



Future Competencies of Non-Formal Education Students

Dewi Rahmawaty¹, Fitri Yolanda², Nadiroh³, Faiz Ayatulloh⁴,
Revi Mainaki⁵, Dikdik Hidayatulloh⁶, Maya Gayatri⁷, Salwa Mufida⁸

Sekolah Tinggi Desain Interstudi

Corresponding Authors: dewihidayatulloh2020@gmail.com

Abstract

Education plays a crucial role in the development and progress of a nation. With advances in science and technology, globalization and the internationalization of education are considered challenges that every country must face. One of the key challenges in education today is the lack of future competencies among students. However, the reality also shows that there are high numbers of school dropouts, unschooled youth, and even individuals who have not attended formal education. Consequently, individuals who do not attend formal education experience difficulties in understanding and learning future competencies that will enable them to face competition. To address the challenges posed by global change and the knowledge economy, countries around the world, including Indonesia, have introduced and implemented alternatives to help individuals acquire education through non-formal education. This study was conducted to determine the Future Competencies of LKP students throughout Indonesia. A total of 150 LKP students in Indonesia participated in this study using a descriptive survey method. The results showed that LKP students have a low level of mastery of Future Competencies. Furthermore, the results of the independent sample t-test and one-way ANOVA test revealed that gender, age, and employment status influenced students' mastery of Future Competencies.

Introduction

The future of the nation depends on human resources and how students develop their abilities, both in mastering science and technology. Education plays a crucial role in improving the quality of human resources. According to Law No.

20 of 2003 of the Republic of Indonesia concerning the National Education System, education is a conscious and planned effort to create a learning atmosphere and learning process that allows students to actively develop their potential. Through the learning process, students develop spiritual and religious

strength, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, the nation, and the state. Education can be used as an effort to enhance the nation's intelligence. The intelligence referred to here is not merely intellectual intelligence, but rather holistic intelligence, encompassing a broader range of cognitive, affective, and psychomotor domains.

Education plays a very important role in the development and progress of a certain nation. With the advancement of science and technology, it is indeed that globalization and internalization of education are considered as challenges that every country must uphold. And one of the emphases of today's challenges in education is the promotion of Future Competencies skills among students. With this, schools both in public and private must focus not just on imparting the basics but equally so on ensuring that students gain a suite of newly important thinking and reasoning skills (Silva, 2009). The Future Competencies skills is defined as a broad set of knowledge, skills, work habits, and character traits that are believed to be critically important to success in today's world, particularly in collegiate programs and contemporary careers and workplaces, and can be applied in all academic subject areas and in all educational, career, and civic settings throughout student's life (Moyer, 2016; Rotherham & Willingham, 2009). The Future Competencies skills are needed to be able to solve problems that are complex, collaborate and communicate well with others, acquire new skills and information

independently, and adapt to rapidly changing conditions to compete in today's rich and global economy (Gewertz, 2008). It is then a reality that educational institutions around the world should be able to promote Future Competencies skills to its students through formal education. However, it is also a reality that a huge number of the world population are dropouts, out-of-school youth, and even individuals who do not go to formal schooling. And as a result, these individuals who do not go to formal schooling have difficulties in understanding and learning Future Competencies skills which enable them to cope with and to compete in the globalized world. And to cope with these challenges given by the changing world and knowledge economy, alternatives were presented and implemented by the countries around the world to help individuals attain education through nonformal and informal education (Colardyn & Bjornavold, 2004), especially in developing countries (Nath, Sylvia, & Grimes, 1999) such as the Indonesia.

The Indonesia is active in accepting the global challenge of providing Educational Services to the Indonesians. In fact, in the year 1990, the international development community birthed a massive global education initiative called Education for All (EFA) 2015 (Gonzales, 1999). The Indonesia government has adopted this commitment of EFA goals in EFA assembly in Jomtien, Thailand, in 1990 and Dakar, Bangladesh, in 2000. The country also adapts Millennium Development goals (MDG) in 2001 and

the Decade for Literacy in 2003. But despite this educational goal, the country still continuously suffers a very high dropouts statistically 62% of the Indonesian Student Population or 11,000,000 in total ([United Nations International Children's Emergency Fund, 2010](#)). The Government efforts to combat school attrition through strengthening student programs and developing a system that will promote continuing education, thus, promulgated Republic Act 9155 in 2001 or the Governance Act of Basic Education which provides provisions for Nonformal Education that will address illiteracy and promote continuing education.

The implementation of LKP paved way to the rights for education to be asserted by marginalized groups like children, women, people with special needs, and Indigenous people communities ([Doronila, 1997](#); [Raywid, 1994](#); [Valk, 2009](#)) and also out-of-school-youths (OSY) who did not finish their basic education due to economic and support issues. Many studies had shown that globalization favors the educated, skilled, and mobile workers ([Abinales & Dolan, 2012](#); [Guerrero, 2007](#)), and marginalized groups who are denied of access to education will most likely be unable to benefit from modernization. For the OSY and unprivileged Indonesian learners to cope with the fast changing workplace, Direktorat Pendidikan Nonformal under the Ministry of National Education has designed a curriculum combining the formal and nonformal education. The learning strands are not adapted according to their disciplinal case but according to

their “functionality.” The LKP is identified as a Community-Based Learning Service ([Pinca, 2015](#)), where it pursues the growth of students’ intellectual capacity along their chosen career path and aims to promote their sense of social responsibility, providing them the opportunity to serve the community. This challenges LKP teachers to try their best to provide a meaningful learning experience to such a diverse group. [Galima \(2012\)](#) identified three teaching strategies. One is the use of informal sharing of experiences at the beginning of the session. This would inform the teacher about the condition of the learners, their current concerns, and interest. They carefully consider the learners’ interests before starting to teach them the contents of the module. Another strategy is the use of various computer-based technologies, especially video clips. This is done to keep the learners, especially the younger ones, motivated and engaged. The third one is the use of group activities which are meant to create a closer relationship among the learners. Eventually, the class becomes a support group.

The program also stresses that it is a parallel learning system that provides a viable alternative to the existing formal education instruction which encompasses both the nonformal and informal sources of knowledge and skills. also, literatures suggest that LKP is an avenue for OSY and individuals to learn not only basic and life skills but, more importantly, Future Competencies skills for them to cope with and to easily adjust with the changes in their environment ([Caoili, 2007](#); [Kim &](#)

[Taylor, 2008](#); [Le Clus, 2011](#)). It can be understood then that students of LK program are already equipped at least with Future Competencies skills needed for their professional and personal growth.

Recent trends in research stressed the need in evaluating the effectiveness of nonformal education programs ([Huffman, Lawrenz, & Thomas, 2008](#); [Isaacs, Macomber, Rennane, & Steuerle, 2010](#); [Walahoski & Suzanne, 2012](#)), such as the LK Program of the Indonesia ([Dela Rosa, 2015](#); [Mercado, 2005](#); [Oracion, 2002](#)). The use of effective evaluation of such programs plays a critical role in revealing its outcomes specially in terms of assessing if the objectives of the programs are really met ([Braverman & Arnold, 2008](#); [Castleberry & Enger, 1998](#); [Clavijo, Flemming, Hoerman, Toal, & Johnson, 2005](#)). As such, assessing students' outcomes is one of the best ways to measure the effectiveness of such programs ([Dugger & Dugger, 1998](#); [George & George, 2000](#)) and to see to it that such programs promote and help students to become globally competitive through the acquisition of the Future Competencies skills despite learning in nonformal school ([Bozhovich, 2009](#)). With this, it can be concluded that the importance of student engagement in Future Competencies skills is at the forefront of educational reforms. However, little has been done to assess such engagement especially with nonformal learners ([Feichas, 2010](#); [Rotherham & Willingham, 2009](#)), such as the LK learners ([Guerrero, 2007](#); [Rogers, 2005](#)). Hence, this study was conducted to

assess the a acquisition of LK learners in Indonesia.

Future Competencies

The [Queensland Curriculum and Assessment Authority \(2015\)](#) defined Future Competencies as high priority skills and attributes believed to be the most significant to help students and learners live and work successfully in the 21st century. Furthermore, [Johnson \(2009\)](#) stressed that Future Competencies are not only more than technological literacy but also include critical thinking, problem solving, communication, and teamwork that are necessary to succeed in work and life. [Hixson, Ravitz, and Whisman \(2012\)](#) identified eight skills that every student should possess in the 21st century.

1. Thinking & Strategy Skills (Cognitive Skills) Critical Thinking: The ability to analyze information objectively and evaluate data. **Complex Problem Solving:** Formulating innovative solutions to new challenges.

2. Technology Mastery (Digital Fluency) Artificial Intelligence (AI) & Data Literacy: Not just basic coding, but the ability to read, analyze, and utilize AI for work efficiency. **Digital Ethics:** Awareness of privacy security, responsibility, and the social impact of technology.

3. Human & Emotional Skills (Soft Skills) Emotional Intelligence (EQ): Building empathy, negotiation, and teamwork effectively. **Adaptability and Resilience:** The mental ability to bounce back from failure and

innovate quickly when situations change.

4. Leadership & Innovation Creativity: Generating original ideas with high added value.
Method Growth Mindset & Entrepreneurial Spirit: A mindset that always wants to learn new things and dares to take risks.

5. Self Direction, skills refer to students being able to take responsibility for their learning by identifying topics to pursue and processes for their own learning, and being able to review their own work and respond to feedback

6. Global Connections refer to students being able to understand global, geopolitical issues including awareness of geography, culture, language, history, and literature from other countries.

7. ICT, Using technology as a tool for learning refer to students being able to manage their learning and produce products using appropriate information and communication technologies.

8. Collaboration refer to students being able to work together to solve problems or answer questions, to work effectively, and, respectfully in teams, to accomplish a common goal and to assume shared responsibility for completing a task

Respondents

The respondents in this study were sampled from a random sample of LKP schools in Indonesia. The sample consisted of 150 enrolled students of the LK program. However, only those students enrolled under the Accreditation and Equivalency (A&E) program was considered in the study. Although it was not possible to reach a random sample of all schools offering

LK in Indonesia, care was taken to select schools from rural and urban communities to represent the composition of LKP students in Indonesia with regard to sex, age, civil status, and employment status. [Table 1](#) shows the background variables of the respondents. Of the LKP students, 83% were female and the average age was 16.5 years. also, 95% of the respondents were single and 15% are unemployed. These demographic characteristics of the respondents were similar to those found in comparable studies on LKP learners in other parts of the Indonesia

Research Instrument

A quantitative questionnaire using Likert-type scale was administered in April 2016 to 150 LKP students. The respondents were instructed to fill out questionnaire that asked a range of items about their Future Competencies skills.

Future Competencies Skills Instrument

The Future Competencies skills of LKP learners were measured using the survey items taken from the International Innovative Teaching and Learning Study ([Shear, Novais, Means, Gallagher, & Langworthy, 2010](#)) and modified by [Ravitz, Hixson, English, and Mergendoller \(2012\)](#). The tool is a 62-item instrument on a 5-point scale (scored from 1 = *strongly disagree* to 5 = *strongly agree*). Factor analysis of the said tool revealed eight Future Competencies skills. The dimensions and their internal consistency estimates

(coefficient alphas) are critical thinking skills (.90), collaboration skills (.94), communication skills (.93), creativity and innovation skills (.94), self-direction skills (.95), global connections (.96), local connections (.95), and information and communications technology (ICT) (.95).

Data Analysis

The data Tabel 1 gathered were analysis using frequency and percentage to describe the profile of the respondents, weighted mean and standard deviation to describe the Future Competencies skills of the LK learners, and independent-sample *t* test and one-way ANOVA test for the significant difference on the Future Competencies skills acquisition of LK learners when grouped according to their background variables.

Table 1

Backgorund Variable	N (N = 150)	%
Sex		
Male	67	45
Female	83	55
Age		
10-15 YO	19	13
16-20 YO	98	65
21-30 YO	29	19
30 yO and above	4	3
Civil Status		
Single	122	81
Married	24	16
Widow	4	3
Employment Status		
Farmers	12	8
Utility Services	7	5
Technical / Industrial	37	25
Home Based	9	6
Entertrainers	7	5
Unemployed	78	51

Results and Discussion

Future Competencies Skills of the LKP Learners in Indonesia

[Table 2](#) presents the Future Competencies skills of the students enrolled in the LK in Indonesia. The findings revealed that the level of LK

learners' acquisition of Future Competencies skills is low. This implies that the learners enrolled on the program do not yet possess Future Competencies skills. Under this area, local connections have the highest level of acquisition by the learners. This implies further that their local environment strongly affects the way they learn which includes the communal support they are receiving such as community learning centers which constitute the study of [Gallardo \(2010\)](#) saying that community and schools must collaborate in achieving specific objectives, thus enriching not just their intellectual capacity but also their social awareness. Moreover, the findings affirm the results of the studies of [James, Wiess, and Keep \(2013\)](#) and [Cheng \(2002\)](#) that teachers should teach the importance of content of a certain topic that is rooted in the cultural context or in a local setting.

Hence, LKP mobile teachers should adopt localized instructional materials to suit to the localized setting of learners. Meanwhile, the findings also show that most of the skills are low such as the creativity skill and the innovation skill. One likely explanation for this is the diverse status and learning styles of the learners. [Moralista and Delarierte \(2014\)](#) and [Fernandez \(2013\)](#) stated that increasing learning competencies are among the major problems encountered by mobile teachers as there are advance and slow learners affecting now the interference on cognition abilities to task-related factors such as complexity of a task or lesson. Furthermore, [Craft, Jeffrey and Leibling \(2001\)](#) stressed that creativity as a Future Competencies skill can be enhanced and cultivated to students as it is often seen as a talent.

Table 2. Descriptive Statistics on Future Skills of the NonFormal Educariion in Indonesia

Future Skill	M	SD
Critical Thingking	3,17	0,80417
Collaboration	2,42	0,73079
Communication	2,5	0,71618
Creativity and Inovation	1,7	0,81376
Self Direction	2,7	0,71059
Lobbying	2,05	0,66839
Global Connections	3,62	0,72422
Local Connection	1,87	0,66479
ICT	2,5	072911

2,51 - 3,5 - Moderate
1,76 - 2,50 - Low
1,00-1,75 - Very Low
3,51 - 4,25 - High

On one hand, the findings revealed that the integration of ICT in learning is also low. This includes updating learning materials and providing modern approaches for learners. The findings affirm the study of [Moralista and Delarierte \(2014\)](#) where they stress that the availability of state-of-the-art equipment has significant implications to modern teaching, and learning of LK beneficiaries. [Moyer \(2016\)](#) also stressed that teachers' training in using technology in learning is vital and must be regularly instituted. Furthermore, [Russell, Finger, and Russell \(2000\)](#) and [Hardy \(1998\)](#) revealed in the study that the limited use of ICT can be characterized by the provision of minimal skills in educational technology for teachers in preservice education training courses. Hence, as a result, teachers do not employ the use of ICT, but rather stick to the traditional mode of teaching. And at the end, students will not have any avenue to develop their ICT skills. Meanwhile, the study also shows that collaboration is also one among the lowest developed Future Competencies skills. [Colardyn and Bjornavold \(2004\)](#) found out that nonformal learners must provide meaningful learning experiences to such a diverse group. This implies that there must be informal sharing of experiences and multiple views, thus informing the mobile teachers about the condition of the learners, their current concerns, and interests. This would help both the learners and the teachers in modifying and developing approaches in providing an inclusive education. Moreover, most of the respondents stressed that working with other learners and presenting it to

the class are not their mode of learning because of factors such as low self-esteem and age gaps. [Bell \(2010\)](#) suggested that for learners to develop or to enhance collaborative skills, teachers should teach students more on active listening skills and should employ project based in teaching.

The findings also revealed that the level of development of the learners to their communication skills is low. [Mercado \(2005\)](#) emphasized that learners should always express their ideas, and teachers, on the contrary, must provide learning opportunities for the students to speak their minds. He also further expressed that communication skill is one of the most important skills to adopt to the present. In addition, [Silva \(2009\)](#) stressed that the use of group activities is meant to create a closer relationship among the learners.

Eventually, the class becomes a support group where they will feel no guilt or shame in sharing their ideas, thus giving them the self-confidence to react and be open. On the contrary, learners perceived their global connection skills as low. [Moralista and Delarierte \(2014\)](#) proved that there is strong pressure of fast modernization that is borderless and boundless. This implies that there is paradigm shift to the present society, hence forcing many to adapt including the LK learners. Meanwhile, learners shared that they do not have competency dealing with studying global matters like global issues and cultural diversity. [Ravitz et al. \(2012\)](#) stated that a person without global connections is not prepared in facing the world outside his parameter or culture and forming conflict in

engaging to other people making the other inferior or rather superior. In addition, [Pinca \(2015\)](#) emphasized that LK learners must understand and be prepared in communicating and in collaborating to diverse individuals globally.

It can also be gleaned in the table that there is moderate level of development of learners in their self-direction and critical thinking skills. One likely explanation for this is their preference to work individually. This implies that they are directly involved in the learning process thus fostering their capabilities to correspond and to formulate own ways to learn. [Pinca \(2015\)](#) argued that excessive help and support denudes students of the opportunity to think for themselves. It stops them having to work through difficulties or solve problems. The tacit message is that there will always be someone else there to do it for them. He also suggests that effective formative feedback encourages students to be independent, because it allows them to take control of their own learning. If they know what they need to do to improve, they are in a position to make those improvements, therefore acting independently.

Significant Differences on the Future Competencies Skills of LKP Learners When Grouped According to Their Profile

[Table 3](#) presents the significant differences on the Future Competencies skills of LK learners of Indonesia when grouped according to sex. The results reveal that critical thinking, collaboration, communication, self-direction, global connections, local connections, and ICT skills do not have any significant differences when grouped according to their sex. However, significant difference can be seen on creativity and innovation skills. The finding stresses that male learners are more creative and innovative than female learners. The findings affirm the results of previous researches ([Abraham, 2015](#); [Hong & Milgram, 2010](#); [Miller, 2007](#)). Furthermore, [Abraham \(2015\)](#) stressed the idea that differences between men and women in creative cognition are best explained with reference to the gender-dependent adopted strategies or cognitive style when faced with generative tasks

Tabel 3. Significant Differences on Future Skills of Non formal educational When Grouped According to sex

Future Skills	df	T value	P value
Critical thinking	148	-1.199	.233
Collaboration	148	-0.991	.928
Communication	148	-1.526	.129
Creativity and innovation	148	-2.166	.032*
Self-direction	148	-0.439	.661
Global connections	148	0.095	.924

Local connections	148	1.022	.308
ICT	148	1.322	.185

Meanwhile, [Table 4](#) shows the significant differences on the Future Competencies skills of LKP learners of Indonesia when grouped according to age. It can be gleaned in the table that critical thinking, collaboration, communication, creativity and innovation, self-direction, and global connections do not have any significant differences with the different age groups. However, the findings also stress that local connections and ICT skills have significant differences between age groups. In terms of local connection skills, those learners who are 30 years old and above have the highest

acquisition. This can be attributed to the fact that this age group has a high tendency of cultural appreciation and has a more possibility of being immersed in the community. Moreover, young learners who are 15 to 20 years old are those with highest acquisition of ICT integration. The findings affirm the results of previous studies on ICT integration between age groups ([Stephen & Plowman, 2003](#); [Yelland, Grieshaber, & Stokes, 2000](#)). Moreover, the result can be attributed to the fact that teenagers nowadays have already an access and can easily use the Internet and social media sites.

Tabel 4. Significant Differences on Future Skills of Nonfromal Educarioanl Learners When Grouped According to Age.

Future Skills	df	T value	P value
Critical thinking	3	2.023	,113
Collaboration	3	2.183	,318
Communication	3	0,270	,847
Creativity and innovation	3	1,442	,233
Self-direction	3	0,652	,580
Global connections	3	0,398	,755
Local connections	3	0,950	,018
ICT	3	2,011	,015

Furthermore, [Table 5](#) shows the significant differences on the Future Competencies acquisition skills of LK learners in Indonesia when grouped according civil status. Results show that critical thinking, collaboration, communication, creativity and innovation, self-direction, global connections, local connections, and ICT skills do not have any significant difference when grouped according to civil status. Hence, it can be implied from the results that civil status does not affect the acquisition of Future Competencies skills among the LK learners in Indonesia.

Tabel 5 Significant Differences on Future Skills of Nonfromal Educarioanl Learners When Grouped According to Civil Status.

Future Skills	df	T value	P value
Critical thinking	2	1,335	,266
Collaboration	2	2,221	,112
Communication	2	5,270	,066
Creativity and innovation	2	0,793	,455
Self-direction	2	0,472	,625
Global connections	2	0,371	,071
Local connections	2	0,837	,066
ICT	2	0,809	,447

And finally, [Table 6](#) shows significant differences on the Future Competencies skills of LK learners in Indonesia when grouped according to their employment status. Results reveal that critical thinking, collaboration, communication, creativity and innovation, global connections, local connections, and ICT skills do not have any significant differences among LK learners in terms of their employment status. This implies that that employment status among learners does not affect the acquisition of Future Competencies skills. However, it can also be gleaned from the results that self-direction skill has a significant difference among LK learners in terms of their employment status. Those LK

learners who are working under technical and industrial types of profession have the highest level of acquisition of self-direction skills. This could be attributed to the fact that these students are more exposed to learning environments such as technical and technological activities that enable them to take responsibility toward their learning. Moreover, they have an array of profession LK such as their bosses and other co-workers for them to learn more things and to acquire more knowledge besides the things that they learn from the LK program.

Tabel 6 Significant Differences on Future Skills of Nonfromal Educarioanl Learners When Grouped According to Employment Status

Future Skills	df	T value	P value
Critical thinking	2	1,396	,229
Collaboration	2	1,733	,131
Communication	2	1,584	,168
Creativity and innovation	2	2,075	,072
Self-direction	2	3,249	,008
Global connections	2	0,122	,987
Local connections	2	1,161	,331
ICT	2	1,426	,218

Conclusion and Implications for Further Research

The present study examined the Future Competencies skill acquisition of the LK learners in Indonesia. The research findings indicated that LKP learners are not yet ready to face the globalized world due to the fact that their attainment of the required Future Competencies skills is low, except for the local connection skill as this is the only skill that LK learners already acquired. One very important contribution of the study is that it underscores and LK how LK learners are doing well in terms of the acquisition of Future Competencies skills as it will serve as a basis for policy and intervention formulation to help uplift the LK learners for them to cope with the challenges of globalization. Moreover, the study also LK that sex, age, and employment status affect the acquisition of Future Competencies skills among LK learners in Indonesia.

Moreover, the study contributes to literatures on LK and nonformal education as it sheds the light on the present status of LK , especially in the Indonesia in terms of the promotion of Future Competencies skills among its clients and enrollees. More importantly, the study gave insights and recommendations to previous researches and studies with regard to the evaluation and assessment of nonformal education ([Huffman et al., 2008](#); [Isaacs et al., 2010](#); [Walahoski & Suzanne, 2012](#)) such as the LK program of the Indonesia ([Dela Rosa, 2015](#); [Mercado, 2005](#); [Oracion, 2002](#)), especially in terms of assessing the Future

Competencies skills of nonformal education such as the LK learners ([Guerrero, 2007](#); [Rogers, 2005](#)).

Possible extension of this study could be undertaken to examine the Future Competencies skills and competencies of the LK teachers. In addition, as the current study was conducted in Indonesia, it may be worthwhile also to investigate the Future Competencies skills of LKP learners in other parts of the Indonesia to determine whether the results presented here reflect the general situations of LK learners in the whole Indonesia.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Abinales P., Dolan R. (2012). The Indonesia: A country study. *The Journal of Asian Studies*, 1314-1314
- Abraham A. (2015). Gender and creativity: An overview of psychological and neuroscientific literature. *Brain Imaging and Behavior*, 10, 609-618. [Google Scholar](#)
- Caoili R. (2007). *Education for All by 2015: Will we make it? The Indonesia country case study: Education for All Global Monitoring Report 2008*. Paris,

France: United Nations Educational, Scientific and Cultural Organization.

[Google Scholar](#)

Clavijo K. M., Flemming L., Hoerman E. F., Toal S. A., Johnson K. (2005). Evaluation use in nonformal education settings. *New Directions for Evaluation*, 2005(108), 47-55

[Google Scholar](#)

Colardyn D., Bjornavold J. (2004). Validation of formal, non-formal, and informal learning: Policy and practices in EU member states. *European Journal of Education*, 39, 70-89.

[Crossref](#)

[Google Scholar](#)

Craft A., Jeffrey B., Leibling M. (2001). *Creativity in education*. London, England: Continuum.

[Google Scholar](#)

Dela Rosa R. D. (2015). Effectiveness of the alternative learning system using the adolescence reproductive health education teaching program as implemented to selected out-of-school youth in the Indonesia: Implications to health teaching. *International Journal of Novel Research in Healthcare and Nursing*, 22(2), 53-69.

[Google Scholar](#)

Feichas H. (2010). Bridging the gap: Informal learning practices as pedagogy of integration. *Brazilian Journal of Music Education*, 27, 47-58.

[Google Scholar](#)

Fernandez R. M. (2013). Teachers' competence and learners' performance in the alternative learning system towards and enriched instructional program. *International Journal of Information Technology and Business Management*, 22, 33-46.

[Google Scholar](#)

Galima L. (2012). Educating dropouts and adult learners through the alternative learning system: Equalizing opportunities for education in a multicultural society. *International Journal of Interdisciplinary Social Science*, 6(9), 159-166.

[Crossref](#)

[Google Scholar](#)

Gallardo G. (2010). *Community participation and it's relation to school performance among peak performing schools in region 2* (Unpublished master's thesis). University of Saint Louis, Tuguegarao, Indonesia, 3500.

[Google Scholar](#)

George M., George N. (2000). A culture of hope: Fostering success in alternative day school settings. *Reaching Today's Youth*, 4(4), 23-27.

[Google Scholar](#)

Isaacs J., Macomber J., Rennane S., Steuerle C. E. (2010). *Kids Share 2010: Report on federal expenditures on children through 2009*. Washington, DC: Urban Institute.

[Google Scholar](#)

Jimes C., Wiess S., Keep R. (2013). Addressing the local in localization: A case study of open textbook adoption by three South African teachers. *Journal of Asynchrononous Learning Networks*, 17, 73-86.

[Google Scholar](#)

Kim J., Taylor K. A. (2008). Rethinking alternative education to break the cycle of educational inequality and inequity. *Journal of Educational Research*, 101, 207-219.

[Google Scholar](#)

Le Clus M. (2011). Informal Learning in the Workplace: A review of the literature. *Australian Journal of Adult Learning*, 51, 355-373

[Google Scholar](#)

Mercado I. (2005). Problems encountered in the alternative learning system in Tanauan City. *International Journal of Education and Social Science*, 28(8), 16-28.

[Google Scholar](#)

Miller A. L. (2007). Creativity and cognitive style: The relationship between field-dependence-independence, expected evaluation, and creative performance. *Psychology of Aesthetics, Creativity, and the Arts*, 1, 243-246.

[Crossref](#)

[Google Scholar](#)

Moralista R. B., Delarierte G. C. (2014). Alternative learning system (LKP education): Its influence on the intellectual abilities of the indigenous people. *Asia Pacific Journal of Education, Arts, and Sciences*, 1, 7-10.

[Google Scholar](#)

Moyer L. (2016). *Engaging students in 21st century skills through non-formal education* (Doctoral Dissertation). Blacksburg: Virginia Polytechnic Institute and State University.

[Google Scholar](#)

Nath S., Sylvia N., Grimes J. (1999). Raising basic education levels in rural Bangladesh: The impact of a non-formal education programme. *International Review of Education*, 45, 5-26.

[Crossref](#)

[Google Scholar](#)

Oracion E. G. (2002). An interdisciplinary approach to community based service learning: The program framework. *Silliman Journal Community Service Edition*, 16-42.

[Google Scholar](#)

Philippine Education for All. (2009). *Philippine education for All*

2015: *Implementation and challenges*.

Retrieved from goo.gl/9cFBgw

[Google Scholar](#)

Pinca E. (2015). The mobile teachers' profile, competencies, performance and problems in the department of education, division of Northern Samar, Indonesia. *International Journal of Scientific and Technology Research*, 4(12), 45-50.

Queensland Curriculum and Assessment Authority. (2015). *21st century skills for senior education: An analysis of educational trends*. Queensland, Australia: The State of Queensland.

Ravitz J., Hixson N., English M., Mergendoller J. (2012, April). *Using project based learning to teach 21st century skills: Findings from a statewide initiative* Paper presented at Annual Meetings of the American Educational Research Association, Vancouver, BC.

Raywid M. (1994). Alternative schools: The state of the art. *Educational Leadership*, 52, 26-31.

Rogers A. (2005). *CERC studies in comparative education, non-formal education: Flexible schooling or participatory education?* Hong Kong, China: The University of Hong Kong.

Rotherham A., Willingham D. (2009). 21st century skills: The challenges ahead. *Educational Leadership*, 67, 16-21.

Russell G., Finger G., Russell N. (2000). Information technology skills of Australian teachers: Implications for teacher education. *Journal of*

Information Technology for Teacher Education, 9, 149-166.

Shear L., Novais G., Means B., Gallagher L., Langworthy M. (2010). *ITL research design*. Menlo Park, CA: SRI International.

Silva E. (2009). Measuring skills for 21st century learning. *Phi Delta Kappan*, 90, 630-634.

Stephen C., Plowman L. (2003). ICT in pre-school settings: Benign addition or playroom revolution? *Early Childhood Folio*, 7, 33-38.

Valk A. (2009). Recognition of prior and experiential learning in European universities. *Assessment in Education: Principles, Policy & Practice*, 16, 83-95.
Walahoski J., Suzanne L. (2012). A multi-tiered approach to evaluating a nonformal youth development program. *Journal on Youth Development*, 7, 77-81.

Yelland N., Grieshaber S., Stokes J. (2000). Technology in teacher education: Examples of integration and implementation in early childhood courses. *Journal of Information Technology for Teacher Education*, 9, 95-108.