

IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AND EXPERIENTIAL LEARNING ON PUPIL'S SKILL DEVELOPMENT IN PUBLIC PRIMARY SCHOOLS IN ENUGU STATE

Leo C. Chukwu & Anthony O. Nsude

Department of Educational Management, Faculty of Education
Enugu State University of Science and Technology (ESUT), Agbani, Enugu

Abstract

The study investigated the impact of information and communication technology (ICT) and experiential learning on pupil's skill development in public primary schools in Enugu State. The researchers adopted descriptive survey research design. The population for the study comprised 317 primary (5) five pupils (146 males and 171 female pupils) sampled purposively from all the public primary schools in Enugu education zone of Enugu State. The instrument for data collection was a structured questionnaire titled: "Information and Communication Technology (ICT) and Experiential Learning on Pupil's Skill Development Questionnaire (ICTELPSQ)". The questionnaire was face-validated by two experts from the Department of Educational Management and one specialist from Measurement and Evaluation unit from Department of Science and Computer Education, all from ESUT. The reliability test was carried out using the test-retest reliability method and data obtained was computed using Cronbach Alpha. The reliability coefficient index of .81 was obtained. The questionnaire was distributed and collected personally by the researcher and aided by two briefed research assistants. The data collected from the respondents were presented Tables and analyzed using mean and standard deviation in answering the research questions. The results showed that the respondents agree that information and communication technology (ICT) and experiential learning impacts positively on pupils' skill development in public primary schools in Enugu State. Based on the findings, it was recommended among others that Government and other concerned individuals should make provisions for home ICT to enable pupils develop their skills adequately, and parents should be made to recognize the benefits of ICT and endeavour to provide ICT gadgets at home for easy utilization by the pupil.

Keywords: ICT; experiential learning, personal skill, social skill

Introduction

Universally, children are seen as the pride and future hope of the nations and human race in general. A child ordinarily refers to a person who is still under the guidance, care, and protection of parents or other adults for survival and proper growth and development. Renuka (2018) stated that a child is any person under the age of 18 or a person incapable of giving consent to certain actions. Therefore, a child is a person between the ages of 0 and 18 years, who is still under the care of more knowledgeable others such as parents, guardians, caregivers, and teachers. This is to say that the child starts his journey of life and development under the parents. It is on this note that Social (2018) stated that in the developmental process of the child, the child learns first to interpret and understand himself and his environment through the feelings of his parents and other members of the family. This implies that the parents are the leaders and managers of the family and take the responsibility of socializing the child from the cradle. In view of the above, it becomes imperative to state that every society needs skilled and educated citizenry for survival and development. Education is a process of refining the intellect and innate skills of an individual. Education is a veritable tool to achieving a society's developmental goals as the quality of a nation's development is said to reflect the quality of life skills acquired by the children as young citizens of the nation (Culliance&Montacute, 2017). Therefore, the formulation of ideas, their integration for national development and the interaction of persons and ideas are all aspects of education. Okenyi, Ugwuanyi and Ugwu (2018), stated that education as a social good is expected to be a civic right of every Nigerian child. Education provides the framework for preparing the young members of the society

socially, intellectually and morally so as to function effectively in the society. In Nigeria, the first stage of formal schooling is formal education, through primary education.

Primary education is a structured programme designed to provide teaching and learning for children. Primary education provides educational instruction to children aged 5 and 11plus who are referred to as pupil (Collins, 2020). Primary education places a major emphasis on teaching children the basic skills of reading, writing, language and Mathematics. The arts, languages other than English, social education programs, health and physical recreation (Okenyi, Ugwuanyi & Ugwu, 2018; Education and Training Directorate, 2015). In the process of educating the child, ICT appears to have become unavoidable tool in the contemporary society. A modern child is born into technology and a digital world in which he is developing a varied array of knowledge, skills and understanding (Nikolopoulou & Gialmas, 2017).

Information and Communication Technology (ICT) refers to the manipulation of information through the use of electronic technology. It is a system that involves network management through the use of computers. According to Alberta (2019), ICT refers to systems or technologies employed to manipulate telecommunications, intelligent building management systems, and broadcast media among others. This implies that ICT has to do with internet and other wireless networks. Ratheeswari (2018) described ICT as a form of technology that provide access to processed data by means of broadcastings. The most available means through which pupils access ICTs is through the home computer. ICT therefore, refers to a set of diverse technological devices and reserves utilized to create and process data, communicate and disseminate information, store and manage information. However, according to Ryan & Lewis (2017), ICT has become increasingly indispensable in the day to day lives of the people including children. Ryan and Lewis went further to emphasize the importance of ICT in taking classes and in individual development as well as economic growth.

The benefits of ICT seem enormous in the area of child development. According to Olowe and Kukelu (2014), ICT can facilitate all round development of children, social-emotional development inclusive. This underscores the importance of ICT for the pupils. Tagarira (2017) added that ICT can aid pupils in fine motor skills, gross motor skills, creative, social skills and emotional developments among others. Bakola, Rizos and Drigas (2019), stated that ICT is beneficial for the social skills development of children even those with Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD) irrespective of age and gender. Without adequate access and utilization of ICT, pupils' social skill development may be hampered. Thus, ICT can foster experiential learning. Experiential learning (EL) is inherently an autonomous process of acquiring knowledge from past experiences and applying it to new situations. Experiential learning is learning by doing, learning by action, learning through exploration, and this has gained increasing attention as a student-centred approach capable of transforming passive learning environments into dynamic, engaging spaces, as stated by Beukers&Bertolini (2021). It could be stated that there is a need for a paradigm shift from the old teaching method, which is student-centered, to an experiential learning strategy, which increases the high academic achievement of students in secondary school. Thus, experiential learning according to Bartle (2015) is a constructivist learning theory defined as 'learning by doing'. The learner is an active participant in the educational process, and learning is achieved through a continuous cycle of inquiry, reflection, analysis and synthesis. It is a strong instrument for bringing about positive modifications in academic education which allow learners to apply what they have learned in school to real-world problems (Guo et al., 2016). This way of learning entails giving learners more authority and responsibility, as well as involving them directly in their learning process within the learning atmosphere.

Experiential learning can be said to be greatly significant in enhancing acquisition of knowledge and skill amongst learners of different levels. The importance and features of experiential education are analyzed by Beukers&Bertolini (2021), who point out that experiential teaching/learning is useful in many aspects for all participants of the teaching/learning process. By participating in experiential learning, students are engaged in authentic learning experiences that position them as active participants in their learning. The

students can develop the ability to bridge the gap between theory and practice and integrate learning beyond the classroom. Shivan (2025) stated that through practical experiences and hands on training, students are better equipped to relate classroom theories and knowledge to understand real-world situations. The author highlighted the benefits of experiential learning to include enhanced social skills, boost knowledge, enhance problem-solving abilities, active education and build connection. Experiential learning can increase student engagement, improve learning effectiveness and enhance work and life skills. Through experiential learning, students' personal and social skills can be developed. Skill entails proficiency in performing a task. Okoli (2017) noted that skills are practical activities which make one employable, self-reliant and relevant to the society. Skill according to Onyebuenyi and Mbah (2018) is an individual's conscious and intentional practical knowledge display acquired through experience, training and application on the job. Skill in this context refers to the pupils ability to proficiently utilize ICT facilities for learning at their convenience. This skill is either personal or social.

Personal skills are defined as abilities or attributes that are unique to an individual's character, personality and experience. According to Echtelt (2024), personal skills are often associated with personality traits such as: optimism, responsibility, integrity, sense of humor, discernment, wisdom, prudence, good sense, etc., but also with other personal attributes that can be improved through exercise and practice: empathy, team spirit, leadership, communication, assertiveness, good manners, negotiation, sociability or the ability to learn. Personal skills according to Catalano (2018) also include adaptability, self-motivation, emotional intelligence, and a host of other capabilities that help shape a person's character and work ethic. These skills do not just contribute to career success; they are essential for personal growth as well. Personal skills can enable individuals to function effectively in various situations, manage stress, solve problems creatively, and foster positive relationships.

Social skills encompass the skills needed for healthy interpersonal relationship. Social skill development therefore, is a critical aspect of child development. According to Bogguand Sundarsingh (2019), social skill development remains a vital aspect of a child's overall health, well-being, and happiness; and they are linked to cognitive and emotional development. Social skill development is a process of acquiring and imbibing ways and healthy means of communication and interaction with others (Maksum, 2021). It is the process through which the child's social behaviours and interactions are shaped to concur with the standard social norms. Mathew (2020) insists that social skill development is making the child aware of how to communicate with others, improving the method of communication to make the child communicate in more efficient and effective ways. Social skills are very important for a successful life in the society. The author maintained that well developed social skills enhance quality and lasting relationships which in turn reduces the negative impacts of stress and enhances one's self-esteem. The child's social skill development is shaped and directed by parents as the first teachers of the child (Nvgvist&Engvall, 2019). Hence, experiential learning through constant and consistent interaction with teachers and parents, incorporating ICT, a child's personal and social skills are adequately developed. Consequently, the vast majority of students in our primary schools, lacked basic computer resources, equipment or skills (Nwosu, 2021). This could be traced down to poor ICT facilities at home and had severely impacted on pupil's ability to acquire most of the desired learning experiences; and their preparedness for secondary education. The availability and access to ICT resources seems to compliment these desired interactions that can foster experiential learning is observed to be limited. To this effect, the preoccupation of this study is to determine the impact of home information and communication technology (ICT) and experiential learning on pupils' skill development in public primary schools in Enugu State.

Statement of the Problem

The prevalence of ICT resources for children and adults in the contemporary society is unimaginable. ICT resources are also increasingly penetrating classroom interactions at all levels of education especially pre-primary and primary schools. Developmentally, appropriate

ICT resources engender personal and social skills development in young children by providing opportunities for them to interact with people and objects outside their immediate environment which can enhance experiential learning. The home which is the primary socializing agent for the child needs to be aligned with the current trend of technological advancement, so that children are better prepared socially early enough for technology-assisted learning in school and meaningful learning in a technology-driven world. Unfortunately, in Nigeria, especially in a number of primary schools in Enugu State, the degree of access to ICT that pupils have at home appears unsatisfactory. This may be partly due to lack of social amenities that support proper adoption of ICT such as power supply. Also, it is not clear how many families can provide such facilities on their own. In such circumstances, pupils may not have proper perception of how ICT can influence their skills development; and a child without sound personal and social background after primary school may end up in role confusion at adolescence. On the basis of this, the problem of this study put in question form is: What is the impact of home information and communication technology (ICT) and experiential learning on pupils' skill development in public primary schools in Enugu State?

Purpose of the Study

The general purpose of the study was to determine the impact of home information and communication technology (ICT) and experiential learning on pupils' skill development in public primary schools in Enugu State. Specifically, the study sought to determine the impact of home information and communication technology (ICT) and experiential learning on pupils':

1. Personal skill development in public primary schools in Enugu State
2. Social skill development in public primary schools in Enugu State

Research Questions

The study was guided by the following research questions:

1. What is the impact of home information and communication technology (ICT) and experiential learning on pupils' personal skill development in public primary schools in Enugu State?
2. What is the impact of home information and communication technology (ICT) and experiential learning on pupils' social skill development in public primary schools in Enugu State?

Methods

The study adopted a descriptive survey research design and was guided by two research questions. The population for the study comprised 317 primary (5) five pupils (146 males and 171 female pupils) sampled purposively from all the public primary schools in Enugu education zone of Enugu State. The instrument for data collection was a structured questionnaire titled "Information and Communication Technology (ICT) and Experiential Learning on Pupil's Skill Development Questionnaire (ICTELPSQ), made of 20 items, covering the two research questions that guided the study. The questionnaire was face-validated by two experts from the Department of Educational Management and one specialist from Measurement and Evaluation unit from Department of Science and Computer Education, all from ESUT. The reliability test was carried out using the test-retest reliability method and data obtained was computed using Cronbach Alpha. The reliability coefficient index of .81 was obtained. The questionnaire was distributed and collected personally by the researcher and aided by two briefed research assistants. The data collected from the respondents were presented in Tables and analyzed using mean and standard deviation in answering the research questions. In decision making, items with mean scores of 2.50 and above were regarded as Agree, while those with mean scores below 2.50 were regarded as Disagree.

Results

Research Question One: What is the impact of home information and communication technology (ICT) and experiential learning on pupils' personal skill development in public primary schools in Enugu State?

Table 1: Mean Ratings and Standard Deviations of Respondents on the Impact of Home Information and Communication Technology and Experiential Learning on Pupils' Personal Skill Development in Public Primary Schools in Enugu State.

S/ N	ICT and experiential learning impacts on pupil's personal skill development by inculcating the following skills;	Male N = 146		Female N = 171		Total N = 317		Decisio n
		$\bar{x}_1$	SD	$\bar{x}_2$	SD	$\bar{x}_G$	SD	
		1		2		G		
1	listening	3.0	0.8	2.6	1.0	2.8	0.9	Agree
		0	7	9	7	5	7	
2	critical thinking	2.4	0.9	2.3	1.0	2.4	1.0	Disagr
		0	7	9	3	0	0	ee
3	motivation	3.4	0.9	2.6	1.0	3.0	1.0	Agree
		6	1	9	9	8	0	
4	leadership	2.2	1.0	2.9	0.9	2.5	0.9	Agree
		1	0	5	3	8	7	
5	organizational	2.7	1.0	2.7	1.0	2.7	1.0	Agree
		2	3	0	8	1	5	
6	problem solving	2.5	1.1	2.4	1.0	2.5	1.1	Agree
		7	8	9	9	3	6	
7	stress management	2.9	1.0	2.3	0.7	2.6	0.9	Agree
		8	1	9	8	9	0	
8	adaptation	2.5	0.8	2.6	0.9	2.5	0.8	Agree
		3	6	1	1	7	9	
9	persuasiveness	2.9	0.9	2.2	1.1	2.6	1.0	Agree
		3	9	7	0	0	5	
10	empathy	2.5	1.1	2.4	1.1	2.5	1.1	Agree
		6	9	9	6	3	8	
Grand Mean/SD		2.7	1.0	2.5	1.0	2.6	1.0	
		4	0	7	2	5	2	Agree

As seen In Table 1, the mean ratings obtained for the male pupils on items number 1, 3, 5, 6, 7, 8, 9 and 10 ranged from 2.53 to 3.46 indicating that the respondents agree that the identified are how home information and communication technology and experiential learning impacts on pupil's personal skill development in public primary schools in Enugu State while items number 2 and 4, with the mean ratings of 2.40 and 2.21 depicts disagree responses by the same respondents. The Table also shows that the mean rating range of 2.61 to 2.95 are obtained for the femalepupils on items number 1, 3, 5 and 8 showing agree perceptions while the rest of the items has the mean ratings below 2.50 denotes disagree perceptions by the same respondents respectively. Hence, the overall (grand) mean rating of 2.65 obtained denotes that the items listed are how home information and communication technology and experiential learning impacts on pupil's personal skill development in public primary schools in Enugu State with the overall standard deviation score of 1.02 indicating that a huge disparity doesn't exist in the opinions of the respondents.

Research Question Two: What is the impact of home information and communication technology and experiential learning on pupils' social skill development in public primary schools in Enugu State?

Table 2: Mean Ratings and Standard Deviations of Respondents on the Impact of Home Information and Communication Technology and Experiential Learning on Pupils' Social Skill Development in Public Primary Schools in Enugu State.

S/ N	Home ICT and experiential learning impacts on pupil's social skill development by inculcating the following skills;	Male N = 146		Female N = 171		Total N = 317		Decisio n
		$\bar{x}_1$	SD	$\bar{x}_2$	SD	$\bar{x}_G$	SD	
		1		2		G		

11	self-control	2.4	1.0	2.7	1.0	2.6	1.0	Agree
		6	0	4	2	0	1	
12	assertiveness	2.9	1.0	3.1	1.0	3.0	1.0	Disagree
		9	7	4	7	7	7	e
13	patience	3.3	1.0	3.0	1.0	3.2	1.0	Agree
		5	5	5	3	0	4	
14	positivity	3.2	1.0	3.3	1.0	3.3	1.0	Agree
		6	2	9	8	3	5	
15	respect for diversity	2.5	1.0	2.3	0.8	2.4	0.9	Agree
		7	8	1	7	4	8	
16	etiquette	2.6	1.0	3.0	0.9	2.8	1.0	Agree
		4	5	9	9	7	2	
17	communication	2.4	1.2	2.0	0.8	2.2	1.0	Agree
		9	1	7	1	8	1	
18	corporation	3.0	0.9	2.8	1.0	2.9	1.0	Agree
		9	3	1	6	5	0	
19	conflict resolution	3.4	1.0	2.8	1.0	3.1	1.0	Agree
		8	2	9	9	9	6	
20	responsibility	2.5	1.0	2.4	1.1	2.4	1.1	Agree
		1	8	7	2	9	0	
Grand Mean/SD		2.8	1.0	2.8	1.0	2.8	1.0	
		8	5	0	1	4	3	Agree

Table 2 shows that the mean ratings obtained for the male pupils on items number 12 to 16, 18, 19 and 20 ranged from 2.51 to 3.48 indicating that the respondents agree that the identified are how home information and communication technology impacts on pupils' social skill development in public primary schools in Enugu State while items number 11 and 17 with the mean ratings of 2.46 and 2.49 depicts disagree responses by the same respondents. The Table also shows that the mean rating range of 2.74 to 3.39 are obtained for the female pupils on items number 11, 12, 13, 15, 18 and 19 showing agree perceptions while the rest of the items has the mean ratings below 2.50 denotes disagree perceptions by the same respondents respectively. Hence, the overall (grand) mean rating of 2.84 obtained denotes that the items listed are how home information and communication technology impacts on pupils' social skill development in public primary schools in Enugu State with the overall standard deviation score of 1.03 indicates that the opinions of the respondents are homogeneous.

Discussion

The findings of the study with reference to the impact of home information and communication technology and experiential learning on pupils' personal skill development in public primary schools in Enugu State, the study showed to that motivation, active listening, organizational, stress management, persuasiveness, among others are how home information and communication technology impacts on pupils' personal skill development in public primary schools in Enugu State. Here, home ICT is found to be significant in inculcating desirable personal skills into the pupils which can invariably be experiential. Hence, the need for the provision of ICT facilities at various homes for enhanced and experiential learning. The above findings concurs with Tagarira (2017) added that ICT can aid pupils in fine motor skills, gross motor skills, creative, social skills and emotional developments among others. Bakola, Rizos and Drigas (2019), stated that ICT is beneficial for the social skills development of children even those with Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD). Beukers and Bertolini (2021) added that experiential learning is learning by doing, learning by action, learning through exploration, and this has gained increasing attention as a student-centred approach capable of transforming passive learning environments into dynamic and engaging spaces.

Regarding the impact of home information and communication technology and experiential learning on pupils' social skill development in public primary schools in Enugu

State, the study showed to that positivity, patience, conflict resolution, assertiveness, etiquette and others are how home information and communication technology impacts on pupils' social skill development in public primary schools in Enugu State. Here, home ICT is found to be significant in inculcating acceptable social skills into the pupils which can invariably be experiential. Hence, provision of ICT facilities should be a necessity at various homes for enhanced and experiential learning. This finding is in agreement with Ratheeswari (2018) who described ICT as a form of technology that provide access to processed data by means of broadcastings. The most available means through which pupils access ICTs is through the home computer. Similarly, Shivan (2025) stated that through practical experiences and hands on training, students are better equipped to relate classroom theories and knowledge to understand real-world situations. The author highlighted the benefits of experiential learning to include enhanced social skills, boost knowledge, enhance problem-solving abilities, active education and build connection.

Educational Implications of the Study

The findings of this study have important educational implications for teachers, parents, school administrators, curriculum planners, and policymakers concerning the integration of Information and Communication Technology and experiential learning in public primary schools in Enugu State. The evidence that home ICT and experiential learning significantly enhance pupils' personal and social skill development suggests that learning is no longer confined to the classroom environment alone. Teachers are therefore encouraged to design instructional activities that connect classroom lessons with practical, real-life experiences supported by ICT, thereby promoting motivation, active listening, organization, stress management, and other essential life skills among pupils. The study further implies that parents and guardians play a critical role in pupils' skill development through the provision and effective supervision of ICT facilities at home. When pupils have access to appropriate ICT tools in their homes, they are more likely to engage in experiential learning activities that foster desirable personal and social behaviours. This calls for increased parental awareness on the educational value of ICT, as well as the need to guide pupils toward responsible and purposeful use of digital tools to enhance learning outcomes. Additionally, the findings highlight the need for curriculum developers and educational planners to integrate ICT-driven experiential learning strategies into the primary school curriculum. Such integration would ensure that learning activities are learner-centred, practical, and skill-oriented, rather than purely theoretical. School administrators and policymakers are also implicated, as there is a need to formulate policies and support programmes that encourage equitable access to ICT resources for pupils, particularly in underserved communities. By doing so, the educational system can reduce disparities in skill development and promote inclusive, experiential learning opportunities for all pupils.

Contribution to Knowledge

This study contributes to the existing body of knowledge by empirically examining the combined impact of Information and Communication Technology and experiential learning on pupils' personal and social skill development in public primary schools. While previous studies have often examined ICT or experiential learning in isolation, this research provides a more integrated understanding of how both variables jointly influence skill acquisition among pupils at the primary education level. Furthermore, the study adds to the literature by situating its findings within the Nigerian educational context, specifically in Enugu State, where empirical evidence on home ICT and experiential learning at the primary school level remains limited. By highlighting the role of home-based ICT in fostering experiential learning, the study expands current knowledge on learning environments beyond the formal school setting. The study also contributes theoretically by reinforcing experiential learning as a learner-centred approach that enhances personal and social skills through practical engagement and interaction. The findings provide empirical support for the view that access to ICT facilitates experiential learning, which in turn promotes holistic skill development among pupils. Consequently, the study offers valuable insights for educators, researchers, and policymakers, and serves as a reference point

for future studies aimed at improving skill-based learning through ICT and experiential approaches in primary education.

Conclusion

ICT has been found to be integral for experiential learning which foster pupils' personal skill and social skills development in public primary schools in Enugu State. From the findings made, ICT is found to be beneficial in inculcating present time skills but when these ICT facilities are not available or adequate at homes, it grossly inhibit the pupils' development especially in personal and social skills. Therefore, it is believed that when ICT are made accessible to all pupils, it would undoubtedly foster their skill development in public primary schools in Enugu State that could be experientially-based.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Government and other concerned individuals should make provisions for home ICT to enable pupils develop their skills adequately.
2. Parents should be made to recognize the benefits of ICT and endeavour to provide home ICT at home for easy utilization by the pupil.
3. The ministry of education through the local government education should supply subsidized home ICT facilities to make them affordable to parents.

REFERENCES

- Alberta, E. (2019). Information and communication technology (ICT). Retrieved on 1/08/2025. From; <https://www.techopedia.com/definition/24152/information-and-communications-technolo.p>
- Bakola. L. N., Rizos, N. D. & Drigas, A. (2019). ICTs for emotional and social skill. *Basic and Applied Research (IJSBAR)*, 52(2), 136-148.
- Bartle, E. (2015). Experiential learning: an overview. A discussion paper prepared for professor Joanne Wright, deputy vice-chancellor (Academic) for the vice-chancellor's retreat march 23rd & 24th, 2015. Retrieved on 10/10/2025. From: https://itali.uq.edu.au/files/1264/Discussion-paper-Experiential_learning_an_overview.pdf
- Beukers, E. & Bertolini, L. (2021). Learning for transitions: An experiential learning strategy for urban experiments. *Environmental Innovation and Societal Transitions*, 40 (1), 395-407.
- Boggu A. T. & Sundarsingh J. (2019). An experiential learning approach to fostering learner autonomy among Omani students. *J. Lang. Teach. Res.* 10(1), 204-214.
- Catalano, C. (2018). The development of personal skills by collaborative learning activities. *Educatia 21 Journal*, 16(10), 86-89.
- Collins, C. (2020). Definition of primary school. Retrieved on 11/09/2025. From; <https://www.collinsdictionary.com/dictionary/english/primary-school>.
- Cullinane, C. & Montacute, R. (2017). Improving essential life skills for young people. Retrieved from; https://www.suttontrust.com/wp-content/uploads/2017/10/Life_Lessons_Report_FINAL.pdf
- Echtelt, R. V. (2024). What are skills? Explanations & examples. <https://www.ag5.com/what-are-skills/>
- Education and Training Directorate. (2015). Primary schools (public). Retrieved from: <https://www.gssrr.orx/index.php/JournalOfBasicAndApplied/article/view/11250/5681>
- Guo F., Yao M., Wang C., Yang W., Zong X. (2016). The effects of service learning on student problem solving: the mediating role of classroom engagement. *Teach. Psychol.* 43(2), 16-21.

- Maksum, A. (2021). Path Analysis of Self-Regulation, Social Skills, Critical Thinking and Problem-Solving Ability on Social Studies Learning Outcomes. *International Journal of Instruction*, 14(3), 613–628.
- Mathew. K. (2020). Develop The Skills You Need For Life. Retrieved from: <https://www.skillsyouneed.com/>
- Nikolopoulou, K. & Gialamas, V. (2017). Young children's access to and use of ICT at home. Retrieved from; <https://scispace.com/pdf/young-children-s-access-to-and-use-of-ict-at-home-2gnqz9fu7k.pdf>
- Nwosu. O. H. (2021). Students' perception and attitude to ict education in colleges of education in Anambra State: Management implications for quality education. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 2(1), 391-404.
- Nyqvist, K. H. & Engvall. G. (2019). Parents as their infant's primary caregivers in a neonatal intensive care unit. *Journal of Pediatric Nursing*, 24 (2):153-163.
- Okenyi, E. C., Ugwuanyi, C. S. & Ugwu, G. C. (2018). Appraisal of the status of instructional materials, water and environmental sanitation in early childcare centres in public primary schools in Udenu Local Government education authority. *Journal of Research and Practice in Childhood Education*, 4(3), 1-13.
- Okoli B. E. (2017). The entrepreneurial skill needs of business education students in information and communication technology driven business environment. *Journal of Business and Vocational Education*. 2(1), 97-104.
- Olowe, P. K. & Kutelu, B. O. (2014). Perceived importance of ICT in preparing early childhood education teachers for the new generation children. *International Journal of research in education (IJERE)*. 3(2), 119-124
- Onyebuenyi, P. N. & Mbah, C. O (2018). Air conditioner maintenance skill training needs by technical college students for job security in Abia State. *Proceedings of the paper presented at the 2018 international annual conference of faculty of education (ESUT) Enugu, Nigeria*. 14th – 17th May, 2018.
- Ratheeswari, K. (2018). Information technology in Education. Retrieved from; <https://www.researchgate.net/publication/325087961>
- Renuka, A. C. (2018). Child abuse: An ugly truth. Retrieved from; <http://www.childhealth-explanation.com/child-abuse.html>
- Ryan, C. & Lewis, J. (2017). Computer and internet use in the United States. Retrieved from; <https://www.census.gov/library/publications/2017/acs/acs-37.html>
- Shivan. K. (2025). What is experiential learning and why is it important? Retrieved from: <https://www.21kschool.com/ng/blog/what-is-experiential-learning-and-why-is-it-important/>
- Social. M. (2018). Agents of socialization. Retrieved from; <https://www.socialmettle.com/agents-of-socialization>
- Tagarira, A. T. (2017). Benefits of ICT in early childhood education. Retrieved from; <https://www.ukessays.com/essays/childcare/benefits-ict-childhood-education-6369.php>