantial connection between ICT integration and digital skills since they help students acquire and master technology tools, making them suitable for virtual education. These factual bases implied that learners developed skills and integrated the use of technology in their learning during the pandemic and support the changes with the results of the previous (Zulueta *et al.*, 2021) [17] and the

present study in terms of the order of 21st-century skills of ALS learners.

Table 3: ALS Learners' 21st Century Skills vis-à-vis Self-Efficacy

Spearman Rho Correlation Coefficient	Sig. (2-tailed)	R Square	Interpretation
0.729	0.000	0.570	Strong Correlation

The ALS learners' 21st-century skills and self-efficacy are this study's significant variables. Thus, it is imperative to determine the magnitude of the correlation between the two constructs. Table 3 shows the computed Spearman Rho based on the participants' responses. A strong positive correlation is interpreted with the Spearman Rho correlation coefficient of 0.729. It implies that the two variables have a direct relationship which means that as ALS learners' 21st-century skills increase, their self-efficacy increases, and vice versa. Conversely, the lower the first variable, the lower the latter is. The outcomes are supported by the previous study by Zulueta *et al.* (2021)^[17]. Their research yielded the same result; however, the present study generated a higher significant correlation.

To further explain the strong positive correlation between the 21st-century skills and self-efficacy of ALS students, the researchers identified how the two factors could predict each other. Using Linear Regression, considering all the assumptions it embodies, the researchers found that ALS learners' 21st-century skills can predict their sense of self-efficacy by fifty-seven percent (57%). It is a significant result as it supports the strong correlation between the two constructs. Furthermore, the researchers found a linear model in the form of equation $y = 0.86x + 1.054$, where y is the students' sense of self-efficacy, whereas x is their 21st-century skills. The equation is valid in predicting the patterns of the two constructs and shows the direct relationship between the two.

Conclusions

This study investigated (1) the ALS learners' self-efficacy; (2) their use of 21st-century skills such as collaboration, critical thinking, creativity and innovation, communication, self-direction, technology, and global and local connections; and (3) the association or connection of 21st-century skills to ALS learners' self-efficacy. Based on the findings, ALS learners have a high sense of self-efficacy. At the same time, they also possess a high degree of 21st-century skills using technology as their top skill. Using Spearman Rho, the students' 21st-century skills and sense of self-efficacy directly correlate. The first variable affects the latter by fifty-seven percent. The researchers recommend that ALS coordinators and teachers within Quezon City develop a plan for sustaining and improving the 21st-century skills and sense of self-efficacy of the learners, as this study proves the high level of the variables. It is further recommended to extend the scope of this study for further research in other areas to understand the diversity of ALS learners and extrapolate their skills and abilities across the country.

References

1. Alismail H, McGuire P. 21st Century Standards and Curriculum: Current Research and Practice. *Journal Of Education and Practice*. 2015; 6(6):150-154. Doi: <https://doi.org/ISSN 2222-1735>

2. Atilano EB, Desipeda CJ, Domingo ZJ, Garbin SN, Omanito RA. Factors influencing the dropout rate in Alternative Learning System Accreditation and Equivalency Program. *The Online Journal of New Horizons in Education*. 2016; 6(4):99-109.
3. Azardon MM, Nato R Jr. The Philippine ALternative Learning System: Expanding the Educational Future of the Deprived, Depressed, and Underserved, 2015. [https://www.academia.edu/23592577/THE_PHILIPPIN E_ALTERNATIVE_LEARNING_SYSTEM_EXPAN DING_THE_EDUCATIONAL_FUTURE_OF_THE_D EPRIVED_DEPRESSED_AND_UNDESERVED](https://www.academia.edu/23592577/THE_PHILIPPIN_E_ALTERNATIVE_LEARNING_SYSTEM_EXPAN_DING_THE_EDUCATIONAL_FUTURE_OF_THE_D EPRIVED_DEPRESSED_AND_UNDESERVED)
4. Chalkiadaki A. A Systematic Review of 21st Century Skills and Competences in Primary Education. *International Journal of Instruction*. 2018; 11(3):1-16. Doi: <https://doi.org/10.12973/iji.2018.1131a>
5. Chavez MB, Sapugay AF, Tadena LQ, Vicente NE. Alternative Learning System in Time of COVID Pandemic: Philippine Context. *DSLU Arts Congress Proceedings*. 2021; 5. ISSN: 2012-0311
6. Cohen J, Cohen P, West SG, Aiken LS. *Applied Multiple Regression Correlation Analysis for the Behavioral Sciences*, 2003.
7. Department of Education. *Policy Guidelines on the Implementation of Enhanced Alternative Learning System 2.0*, 2019.
8. Department of Education. *Guidelines on the Implementation of ALS Programs in the Light of Basic Education Continuity Plan*, 2020. <https://www.deped.gov.ph/2020/10/21/october-21-2020-dm-067-s-2020-guidelines-on-the-implementation-of-alternative-learning-system-programs-in-light-of-the-basic-education-learning-continuity-plan/>
9. Gewertz C. States press ahead on 21st century skills. *Education Week*. 2008; 28(8):21-23
10. Hixson N, Ravitz J, Whisman A. *Extended professional development in project-based learning: Impacts on 21st century teaching and student achievement*. Charleston: West Virginia Department of Education, 2012.
11. Holton EF, Burnett MF. The Basics of Quantitative Research. In R. A. Swanson & E. F. Holton (Eds.), *Research in organizations: Foundations and methods of Inquiry*. San Francisco: Berrett-Koehler, 2005, 29-44.
12. La Belle, Thomas J. The Changing Nature of Non-formal Education in Latin America, *Comparative Education*. 2010; 36(1):21-36. Doi: 10.1080/03050060027746
13. Manco-Chavez J, Uribe-Hernandez Y, Buendia-Aparcana R, Vertiz-Osores J, Isla Alcoser S, Rengifo-Lozano R. Integration of ICTS and Digital Skills in Times of the Pandemic Covid-19. *International Journal of Higher Education*. 2020; 9(9):11. Doi: <https://doi.org/10.5430/ijhe.v9n9p11>
14. Mathwasa J, Sibanda L. *Enhancing Students' Self-Efficacy: Implication for High School Guidance and Counselling Educators*, 2022. Retrieved 28 April 2022.
15. Tindowen DJ, Basig JM, Cagurangan JR. *Twenty-First-Century Skills of Alternative Learning System Learners*, 2017. https://www.researchgate.net/publication/319278323_Twenty-First-Century_Skills_of_Alternative_Learning_System_Learners

16. University of the Philippines School of Economics Student Council. E-concepts: The Economics of Education During the Pandemic. Philippines, 2020, October 1. Retrieved from:
<https://web.facebook.com/UPSE.StudentCouncil/photos/pcb.2873405006094787/2873397356095552/>
17. Zulueta M, Bag-ao G, Bayucca S, Brombuela G, Cajurao G, Canlas A, *et al.* Through Pains and Gains: Measures of 21st Century Skills and Sense of Self-Efficacy of Alternative Learning System (ALS) Learners. *International Journal of Multidisciplinary: Applied Business and Education Research*. 2021; 2(3):189-197.
Doi: <https://doi.org/10.11594/ijmaber.02.03.02>