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Faculty of Teacher Training and Education (FKIP)  
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Telephone (0274) 513301, 515352, Fax (0274) 562383  
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## **SOCIAL NETWORK FOR LEARNING: AL-HIKMAH UNIVERSITY UNDERGRADUATE STUDENTS' PERSPECTIVE**

**Semiu Olawale MAKINDE**

Al-Hikmah University, Ilorin, Nigeria

correspondence: somakinde@alhikmah.edu.ng

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### **Abstract**

This study was carried out to investigate the awareness and utilization of social network for learning among undergraduate students at Al-hikmah University, Ilorin, Nigeria. Gender, technology background, age, level, and area of specialization are the variables involved. The descriptive survey research design was employed to draw responses with the use of self-structured questionnaire. All Al-hikmah university students are the population of the study while the target population are 200level to 400level students from which a sample size of 400 undergraduate students was selected via random sampling techniques from six out of seven faculties available. The instrument was validated by experts and the reliability co-efficient using a split-half test was 0.86. Four research questions and one hypothesis were used for the study. Frequency distribution, charts, and t-test were the statistical tools used to analyse the data. The findings indicated that social network is used for educational purposes with improved engagement, better understanding of the subject matter as it helps to reinforce learning with technology because 80.0% of learners were digital native. Despite the benefits, social network can interrupt personal study, distract the conventional classroom learning, loss of privacy and exposure to cybercrimes as indicated by the respondents with 82%, 68%, and 55% respectively. Hence, Tertiary Institutions should organize series of seminars, workshops, conferences to update, enlighten and encourage students and lecturers on the good and not forgetting the not too-good and disadvantages attached with the use of social network as a tool for learning and interaction.

**Keywords:** Undergraduates, awareness, utilization, social networking, learning ICT

### **Introduction**

Social Network is said to be a social structure comprising of a set of Social Actions such as (individual or organization) set of duo ties and other social dealings between them. The Social Network perspective comprises of a set of methods for analysing the structure of a whole social community as well as a variety of theories describing the patterns followed in these structures (Wikipedia, 2015). The study of Social Network has received significant interests from

researchers in various domains of learning especially in Education since knowledge acquiring have moved from teacher-centred to students-centred for efficiency and effectiveness. It is also becoming a vast approach in the field of technology where artificial is gaining more grounds (Barker, 2013).

The secondary and next level of Education is a bit more involved as they actively make use of Social Network within and outside the classroom environment. The teacher uses interactive boards and sometimes overhead projectors to teach while students make use of gadgets like the tablets, palmtop, I-pads and sometimes the personal computers as an add-up to the conventional classroom. Using Social Networking sites helps to create virtual images, concretize learning, emphasizing the benefits of learning with technology, they get to practise more on their own what has been learnt in class (example of such are Games and Simulation, Drill and Practices is the Scrabble) this creates an avenue for learners to gain more and at their own pace. (Groff & Haas, 2008).

However, Utilizing Social Network tools with large students' group might create a problem, challenges an advantage of increased Awareness or appreciation are complexity of typically observed behaviour in Social Learning environment which may help the Academic abilities of Undergraduates students to manage the tools (Osborne, 2012). When Social Network is discussed the term ICT cannot be overlooked, ICT is a broad term used to describe information and communications technology, it is a process of acquiring, processing, storing and distributing information by a combination of computer, cables and telecommunication tools and techniques.

### ***Concepts and Relevance of Information and Communication Technology***

Information Communication Technology is one of the various significant/important discussion in the present world. ICT comes from the combination of Information Technology and Communication Technology that is the method of storing manipulating and communicating information. It is a generally used term to describe any technology that helps with the production, manipulation, storage, communication or dissemination of information, IT applies to the expansive, complex and in exhaustive programs with electronic devices usually processing data in binary format. The use of the internet on social network by students need adequate training and skills which supposed to be from the early stage of their life. according to the study of Makinde and Bolaji (2019), it was opined that integrating the internet services in secondary schools will improve the standard of education and encourages critical thinking of the students towards their learning. This may not be possible if children are not been familiar with the nitty-gritty of the social media tool at the early stage of their learning process.

According to Makinde (2019), lecturers should not worry much on the design and production of materials for their classroom, the internet has a numerous quantity of resources and materials they can imbibe into their lessons. Not only does this lessen the workload but also gives room for students with diverse interest and level of retention and assimilation to catch up. It was observed that the interest and readiness can be studied by evaluating students' knowledge (George, Papachristou, Belisario, Wang, Wark, Cotic, & Musulanov, 2014), ICT

skill (Seraji & Yar Muhammadi, 2010; Anene, Imam & Odumuh, 2014), self-tutored learning (Kaur, 2014; Chu & Tsai, 2009), attitude (El-Gayar, Moran & Hawkes, 2011; Hussein, 2011) in e-learning and computer and internet efficacy (Kumar, 2017; Seraji, 2013) among others.

Efficient, effective and reliable information would be disseminated among students and teachers in the interactive systemized society through ICT. Teachers are advised to introduce ICT into their classroom to plan, deliver assess information and give instruction. Usage of social networking sites provides a venue for clients to freely express themselves and the open-access of social networking sites enables those with valid account to interact. The nature of interaction between users is often confined to the profile information that explains a user's preference to accept data (Posey, Lowry, Roberts & Ellis, 2010).

Makinde (2010) opines that since the world is moving towards the use of ICT in various areas of human activities, in order to improve on Nigeria educational system, there is need for internet resources like social networking not only as tools for information and communication but also as a course of study or discipline in higher institutions. The benefits of using the internet services include: (a) accessing information easily, (b) getting accurate information at a glance, (c) improving academic collaboration and communication, (d) improving the channel of cooperation between students and between lecturers/instructors, encouraging students' ability to identify and analyse problems and promote adequate retention of learning materials (Makinde, 2017), and (e) growing learners' learning charisma and promoting learners' self-confidence in internet service applications (Makinde, 2010).

### ***Social Networking in Education***

In an effort to promote authentic learning through usage of social network sites the educational sector thought that encouraging authentic communication by allowing these sites to be run by their peers (students should form a part of the team in charge of the pursuit). The university would play an oversight and supervisory role acting as the king behind the siege. In order to reinforce and concretize learning lecturers/tutor are beginning to provide access to relevant information including; research results, practical simulations, and other real-world or simulated data in an appropriate format. There are challenging tasks that drive the reasons to utilize, transform, apply, and reinterpret the information and lessons learnt in the traditional or online classroom.

Advancement of web technology is correlated to increase of membership of social networking and online collaborative work, a network that brings people together for a mutual aim (Acum, 2010). The social network is coming into existence and shaping the way that people communicate, interact, collaborate, work or even learn (Gulbahar & Kalelioglu, 2010). Social Network is useful to "Showcase", "Make known" "Advertise" work is done, research was done by Students, Lecturer, Researchers and the entire educational sector, also to elicit comments, seek opinion, make suggestions upon such works in other to attain operative efficiency and productive effectiveness (Thomas & Thomas, 2012).

***Influence of Social Network on Learning***

The impact of the internet and social network in education is a very delicate but important part of the teaching and learning process making it a critical issue in recent years. The internet is a very essential part of life, especially for enjoyment and education. It is vastly used among large community using internet for purely educational purposes, unfortunately, previous years youth, upcoming generation (teenagers) have begun the usage for majorly entertainment and unruly activities.

Tess, (2013) judged that social network serves educational goals and objectives by involving students through such informal methods as it allows students (learners) through the process of joint sense-making, collaborative learning, participatory and discussion forums. Some social network platforms are specifically created for educational environment including linked.in communication which is fully featured for educational purposes and let the user update educational documentations and make a professional connection. The influence of social network in education is numerous and can be is delicate.

<b>Positive Influence</b>	<b>Negative Influence</b>
Communication with colleagues and friends who are separated by geographical location	Attention to detail, pronunciation and grammar have declined and reduced drastically.
Suggestions, perceptions and thoughts are given over different topics among users	Students get addicted to the social network instead of spending time with family and friends.
It increases awareness among the mass with up- to- date information	The more time they spend on social network sites the less they spend socializing in person.
It helps to educate students by allowing learners and teachers on the same platform	Active involvement of students on social network sites reduces their attention span, focus consequently their academic performance declines.
They are exposed to continuously new ideas, given a big chance to create and explore	Students maintain privacy while uploading photos which may lead to criminal activities.

The social network is a self-networked resource serving as a key site for sociality and identification, recognition in many people’s life (Papacharissi, 2010). The indispensable changing nature of a student who is just being admitted into a tertiary institution will ultimately see the importance of the social network in the higher institute of education in a practical sense. Its attributes reflect a highly creative, collective and connected qualities application that is highly friendly, fluid and speedy in nature.

***Students Utilization of Social Network for Learning***

Social media is a group of interrelated internet-based applications that are built on the ideological and technological foundations of Web.2.0 and allows the creation, modification and exchange of user-generated contents (UGC). User-generated content covers a variety of media content available in different ways and forms of modern communication technology it entered into limelight of

mainstream usage in 2005, having aroused in web publicity and new media content sharing production circles.

Dessy and Dwijanto (2019) opine that learning media would be accessed through android and teacher can use PowerPoint slide to present the material at the beginning of teaching. It facilitates teacher to share knowledge. Such packaged learning materials are purposed to facilitate educating students systematically, directive, and in line with targeted objective. Learning media is presented by practising (to input the data quickly and to show the result in the form of an already selected diagram and to help them master the already learnt materials). Social media is a compartment of all digital media technology such as question and answer databases, digital video and animation, blogging, podcasting, forums, wikis, review sites, social network, mobile phones and photography.

Teachers and Professors are doing everything in and outside their reach from creating chat rooms, forums and application to extend classroom discussion to posting assignments, tests, quizzes to assist with students homework outside of the classroom, it also fosters teacher-parent communication as parents have the privilege to discuss and be updated on their wards performance in other for them to know where and when to assist and encourage their wards. Idakwo (2011) uphold the truth that the usage of social media as a means of reaching out to the world has been adopted in Nigeria.

#### ***Al-Hikmah University Contributions Towards Adequate Social Networking***

Al-Hikmah University, Ilorin, Nigeria was coming into existence through Abdur-Raheem Oladimeji Islamic Foundation (AROIF), Nigeria in 2005. The University was granted License to exist as a Conventional Private University on January 7th 2005 by the Federal Government of Nigeria, FGN with License No. 010. Academic activities commenced during the 2005/2006 academic session with three (3) take-off Faculties: (Humanities, Management Sciences and Natural Sciences) and total pioneer students were 70 students spreading across the faculties.

Presently, Al-Hikmah University has seven (7) Faculties (Humanities and Social Sciences, Management Sciences, Natural and Applied Sciences, Education, Law, Health Sciences and Agricultural Sciences). It has 57 Undergraduate courses; 7 Diploma programmes and 28 Postgraduate Programmes being managed by the Postgraduate School of the University. In addition, the University also has 9 Centres which includes Diploma and JUBEB Studies, Summer Studies, ICT and Distance Learning, Part-time and Professional Studies, Remedial and Extra Moral Studies, Centre for Islamic Economics and Finance, Islamic Heritage and Community Development, Research and International Cooperation, and Entrepreneurial and Vocational.

Today, the students' population is over 4000 for both undergraduates and postgraduates and all courses are duly approved and accredited by National Universities Commission, NUC. The University is among the forerunner's Nigerian universities as a conventional private university with a well-articulated mission and vision that summed up in its motto: "Learning for Wisdom and Morality".

The curriculum of the Institution is tailored towards promoting academic excellence through the use of innovative technology and also ensuring moral and spiritual uprightness of the youths irrespective of gender, religion, social and political affiliation, and racial or ethnic group, particularly in the face of vicious challenges posed to humanity at this digital age of the 21st century (Ibrahim, 2020).

The Al-hikmah university amongst other prestigious private institutions in Nigeria has taken into consideration the need to use the social network for learning in the institution. In an effort to make learning more fun for students, one of her centres- Centre for Research, Industrial Linkage and International Cooperation (CRIIC) organized a workshop on students' research soft skills in November 2019 for both freshers and returning students. This workshop covers major areas of social network like "Searching for Materials Online Using Search Engines and Techniques of Paraphrasing in Research; Report Formatting and Automated Referencing Using Ms Word, Mendeley And Endnote; Linking Title, Introduction, Literature Review, Analysis and Discussion in Research; and Getting Started with SPSS for Data Analysis". (See Appendix 1.). This is to enable the students apply the experience for educational related programmes, instruction, online content and context, assignments and sometimes examinations been conducted. Also, other educational applications that may be used on mobile devices/ smartphones can be easily annexed with the experience.

The ICT, a department that oversees the ICT and student's portal has made provision to make wireless internet connection (Wi-Fi) on campus at affordable cost, this is to further explore to upgrade, reinforce and concretize their learning

The risk of Social Networking is numerous, some of which are: It gives users the opportunity to communicate without seeing one another and can damage their interpersonal communication (verbal relationship), cybercrime and fraud. Social Network makes the user see one another as "individuals" to be accused and toy instead of a person of great worth and good standard (Ahmed, Qazi, & Hargittai, 2011). Social Network can promote passions of sui generis and reduce passions of chumminess and cooperation between the users; users become remorseless to dissociation. It is in line with the above discussion that this research targets to examine the level of "Undergraduates Students Awareness, and Utilization of Social Network for learning in Al-hikmah university, Ilorin".

### ***Research Questions***

1. Are Undergraduates Students of Al-hikmah university, Ilorin aware of Social Network for Learning?
2. What is the level of Awareness of Undergraduate Students of Al-hikmah university, Ilorin on Social Network for Learning?
3. What is the rate of Utilization of Undergraduates Students of Al-hikmah university, Ilorin on Social Network for Learning based on Area of specialization?
4. What are the Disadvantages / Risks and Problems of using the social network for Learning?

**Research Hypothesis**

Ho1: There is no significant difference among Undergraduate Students Awareness and Utilization of Social Network for Learning based on Area of specialization.

**Method**

This study is a descriptive research design of the cross-sectional survey type. The population for this study comprises of the entire Undergraduates Students of Al-hikmah University, Ilorin, Nigeria. The sample size is drawn from across the area of specializations like Education, Health Sciences, Humanities & Social Sciences, Law, Management Sciences and Natural & Applied Sciences. Agricultural Sciences was not included because the programme just approved to commence on 20th January 2020 by the National Universities Commission (NUC). Also, freshers, the newly admitted students were not involved, only 200Level to 400level students were considered. The respondents were administered hard copy questionnaires by the researchers personally using a convenience sampling technique. The study was conducted specifically with 400 participants in December 2019. With regards to ethical consideration, consent of the participants was taken before they filled in the questionnaire. Participation was not compelled and anonymous. The demographic data of the respondents is indicated in Table 1.

Table 1. Demographic Profile of the Respondents (N=400)

Demographics	Respondents	Percentage (%)
Gender		
Male	244	61.00
Female	156	39.00
Age		
Less than 18 years old	60	15.00
18 to 25 years	280	70.00
26 to 35 years	40	10.00
36 or older	20	5.00
Level of Education		
200Level	116	29.00
300Level	128	32.00
400Level	156	39.00
Area of Specialization		
Education	80	20.00
Health Sciences	58	14.50
Humanities & Social sciences	94	23.50
Law	64	16.00
Management Sciences	54	13.50
Natural & Applied sciences	50	12.50

Technology Background		
Digital Native	320	80.00
Digital Migrant	80	20.00

**Instrumentations**

The instrument used for data collection was a self-constructed questionnaire titled “Undergraduates Students’ Awareness and Utilization of Social Network for Learning”. The questionnaire is divided into 2 major parts A and B. Part A is the background, demographic and personal characteristics of respondents. Part B contains questions on the Awareness and Utilization of Social network. The questionnaire was homogenously keyed on a 4 Likert type rating scale and the participants/respondents are guided to respond to each question/ item thus: Strongly Agree (SA) (4), Agree (A) (3), Strongly Disagree (SD) (2), and Disagree (D) (1). The questionnaire was distributed to the respondent (Undergraduate Students of Al-hikmah University, Ilorin, Nigeria) by the researcher and was collected immediately to ensure accurate return rate.

The instrument validity was determined first by four highly experienced lecturers of the Science Education, Computer science and Information system departments of Al-hikmah university, Ilorin before using for data collection. The reliability of the research instrument was obtained using a split-half test using the odd and even-numbered items to form the halves. The two halves were administered to a sample of students from the University not selected for the main study. The Pearson Correlation Coefficient was used to determine the reliability of the instrument. A co-efficient value of 0.86 indicated that the research instrument was reliable; hence it was adopted for getting the desired information for the study.

The data collected were analysed using frequency percentage, mean test, inferential statistics, t-test. Frequency distribution table, pie and bar charts where appropriate in order to ensure that the research is clear and easily understandable.

**Findings and Discussion**

Table 1 above indicated that the age range of the majority of the respondents at 70.0% was between 18 to 25 years old, followed by respondents under the age of 18 at 15.0%. It was obvious that respondents were majorly composed of millennial. The table also shows most of the respondents are in 400 level at 39.0%, closely followed by students in 300 level at 32.0% and the least are in 200 level at 29.0%. This table also shows that all three levels considered are well represented in the study. The highest number of respondents was students of humanities and social sciences who represented 23.5% and the least represented are students of natural and applied sciences who were just 12.5% of the sample. It was also revealed that most of the respondents at 85.0% are digital natives, this is no surprise given the age of majorly sampled population found to be millennial.

**Research question 1:**

Are Undergraduates Students of Al-hikmah University, Ilorin Aware of Social Network for Learning?

Table 2. Undergraduates Students Awareness and Use of Social Network for learning

Item	Freq.	SA (%)	A (%)	D (%)
Students Awareness of Social Network	336	83.6	14.9	1.5
Students Awareness of Social Network for learning	320	80.0	16.5	3.5
Students Use of Social Network for learning	174	43.0	37.0	20.0
I actually use social Network for my courses	174	24.0	20.0	56.0

Table 2 shows that almost all the respondents are exposed to social networking, only 1.5% of respondents indicated that they were not. 83.6% strongly agreed and 14.9% agreed they are aware and exposed to the use of social network. A huge number of respondents at 80% strongly agreed and 16.5% agreed that they are aware that social network can be used to facilitate learning. 3.5% of respondents indicated that they were not aware of the use of social network for learning. Of the 43% who strongly agreed and another 37% who agreed they are aware that social network can be used for learning, only 44% affirm they actually use social network for learning. We can be inferred from this response that the level of awareness is high but actual use is low.

**Research question 2.**

Is there a difference in the level of Awareness of Social Network for Learning of male and female Undergraduate Students of Al-hikmah university?

Table 3. Level of Awareness based on Gender

Item	Frequency	Percentage (SA + A) (%)
Level of Awareness Based on Gender	132	60.0

Table 3 shows that 37.0 % of respondents agree that the level of awareness of social network tools for learning is different between male and female and another 24.0% strongly agree same. So, it can be inferred that there is different level of awareness based on gender.

**Research question 3**

What is the rate of Utilization of Social Network for Learning of Undergraduates Students of different faculties in Al-hikmah university?

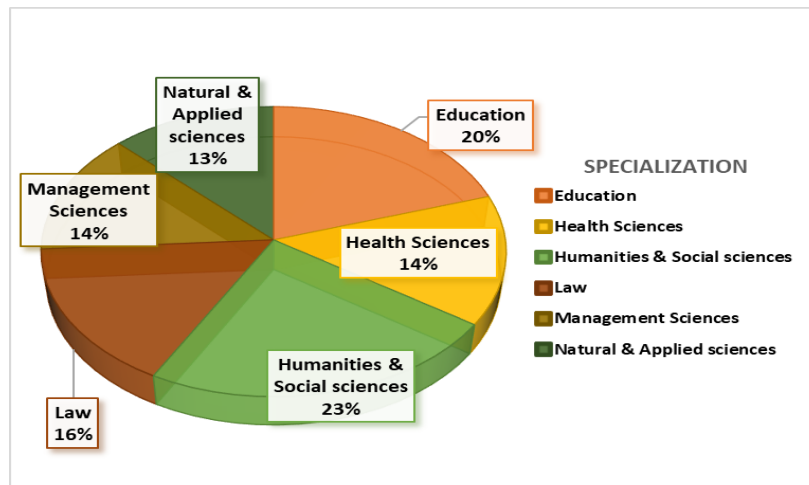


Figure 1. Pie chart showing the rate of utilization of social network based on discipline/ specialization

Figure 1 above shows the faculties/specialization and the level of utilization of social network for learning among students in each of the faculties. Students of the faculty of Humanities & Social sciences rank first with 23% rate followed by Education, 20% while students of Natural & Applied sciences use social network for learning the least with 13% rate of utilisation. Management sciences and Health sciences are at per with 14% utilization rate.

**Research question 4.**

What are the Disadvantages / Risks and Problems of using a social network for Learning?

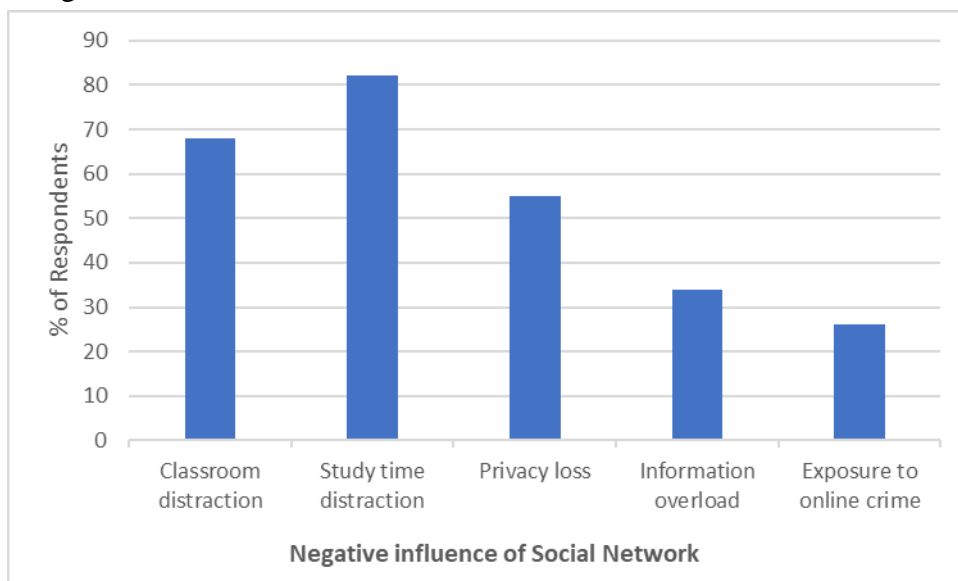


Figure 2. A chart showing disadvantages, risks and problem associated with utilization of Social Network for learning as perceived by respondents.

Figure 2 above shows the factors perceived to be risks and disadvantages of using social network for learning. 82% of respondents indicated that disruption of their personal study is a disadvantage of utilization of social network. 68% of respondents also indicate that social network can distract the conventional classroom learning. 55% of respondent also cited loss of privacy and exposure to cybercrime as a risk of using social network. 34% of respondent think utilization of social network for learning portends the challenge of information overload. While 27% of respondents think users can be exposed to online crime both as victim and as culprit in crimes like plagiarism, intellectual theft and other crimes that can result from online presence through social network.

**Hypothesis Testing**

H<sub>0</sub>: There was no significant difference among Undergraduate Students Awareness and Utilization of Social Network for Learning based on Area of specialization.

Table 4. t-test on significant difference among Undergraduate Students Awareness and Utilization of Social Network for Learning based on Area of specialization.

	Sum of squares	Df	Mean Square	F	Sig.
Between Groups	9.772	6	1.19	2.102	.042
Within Groups	222.868	389	.570		
Total	232.640	395			

Going by the Table 4 above, since we reject the null hypothesis, we accept the alternative hypothesis. The null hypothesis was rejected because the significance value of (.042) of F(2.102) was less than alpha value of 0.05.

**Discussion**

It can be concluded that after this research work has been carried out there is a revealing difference between Undergraduate students’ Awareness and Utilization of Social Network for learning at Al-hikmah University, Ilorin. The research works shows with substantial and concrete evidence that Undergraduate Students are aware of the use of social network for learning but are restricted in its usage because of the risks, problems and disadvantages associated to its use.

Based on Area of Specialization, some faculties have inculcated its use into their curriculum right from the basis and their students are accustomed to it. It was very challenging to judge the utilization rate by a mere response from the respondents’ questionnaire but this study submits a sampled response on the utilization rate of social network for learning by faculties. All respondents agreed that social network is an online tool can be introduced to the instructional process to provide answers for snoopy mind, a platform for anyone, anytime and anywhere.

## Conclusion

The results gathered at the end of this research shows that a substantial number of Undergraduate students' use a social network for learning. The level of Awareness and rate of Utilization of social network for learning by Undergraduate students of Al-hikmah University has been determined, its benefits and adverse effects on students have been confirmed from the findings of this research. There are also various reasons for which students use social network either to achieve one academic pursuit or the other, to be entertained, a great avenue for them to learn at their own pace and many more have been investigated.

Social Network as earlier discussed is an online tool using cloud computing as interphase to connect people who are separated by distance geographically. For educational upgrading and improvements, it serves as a to complement traditional classroom teaching. It's a turnpike for students to take command of their teaching and learning progress as education is now students centred, where students can learn at their own pace. It could be used to concretize and reinforce the instrumentation and evaluation process to making it more effective and efficient.

Social network will go a long distance in moulding and shaping education in the nearest future as emerging technologies keep springing up every second due to endless research, the globalization and connection all over the world have helped to put information at the fingertips which are just a click away.

From the research finding, social network is seen as a source of direct motivation, support and response to the need of students whose unending demands for adequate information, Communication, disseminate, discussion and mobilization of quality information have to be met. Social network ability to educate and teach at students' pace, informative in nature, edutainment and inflaming audience and group collaborative work.

It is hereby recommended that students should accustom themselves with the numerous advantages and opportunities associated with the utilization of social network for learning. Students who are heavy users, and always online should be monitored and the time spent on social network platforms especially for entertainment should be also moderated. Rather they should use it for learning to avoid addiction and create a balanced relationship between their offline and online lives while using the platform.

Lecturers who want to be abreast of the unfolding information and upgrade happening in the educational realm should be current and well informed in the use of ICT.

Parents and School Administrators should provide, regulate and help with the provision and usage of GSM Phones, tablets, laptops and other portable gadgets that may be used as a support for notes during lectures.

Tertiary Institutions should organize series of seminars, workshops, conferences to update, enlighten and encourage students and lecturers on the good and advantages not forgetting the not too-good and disadvantages attached with the use of the social network as tool for learning and interaction. Laws should be stated to manage and regularize the content of social media which will serve as guide and measure to control what students do, access and disseminate on the social network sites.

The social network would smoothen the connection and interaction of students, lecturers and professionals in relevant fields of study. Nigeria Communication Commission should provide broadband width to improve network connectivity within the school premises to further enhance proper control of what students do on social network platforms.

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## **THE USE OF ICT IN THE PROFESSIONAL DEVELOPMENT OF TECHNICAL AND VOCATIONAL EDUCATION INSTRUCTORS IN SUDAN AND EGYPT**

**Hassan A. El-Sabagh and Hashim A. E. Ahmed**

Umm Al-Qura University, Saudi Arabia  
and University of Bahri, Khartoum, Sudan  
[haelsabagh@uqu.edu.sa](mailto:haelsabagh@uqu.edu.sa); [hashim623@yahoo.com](mailto:hashim623@yahoo.com)  
correspondence: [haelsabagh@uqu.edu.sa](mailto:haelsabagh@uqu.edu.sa)

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### **Abstract**

This paper provides an initial attempt to study and investigate the interactive relationship between vocational and technical education instructors and using information and communications technology (ICT) and its impact of the professionalism of their work. The paper compares the ICTs usage in vocational and technical instructors in Sudan and Egypt as important countries in Africa. This paper explores two contexts "environments" that initially appeared a little bit different. It presents results of a survey administered to several instructors in Sudan (95) and in Egypt (120) which show that, excepting a few tasks, vocational instructors in both countries. Instructors from both countries responded similarly about (a) where they learned about ICT (for example, computers and Internet) and (b) the usefulness of ICT for technical and vocational centers in both countries. They also indicated feeling minimal concern when using technology. Furthermore, differences were in evidence in both countries where desire to use technology was concerned. Overall, Sudanese instructors showed a greater features and range in their choices when given the option to traditional teaching methods preferable than technology use to complete various tasks, whereas Egyptian clarified more attitudes toward technology compared to other context.

**Keywords:** ICT, instructors, technical education, vocational education

### **Introduction**

Information and Communication Technology has become a very important component in all aspects of life particularly in education, and as (Mocanu & Deaconu, 2017) mentioned, life mainly reliant on the opportunity of using the numerous technologies.

ICT offers many possibilities for use in education. The use of technology in the educational process would achieve impressive results in educational outcomes, especially with regard to teacher training, and whenever the efficiency of instructors is raised in this field, no doubt, it's positively reflected on students regarding searching for knowledge and information, preparing lessons and communicating with instructors... etc.

There is an important role that instructors can do in order to renew teaching methods and apply communications and information technology. Therefore, training centers play a vital and decisive role in providing instructors with everything new and innovative in this field. Such as Bound, H., 2011; Vermeulen et al (2017) confirm that teacher training centers are affording the instructors of the forthcoming assume that they remain the key data in such development.

Despite clarifying importance of contributing information and communication technology in the educational situations and necessity to provide instructors with adequate of ICT for their work. As Gastelú, C.A.T, et al., (2015) who emphasize the level and amount to which ICT is presence and how it used in education enthusiastically. The situation is to some extent frustrating with regard to vocational and technical education generally.

Some researchers have indicated to this problem, such as: Deaconu, A., et al., (2018) who emphasized that the use of ICT in vocational and technical education as general is unsatisfactory, despite high prospects about the technology advance in education that have not been ensued. Mainly, the key efforts to involve and present the computers technology in education were centered-based, the instructor role in the innovation learning being reduced. Other study declared: These innovators persuaded to sight instructors as initiators of arranged tasks, concluding that complete tasks had to be framed to transfer the instructors to use computers in the classroom. Research has primarily stated the implications of learning with ICT for students or reasons influencing the employment of ICT by instructors, to increase more vision into the shifting roles of instructors using ICT in the technical classes. (Smeets, et al. 1999).

This paper highlights the status of information and communications technology and its use by instructors in vocational and technical education in Egypt and Sudan. Three research questions are formulated. First, what is the current situation of vocational and technical education in Sudan and Egypt and ICT use? Second, which means of technological media are preferable for TVET instructors? Third, how do instructors perceive the usefulness of technology for various center subjects and in future situations?

### ***Technical and Vocational Education in Sudan***

In Sudan, technical and vocational education and training (TVET) is considered more expensive education than the academic one, so the government depends mainly on establishing, financing and operating the TVET on nongovernmental agencies, and foreign aids at state and central levels. According to Washi, (2004), the launch of technical and vocational training in Sudan was in 1956, when vocational training center (VTC) in Khartoum was established to promote the skills of current employees. At that moment, the training center activities have been increased toward embracing vocational examination programs and skills measuring to individuals over the informal methods and usual vocational training. Accordingly, difficulties and challenges of school failure were demonstrated, and in 1964, the internship program had known succeeding adolescence to the level of a trained employee by assistance of German government. (Washi, 2004).

In early 20th century in 1901 the technical education in the Sudan was started through the establishing of technical secondary schools at Gordon College (these schools have developed to the University of Khartoum in 1956). According to (Bashir, 2006) such schools were developed to be technical colleges which became oriented to teach various disciplines such as engineering, electricity and veterinary medicine to accomplish needs of the government regarding the technicians (Bashir, 2006). The first middle technical school was created in 1907, hence the technical schools were extended to be about 28 schools. In 1954, the basis of Khartoum Technical Secondary School perceived, some modern departments were settled such as: electricity, carpentering, engineering, mechanics,...etc.. In 1960, a Higher Vocational College was established to engage students from vocational schools. According to Bashir, (2006). Such college that established according the international standards joined with a very decent educational environment and provided the local and external labor market with talented engineers in several fields. It was categorized by concentrated training programs supported by laboratories (Bashir, 2006).

#### ***Technical and Vocational Teacher in Sudan***

Now in the Sudan, there are more than 400 vocational trainers that can be categorized into three groups: the first is consisted of experienced employees constitute around 5% of the entire number of trainers. This group is reducing because of the shortage of new enrolment. The second group included trainers of past graduates of VTCs who constitute about 70% of all trainers. According to Washi, (2004) some of those trainers promoted their skills to qualify for better working positions. The third group resides of university or college graduates were about 20% of trainers. This type of employ is not attractive to most Sudanese trainers which led to movement for many of them for better situation. Regarding instructors training, training program was presented through the federal Republic of Germany from 1964-1995 in which about 200 instructors were qualified. At present there are now more than, 470 of technical instructors working in the technical secondary schools throughout the Sudan. Unfortunately about 40% of them untrained and need to be qualified either by practical training or university studies.

#### ***Technical and Vocational Education in Egypt***

The technical education generally represents the stage finished in most Arab countries (with a note to open a channel of higher education in part to some graduates of Technical Track- under certain conditions, in Egypt for example, and within 5% of those graduates). And the job of technical education in this way is to provide the labor market with its needs of different disciplines, from certain levels of employment.

In the Egypt, followed by (technical education) and the Ministry of Education, basically, where it currently has about 1810 technical school, enrolled nearly two million students (1.9 million) and go to the labor market, including more than 620 thousand graduates a year, according to official estimates. (MoM, 2008). In exchange for two million students from technical secondary education,

the students' number of secondary education, almost one million students, so the ratio is about 2:1 respectively (WB&ETF, 2006).

One of interesting projects in domain of TVET is pilot project: "Mubarak's project - Kohl"

The pioneering experiment for the development of technical education in Egypt called the (draft Mubarak - Kohl for the development of technical education and vocational training in Egypt). The idea of the project in 1991 and began steps to take effect in 1993 - then the practical application began in 1995 through a pilot project in city of "El-Asher min Ramadan", and then spread to other locations and new areas.

The most pioneering signs in (Mubarak's project - Kohl) as follows: The project is an advanced step on the way to raise the level of efficiency "quality" of students and graduates of Technical Education, who will be prepared as instructors in the future or civil servants. Accordingly, the students spend due to Egyptian schools' project two days inside the school and four days in the factories involved. It is implemented in relatively developed technical sites in the field, technological and management, new industrial cities and in agreement with the associations of investors or major companies. The responsibility of manufacturers and related companies include training students and afford this training (under the contracts for training and gives the student trainee financial reward monthly during the study period also enjoy priority appointment factory or company in accordance with the priorities. The project is implemented in three governorates: Giza, Qena, and the province of Dakhlia. Capacity development employment is eligible for youth employment in the workplace appropriate (UNEVOC, 2006).

### ***ICT in both environments***

Information and communication technology (ICT) is very gelatinous term expanded on all aspects of life. Many scholars tried to give specific definition to such idiom. For example: Smeets, (1996) emphasized the ICT is a comprehensive term stating to technologies that are being used for assembling, storing, editing and passing on information in several formulae. The best-known instance refers to using ICT in education is computer, nevertheless the term multimedia is also commonly used. Multimedia refers to a blend of data carriers, for instance video, internet and software in which the opportunity for presenting an interactive approach (Smeets, 1996). Recently, ICT definition developed more generally used by Fong (2006) who described that information and communication technology (ICT) is a central term that involves communication tools as devices or applications, for example: radio, television, smart phones, computer and networks, ..etc. But Derek, (2008) presumed that a modern labor market is almost unreasonable in case of lacking ICT, digital literacy is progressively detected as a vital competence.

According to table no. 1, the demographic information for Egypt and Sudan systems (Population, Fixed telephone lines, Cell, Computers, Internet Users, Population covered by mobile signal) could be illustrated.

Table 1. Demographic Information for Sudan and Egypt Samples (2016)

Demographic category	Context	
	Sudan	Egypt
Population (millions)	36,345,935	95,041,072
Labor force (million)	10.92	28.95
GDP (US\$)	\$180.1 billion	\$1.152 trillion
Fixed telephone lines	136,472	6,118,250
Mobile cellular	27,807,293	97,791,441
Internet users %	28.0%	39.2%
Internet users in Sudan & Egypt	10,284,260	37,122,537

**Situation of ICT in Egypt**

The Ministry of Communications and Information Technology (MCIT) launched ICT polices in 1999. Two strategic objectives were perceived by the specialized ministry: one is to binge ICT tools throughout the country and the second is to put the base of an export-oriented ICT industry. Several of the governmental policies and enterprises aiming accomplishment of these objectives are made known to the general community. According to Hamdy, H., (2007), the MCIT made smart corporations with the private sector, UN agencies, and civil society organizations toward making best use of the outcomes (Hamdy, H., 2007). Furthermore, the situation of ICT in Egypt could be determined according to: Online the European Mathematical Information Service (EMIS) at central and local level, National video conference network for teacher training (63 sites), Short Message Service (SMS) at 38 schools, Computer labs at 4611 schools, High speed connections at 152 schools and Dial-up at 22000 schools, Multimedia Labs: 1800 Pre-primary, 11925 Primary, 6195 Prep, in addition to 1205 Secondary Source (Strategic plan). Educational reform has given high priority by the Government of Egypt on its agenda. Based on this, the education is receiving about one-third of Government spending on the services sector. The main motivation for using technology in education is the firm belief that it will improve teaching/learning and efficiency of management. Fundamental change is induced that involves legislatures, business, instructors, colleges of education, and school administrators. Egyptian educational institutions consider technology as an important driver for causing the essential changes called upon in the new reform efforts. (Mandour, 2009; Egyptian Education Initiative, 2008) The following polices are interesting according to: incorporating technology into curricula, applying ICT classification system to schools, capacity building of human resources, enhancing EMIS, SMS at both availability and usage levels, distant Learning for professional development, decentralization and restructure of ICT management.

**Situation of ICT in Sudan**

Sudan’s practice in establishing and taking advantage on ICT as an entry for promising progress is curvature spot in history of the country past years. The official, permitted and leading context was carried out to support ICT as an approach for integrating issue of the economy addicted to international

marketplace. Strategy of Sudanese countrywide ICT was established in 1999. This strategy emphasizes on the following five main element: infrastructure of the technology, development human resource, development industry digitalization, and Arabic content (Hamdy, 2007). In the frame of the national policy, the policy inspires the usage of ICT in emerging the national policies to guarantee that integration of ICT in education and training on all planes is activated, involving the development of curriculums in the schools, continuous training for instructors, and handling the educational institutions systemically (Abdelrahman, 2009). In 2002, The policy of ICT in the instruction system was recognized. The objects that supervising and executing such system are information board, the board of curriculum center, and training center. ICT was presented in curricula of secondary schools in 2004. Several computers were connected in schools (about 50% of schools were connected by computers), in approximately ten computers for each school. The connectivity in schools was principally relied on dial-up and ADSL techniques. Nevertheless, the connection depended on ADSL only in the higher education. The Sudan is planning to have technology accessible in all levels of education institutions by 2020. In addition, The ICT curriculum was presented at primary school in the grade four. Training instructors on the basics of ICT was introduced as well. The government and the private intuitions delivered the internet access as a resource to support the learning environment (Hamdy, 2007). The Sudanese Ministry of Education provided the schools and instructors' training centers with technology. The initiative for emerging system of the educational management information was carried out as well. The Sudanese government invested severely in information and communications technology to enhance both spread and access to ICT and make use of all inexpensive products, while there is an open marketplace and competition in providing internet service delivery, there is only an Internet Service Provider - Sudanet (El-Tigani, 2010). In future, it is programmed to provide many Internet centers "Café" in capital. Development in ICT in Sudan is evident in a significant development of infrastructure and investment including learning management systems (LMSs) and man power (Elamin, 2004). Fatima (2009) stated that there are numerous challenges delay the best implementation of ICT, despite of the appreciative efforts and policies provided by the government such as: delivery to rural and distant zones yet faces a large obstacles, for instance: the poverty, resources deficiency, and political conflict sets ICT minor on the significance needs in most Sudan districts, civil war delay employment, funding and highlight attention in Sudan stays restricted, particularly through number of limitations that remained forced.

### **Method**

The current paper relied on descriptive and instructive information of the research problem. We collected data via a designed questionnaire prepared by the researchers to get data from enormous group of instructors in both vocational training centers and technical secondary schools in Sudan and Egypt. At the side of the secondary data which is collected electronically from web, reports, and literature.

**Participants**

More than 200 instructors have been selected to participate to this study. 95 from Sudan and 120 from Egypt represented vocational training centers and technical schools. Those were distributed according to some variables (education qualification, sex, age and years of experience) to test their dealing with the new technology (ICT) in teaching and learning process.

**Data Analysis**

The researchers first collected data by coding them, then they entered the data digitally in the computer, after that the analyzing process was done through (SPSS) for Windows, version 19. The researchers used the technique of cross-tabulation to compare results between samples of both countries. The researchers used the descriptive statistics to define the respondents' demographic characteristics and to investigate the distributions of respondents in many categories.

The researchers prepared frequencies and percentages tables and figures that presented in the following section, additionally, other methods such as Cross tabulation is used to explore relations between variables.

**Findings and Discussion**

Findings of current paper were interpreted through the following descriptive statistics: frequencies and percentages to present overall outline and to compare the situation in Egypt and Sudan.

**Integration of ICT in learning/teaching process**

According to table 2 below, the results indicate that toward technical education instructors in Egypt that about 51,1 % respondents responded positively to integration of ICT to learning and teaching process. Whereas, in Sudan about 36,8% of respondents responded positively to integration of ICT in learning/teaching process.

Concerning Vocational education instructors, the results indicate that 43,7% respondents in Egypt responded positively to integration of ICT to learning and teaching process. Whereas, in Sudan about 37,9% of respondents responded positively to Integration of ICT in learning/teaching process.

Table 2. Impact of ICTs in learning and teaching process

Country	Institution Type		Integration of ICT in learning/teaching process			Total	Entire total
			Yes	No	I do Not know		
Sudan	Technical School	Secondary	35 36,8%	4 4,2%	6 6,3%	45	95
		Vocational Centre	36 37,9%	6 6,3%	8 8,4%		
Egypt	Technical School	Secondary	45 51,1%	43 48,9%	0	88	120

Vocational Centre	Training	14 43,7%	17 53,3%	0	32
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***Use of computers and Internet according to the age of respondents***

As shown at fig. 1 below, the results indicate that percentage of using computer and Internet by technical and vocational education instructors is extremely different with respect to age group, for example the use of respondents between 20-29 is higher in Egyptian instructors comparing to Sudanese instructors, it as bout 13% however, no one is identified on the other group. From 30-39 is more than the previous, it is about 5% by Sudanese instructors, and 17% by Egyptian instructors. In terms of 40-49 age groups, it was identified lesser than the previous age; however, it is 3% in Sudan, and about 8% by Egyptian instructors. Regarding the elder age, it was identified no use through both groups.

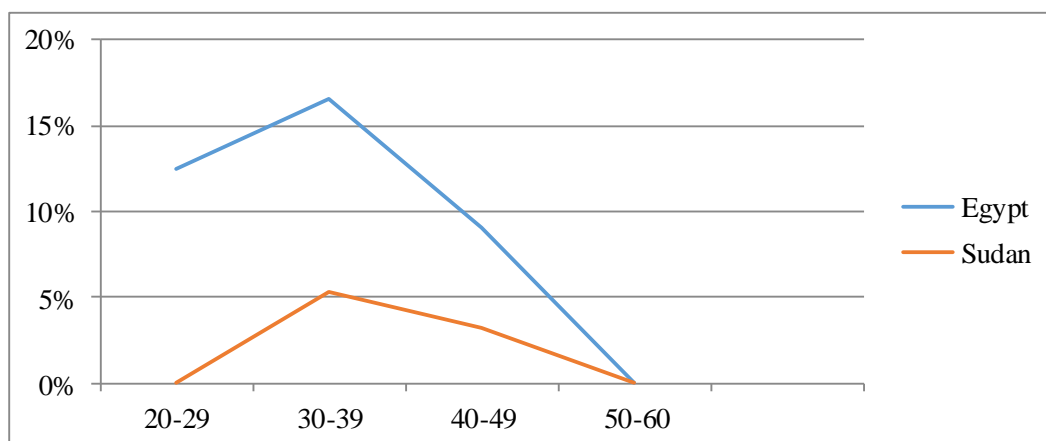


Figure 1. Usage of computer and internet by Age of respondents in Egypt and Sudan

***Use of Computers and Internet by Education Qualifications***

As shown at fig. 2, the results indicate that relationship between qualification and using computer and Internet by technical and vocational education instructors is extremely similar. With respect to bachelor qualification, the instructors who hold Diploma are higher than bachelor concerning the usage. In Sudan, some instructors have only the Sudan school certificate still in power. But the sum involved in the group is decreasing as an outcome of the new recruitment deficiency.

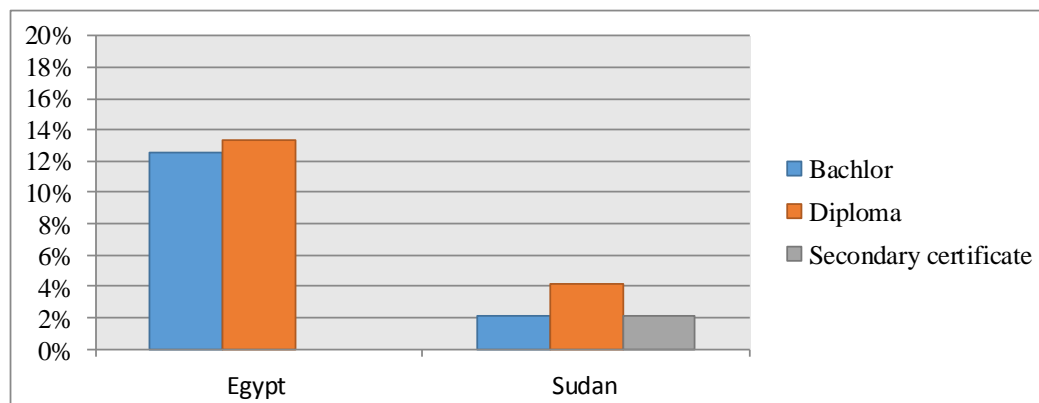


Figure 2. Usage of computer and internet by Education qualification in Egypt and Sudan

**Rank of ICT tools.**

As shown at fig. 3 below, only instructors in Egypt are clarified their usability to ICT tools. The results indicate that the priorities of using ICT by instructors. The most tools used were the web sites (31%), followed by e-courses, projectors using, Multimedia, social network ...etc.

Concerning the instructors' preference in using ICT tools in Sudan, no one gave priorities to ICT tools, because About 90% of instructors didn't use the technology especially the computers in teaching environment. They valued "No" it's an authentic answer, some of them supposed honestly, they do not recognize how to use the computer principally, not to remark the internet. About 7% of them responded they have restricted knowledge toward usage certain computer programs in designing the instructional modules such as Microsoft Word or Power Point; nevertheless, the Looking for information related to educational subjects through the internet is remain a fancy effort.

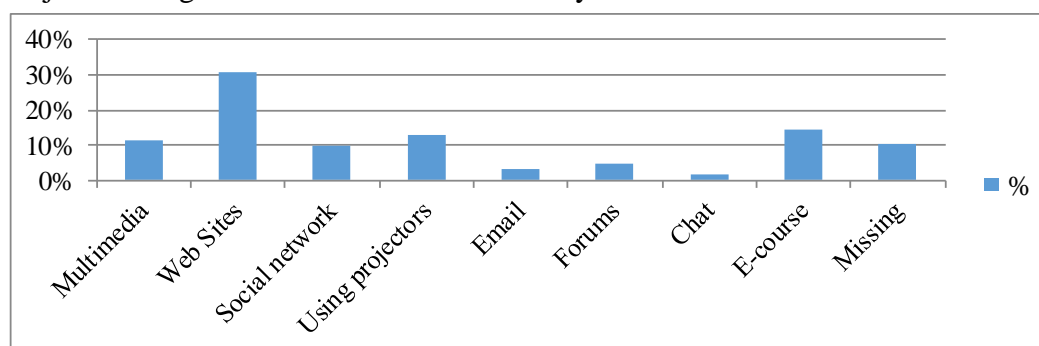


Figure 3. Rank of using ICT tools in Egypt by TEVT instructors

**Conclusion**

The usage of new technology and information for instruction has developed well-recognized in the world, and as of now, all features of development can be improbable resulted from lacking usage of ICT. Consequently, there is a worldwide agreement that the usage and activation the technology especially computer-based learning in the schools institutions has grown up more

differentiated as instructors distinguish the learning potential toward technology as an instrument for promoting students' competences. Unfortunately, the current situation of utilizing ICT in the institutions of vocational and technical education in both Sudan and Egypt seem discouraging especially from the instructors' side and school environment generally.

Egypt and Sudan are still facing great challenges, and, TVET's adoptions of new technology into the teaching process. These challenges require equipping schools especially TVET institutes with computer labs, enabling teaching and learning in computer programs designing and computer literacy, emerging new programs, syllabi supported by using ICT.

Teacher should be developed through some strategies such as: technology usage to promote student engagement and performance, integrate the appropriate strategies for using and activating information technology to augment engaged learning for students with different learning styles, and develop plan for a personalized professional development that affords for technology skills attainment and technology integration into classroom developments.

Further research could be measured in order to attain additional evidences about the impact of ICT completed empirical learning and teaching. Forthcoming research can afford a detailed explanation of the possible technologies in the professional development of technical and vocational education instructors in Sudan and Egypt via quantitative and qualitative research approaches.

Additional investigation might cover the period of such experimental research to diverse students' groups to highlight a longitudinal method and the numerous constructive and undesirable challenges of using ICT within an extended period.

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## EVALUATING MATHEMATICS LEARNING EXPERIENCE OF GRADE 7 STUDENTS OF BATO SCHOOL OF FISHERIES

Leomarich F. Casinillo<sup>1\*</sup>, Rechin S. Galenzoga<sup>2</sup>, and Darwin L. Raagas<sup>3</sup>

<sup>1</sup>Visayas State University, Philippines,

<sup>2</sup>Bato School of Fisheries, Philippines,

<sup>3</sup>Hilongos National Vocational School, Philippines

<sup>1</sup>leomarich\_casinillo@yahoo.com, <sup>2</sup>rechin41@yahoo.com,

<sup>3</sup>darwin\_raagas@yahoo.com

correspondence: leomarich\_casinillo@yahoo.com

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### Abstract

A positive learning experience stems from active engagement with the lesson and greater interaction in learning activities. This study investigated the types of learning experience of students in Bato School of Fisheries, Leyte, Philippines such as Hands-on, Minds-on and Authentic Learning. Also, the study analyzed the students' level of achievement in learning mathematics under each type of learning experience. The study employed a random of 25% of the grade 7 students for experimental design that involves qualitative and quantitative approach. Result shows that the Hands-on learning experience of students is in beginning level which needs a proper guidance of the mathematics teacher. It is shown that students are more capable of Hands-on group activities in mathematics. For Minds-on learning experience, students are also in beginning level, however, it is found out that they are good in critical thinking processes which create and recreate mathematics concepts for the core topics. Furthermore, authentic learning experience is in beginning level, lowest among the 3 types of learning experience. This means that students must develop their problem solving skills in mathematics with the aid of suitable teaching strategies. Anyhow, it is found out that these students have a proficient level in mathematics achievement probably by their past knowledge. Hence, a good level of achievement in mathematics can be maintain or improve through enhancing the 3 types of learning experience especially the authentic aspect.

**Keywords:** learning experience, grade 7 students, hands-on, minds-on

### Introduction

The student learning experience is a key element of successful provision in higher education institutions (Can et al., 2017). In fact, it played a vital part in teaching and learning as it lays the foundation for developing students' knowledge and understanding of the subject as well as building up their confidence and employability skills. Learning experiences are important to a number of

conditions, including scaffolding, curriculum, and instructional methods (Tularam and Machisella, 2018). In classroom setting, any interaction, course or program in which learning takes would mean learning experiences. Especially in Mathematics when the students started to manipulate objects, their minds kept on asking questions which means they investigated ideas and finally found the solutions (Alabekee et al., 2015). Mathematics teachers should not only focus on the textbooks and worksheets otherwise they may not be able to move toward the new vision of the math classroom instead teacher must have a positive attitude, good personal qualities, and good teaching skills (Casinillo & Aure, 2018; Tularam & Machisella, 2018). To transform classrooms into learning communities of active and collaborative mathematical inquiry, teachers need to access and be able to use instructional materials for thought-provoking activities and projects, software for simulation and modeling, and resources in the community for authentic learning experiences, and a good teaching strategy (Casinillo & Guarte, 2018).

To implement reforms that engaged all students in meaningful mathematics learning, teachers need to learn a new role as a facilitator and coach in the classroom, expanded their knowledge based in mathematics, developed new curricular and instructional strategies, and changed their expectations for students. These changes required ongoing and intensive professional development that allows teachers to interact with their colleagues and that is based at their school and linked to its organizational development. The Bato School of Fisheries (BSF) is an autonomous school offering vocational course. It is located at the heart of Municipality of Bato, Leyte, Philippines. In BSF, the National Achievement Test (NAT) results serve as a parameter of whether a certain school is performing well or not in terms of academic achievement. The result in previous years, BSF scored below average in NAT examination particularly in Mathematics, and thus it is categorized as a low performing school having a mean percentage score (MPS) below 60% in the combined MPS of all subject areas. Of the five learning areas tested, the school got the lowest MPS in English followed by Science and next is Mathematics. This result seems to follow the trend of the overall national result of which Mathematics ranked if not the lowest then second from the lowest.

Data from Bato School of Fisheries showed a dismal performance of the students in Mathematics. For instance, the Bato School of Fisheries in the NAT of school year 2009-2010 revealed that the MPS posted by the students was only 49.39. In the school year 2010-2011, the NAT posted an MPS of 57.85 and the MPS of the NAT in 3rd year level for the school year 2012-2013 was 61.23. There was a substantial increase in MPS from the school year 2009-2010 to present school year but still very far to the target of 75% MPS. According to Casinillo (2019), failure rate in mathematics are influence by poor study habits and negative learning attitude. The National Achievement Test is crafted to finally address the weaknesses of learners and sustain those that they have in the terms of learning. Mathematics teachers may create different learning experiences either inside or outside the classroom just to help achieve the intended learning outcomes for students (Ross & Kurtz, 1993). This is to make sure that teachers meet the primary goal of the students in mathematics which is to gain mathematical power. It means an individual's abilities to explore, conjecture, and

reason logically, as well as the ability to use a variety of mathematical methods to solve no routine problems. However, as it is being administered, there seems to be some ironies and conflicts that need to be attended to for some significant reasons. Hence, this study was conducted.

The main purpose of this research study is to evaluate and analyze the mathematics learning experiences of grade 7 students. Also, this study determined if learning experiences have an impact on students' mathematics achievement level. An exhaustive investigation through structured questionnaire and face-to-face interview was conducted to reach a richer information about the students' learning process and academic performance in mathematics. Furthermore, the aim of this study is to document and highlight important outcomes to develop some existing policy in education and improve the well-being of students as well as the teachers.

### ***Conceptual Framework***

Active learning experience emphasizes on being effective, rich, interactive, and happy in the classroom setting (Beghetto, 2016; Mazana et al., 2019; Riley et al., 2017). In mathematics, it involves an essential learning experience in order to grasp the topics such as Hands-on, Minds-on and Authentic Learning (Prez et al., 2018). In Hands-on learning, students allows to directly take on board and understand what is happening in a particular event (Long and Rule, 2004). In other words, Hands-on learning stimulates all the senses and allowing the student to become more fully captivated in the experience. Hands-on lessons engage learners with real-world applications for classroom concepts. In minds-on learning, the student is thinking about what type of learning and doing he or she experiencing. This study claims that hands-on and minds-on activities without requiring specific expensive materials can be one of the interactive engagement methods (Lassonde and Reinhart, 2004; Nicaise et al., 2000). In the study of Nicaise and colleagues (2000), it is stated that authentic learning is an instructional approach that allows students to explore, discuss, and meaningfully construct concepts and relationships in contexts that involve real-world problems. This also includes some projects or activities that are relevant to the students to engaged in the manipulative activities and showing enthusiasm (Lassonde and Reinhart, 2004; Long and Rule, 2004). Seemingly, authentic learning helps the students to discover concrete representations or configuration of what they are learning in the classroom.

Hence, the conceptual framework of this study assumed that the mathematics learning experiences of grade 7 students in Bato School of Fisheries were described in terms of hands-on, minds-on and authentic learning. In general, the purpose of this study is to examine the different types of learning experiences of grade 7 students in mathematics in relation to their level of achievement. Specifically, this study sought the following objectives: to measure their learning experiences in terms of hands-on, minds-on, and authentic learning; to determine their level of achievement in mathematics; and to determine if there is a significant difference between their performances in three kinds of learning

experiences such as hands-on, minds-on and authentic learning.

### **Method**

This section elaborates the process of scoring and measuring the different variables in the study, the research design, the population sampling, the research instrument, data gathering procedure and the statistical treatment of the data. Prior to conduct this study, the researcher sent a letter of permit to the proper authority particularly in BSF, Bato, Leyte, Philippines. The researcher gathered the necessary information to be collected in order to gain the relevant information for the survey. Then, questionnaires were administered by the researcher. Data were gathered and organized in form of tables, and analyzed with the aid of descriptive and inferential methods.

### ***Research Design and Research Respondents***

In order to gather more accurate and extensive data information in this study, the researcher only consider 22 students or 25% of all grade 7 students for quantitative and qualitative design survey. Qualitative Research is primarily exploratory research with the purpose of researching the cognitive competencies of prospective mathematics students related to the methodologies used in mathematics learning. It is used to gain an understanding of underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research and the design is based on the study of Yilmaz (2020). The research respondents involved in this study are composed of the grade 7 students which comprise 25% of the population of all grade 7 in BSF, Leyte, Philippines.

### ***Research Instruments and Data Gathering Procedure***

The mathematics learning experiences were described in terms of hands-on, minds-on and authentic learning. Each of these were based on the possible tasks or instructional experiences mentioned by Professional Standards for Teaching Mathematics (1991). For qualitative data, a face-to-face interview was conducted with the procedure of Focus Group Discussion (FGD) in order to gather richer and relevant information. On the other hand, a developed structured questionnaire was used to gather data for quantitative survey design. There are four facets of the questionnaires with a rubric on how to rate each item of the questionnaires. The instruments was used to meet the research objectives in this study. These are the following:

Part I. It is a Minds-on questionnaire on students learning experiences. The selected students answered a 10-item activity questionnaire. The instrument contained items that described the student's minds-on learning in mathematics.

Part II. It is a 10-item activity questionnaire on the hands-on learning in Mathematics. This was consisted of items that described the hands-on learning of selected students.

Part III. Another 10-item activity questionnaire were answered by the selected grade 7 students to measure their authentic learning level.

Part IV. It is the questionnaire on the Achievement of all 22 Grade 7 students in Mathematics. The questions covered from the first grading up to third grading periods topics in mathematics.

Standardized test items were adopted from [www.cde.ca.gov/ta/tg/sr/documents/rtqgr7math.pdf](http://www.cde.ca.gov/ta/tg/sr/documents/rtqgr7math.pdf), October 2013. The researchers requested Mr. Edgardo P. Goron (Master of Arts in Education), head of the Mathematics department and Mrs. Rochelle J. Gertos (Master of Arts in Education), grade 7 teacher of Bato School of Fisheries to check whether the topics in each item of the questionnaires are included in the grade 7 curriculum.

This study used a Complete Randomized Design (CRD) to determine which learning experience influence the mathematics achievement the most. Hence, in terms of student’s learning experiences in Mathematics, the grade 7 students of Bato School of Fisheries answered questionnaires that contain items describing their different learning experiences on Hands-on learning, Minds-on learning and Authentic learning. Table 1 shows the type of learning experiences and the number of students investigated under each type.

Table 1. Type of learning experiences and corresponding number of students of each type.

<b>Learning Experiences</b>	<b>Experimental Units (No. of Students)</b>
Hands-on learning	7
Minds-on learning	7
Authentic learning	8

Each kind of learning has a questionnaire 10 items. The use of rubrics employed on how to rate each item. Then, the respondents answered the achievement test. There were 50 items- multiple choices. It was answered for only one hour. In rating each item in the test, a rubric is used to determine the level of proficiency of student. In Table 2, it shows the Level of achievement in mathematics and the corresponding percentage score intervals (Casinillo et al., 2020).

Table 2. Level of achievement in mathematics and the percentage score intervals.

<b>Level of Achievement in Mathematics</b>	<b>Percentage Score Intervals (%)</b>
Beginner	74 and below
Developing	75-79
Approaching proficiency	80-84
Proficient	85-89
Advanced	90-100

### ***Data Analysis Procedure***

This study used quantitative and qualitative in approaches; it employed descriptive survey and inferential research design. This method will be used to determine the significant difference between the level of achievement of grade 7 students in mathematics in relation to their learning experiences in terms of hands-on learning, minds-on learning and authentic learning. Then, descriptive survey will also determine the level of achievement of grade 7 students in Mathematics. With the aid of Statistical Packages for Social Sciences (SPSS) version 20, the following statistical tests were used in this study:

1. *Frequency Counts and Percentages*. These were used in the organization and analysis of the mathematics learning experiences and the mathematics achievement of the students.
2. *Average Mean*. This tool was used in getting the over-all description of the mathematics achievement of the students.
3. *Complete Randomized Design (CRD) and Univariate Analysis of Variance (ANOVA)*. This was used in determining the significance of the difference of the mathematics learning experiences across the three types namely: minds-on, hands-on and authentic learning.
4. *Tukey Honestly Significant Difference (HSD) Test*. This was used to show the homogenous subgrouping of the three types of learning experience to identify which is the highest or most experienced tasks.

### **Findings and Discussion**

This section shows the descriptive measure on the type of learning experience such as Hands-on Learning, Minds-on Learning and Authentic Learning. Also, it shows the summary of the level of achievement of the students in learning mathematics. Furthermore, this presents the ANOVA table that indicates the significant difference between the types of learning experience and the corresponding multiple comparison test table.

#### ***Hands-on Learning***

Table 3 presents the average percentage of each of the task in the hands-on instructional learning experiences of the selected grade-7 students. As shown in the table, the result shows that first in the rank is “*Do a group activity in answering mathematical problems that will enable them to discuss within their group mates.*” got 100 average percentage (see Figure 1). This task is the most experienced task among the Grade 7 that enables students to share ideas and discuss it within the group. According to the idea of Lasonde and Reinhart (2004), hands-on learning, more formally known as Experiential Education, reflects a teaching philosophy that promotes learning by doing. Experiential learning is praised as a top teaching method by higher educational institutions. The first task, *students have an active role in formulating, designing, and managing the tasks* got 66.71% which is second in the rank. In this task, the students had actively formulated and designed the right mathematical expression, and managed to answer the item in the questionnaire. This task clearly shows that students were

able to manage the task, that this always experienced by the students in the classroom. This particular response is related to the study of Beghetto (2016) that this encourages students’ creativity in problem solving, promote student independence, improves skills specifically reading, arithmetic computation, and communication. Task 2 is *on the students art of questioning that leads to the solution of the problem and formulation of another concept*. This task got 30.14% and in the fourth rank. It implies that grade 7 students had poor questioning skills that may lead to the solution of the problem. This idea is supported by [criticalthinking.org/](http://criticalthinking.org/) the Critical Thinking Committee. Unfortunately, most students ask virtually none of these thought-stimulating types of questions. They tend to stick to *dead questions* like “*Is this going to be on the test?*” Questions that imply the desire not to think. Most teachers in turn are not themselves generators of questions and answers of their own, that are not seriously engaged in thinking through or rethinking through their own subjects. Rather, they are purveyors of the questions and answers of others- usually those of a textbook. Dead questions reflect dead minds, The art of Socratic questioning is important for critical thinker because the art of questioning is important to excellence of thought. What the word Socratic adds is “systematicity”, “depth”, and a keen interest in assessing the truth or plausibility of things. Next is the fifth in rank that got the lowest average percentage of 23.86%. This *task enables students to generate new concept and ideas based on the new knowledge learned*. This implies that students did not comprehend the concepts by actively utilizing acquired knowledge. Lastly, the fifth task which is 61.43% shows the *solution of the students with the aid of the teacher as the facilitator*. This is parallel to that study of Mensah and colleagues (2013) that emphasizes that children learn better when they can touch, feel, measure, manipulate, draw, and make charts, record data and a good attitudes towards the task. In addition, when students are working on a craft project or in centers, ask each student to quickly explain what they’re doing and why, as well as what they’re learning along the way. However, the Mean Percentage Score (MPS) of hands-on learning experiences in Mathematics is 56.43 with a description of beginning. This means that students are needing the guidance of the teacher to improve their academic performance in mathematics. It is also advice that students must be expose to technology to develop their Hands-on learning (Casinillo et al., 2020; Jonassen et al., 2008; Lombardi, 2011).

Table 3. Average percentage of hands-on learning experiences in mathematics

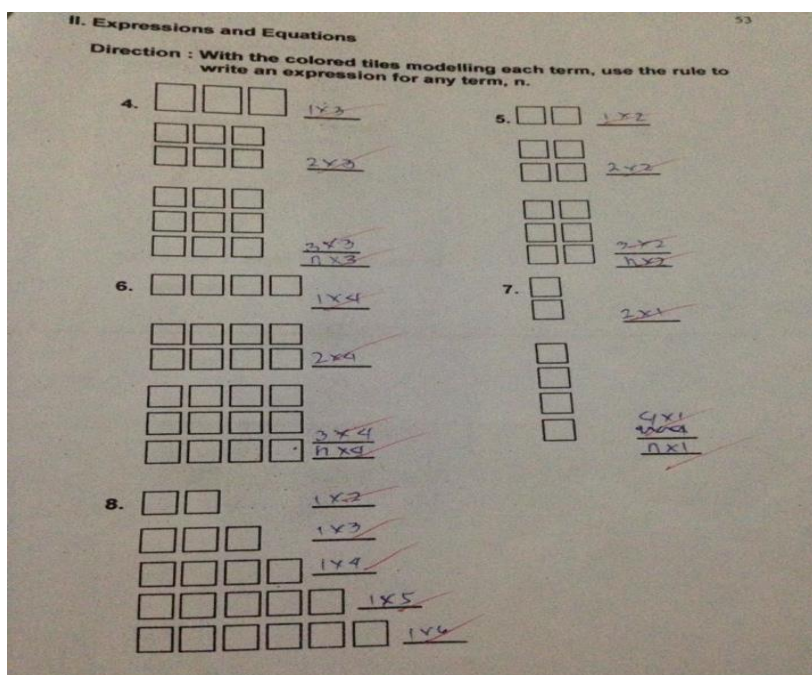
Hands-on Instructional Learning Experiences	Average Percentage	Rank
1. Students have an active role in formulating, designing, and managing the tasks.	66.71	2
2. The task build on mathematically interesting questions or problems that students have raised.	30.14	4
3. The task generate new knowledge and products and often have spinoffs into other subjects.	23.86	5
4. Do a group activity in answering mathematical	100.00	1

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problems that will enable them to discuss within their group mates.		
5. Students are able to come up with the solution with the supervision of the teacher as the facilitator.	61.43	3
MPS	<b>56.43</b>	
<i>Description</i>	<i>Beginning</i>	

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Note: See Table 2 for details.



**Figure 1. Exhibit A** Filled Hands-on Questionnaire by selected Grade-7 Student

### ***Minds-on Learning***

Table 4 presents the average percentage of minds-on learning experiences in Mathematics of selected students. In task number 1, *students connect meaningfully to each other to bring about significant mathematical development over the course of the year and ultimately, throughout the pre-K-12 experience that falls on the third rank. On the fourth rank is task number 2 that involved non-routine problems- that is there is no way to specify in advance how to solve the problems and there are many ways in which the problems may be solved.* This task was not carried out and it's the lowest among the five tasks. Task number 3 in which students focused on the core concept, is on rank number 2. This shows that students are familiar with the basic concepts learned. This supports the idea of Casinillo and Aure (2018) that learners constructed knowledge and understandings on the basis of what they already knew and believed. This means that teaching should utilize students' prior knowledge as the basis for further learning. Next, first in rank is task number 4 *using critical thinking processes to create and recreate math concepts.* It shows that students are creative in learning

mathematics (See figure 2). Task number 5 which is *finding relations between and among concepts got the fourth rank*. This is parallel to some studies (Mazana et al., 2019; Riley et al., 2017) that not only it is important to consider the content of the mathematics curriculum, it's important to know about how people learn mathematics. Students need to learn mathematical concepts and to see relationships among these concepts. Because concepts and relationships are constructed by people and exist only in their minds, to learn mathematics, students must construct these concepts and relationships in their own minds. Also presented in Table 4 is the total average mean of 62.03%. This means that most of the students task in Minds-on is beginning level. This suggest that students must be properly guided by the mathematics teacher in order to improve the Minds-on learning.

Table 4. Average percentage of minds-on learning experiences in mathematics

Minds-on Learning Experiences	Average	Rank
1. The tasks connect meaningfully to each other to bring about significant mathematical development over the course of the year and ultimately , throughout the pre-K-12 experience.	91.43%	3
2. The tasks involve non-routine problems- that is there is no way to specify in advance how to solve the problems and there are many ways in which the problems may be solved.	0%	5
3. Focus on the core concept.	94.29%	2
4. Using critical thinking processes to create and recreate math concepts.	95.86%	1
5. Finding relations between and among concepts.	28.57%	4
<b>Mean</b>	<b>62.03%</b>	
<b>Description</b>	<b>Beginning</b>	

Note: See Table 2 for details.

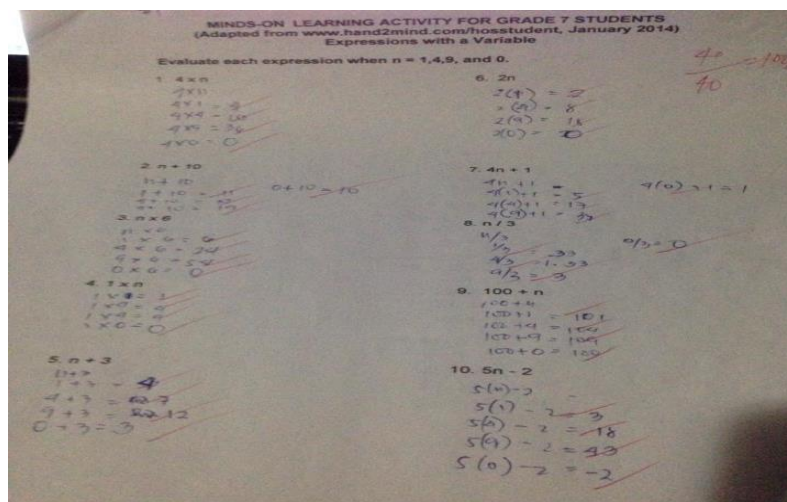


Figure 2. Exhibit B Filled Minds-on Questionnaire by selected Grade-7 Student

**Authentic Learning**

Table 5 presents the students average percentage of authentic learning experiences in Mathematics of selected grade 7 students. The tasks *often relate to problems that students encounter in their lives or communities* has an average percentage 28.75% and third in rank. This shows that students were not used in solving problems in real life situations. Students often express a preference for doing rather than listening. At the same time, most educators consider authentic learning the most effective way to learn. Yet for decades, authentic learning has been difficult to implement. Certain experiments are too dangerous, difficult, or expensive to conduct in the classroom; many are simply impossible to perform. This is supported by Lasonde and Reinhart (2004), according to them authentic tasks are not the norm in schools and classrooms. The next task is the *issues and concepts involved that can be solved using the same mathematical concept* that has an average percentage of 22%. This means that students had a hard time to identify whether two or more problems can be answered by the same rule or concept. Likewise Gestalt approaches emphasized the importance of experience, meaning, problem-solving and the development of insights (Baroody, 1987). It is noted that this theory has developed the concept that individuals have different needs and concerns at different times, and that they have subjective interpretations in different contexts.

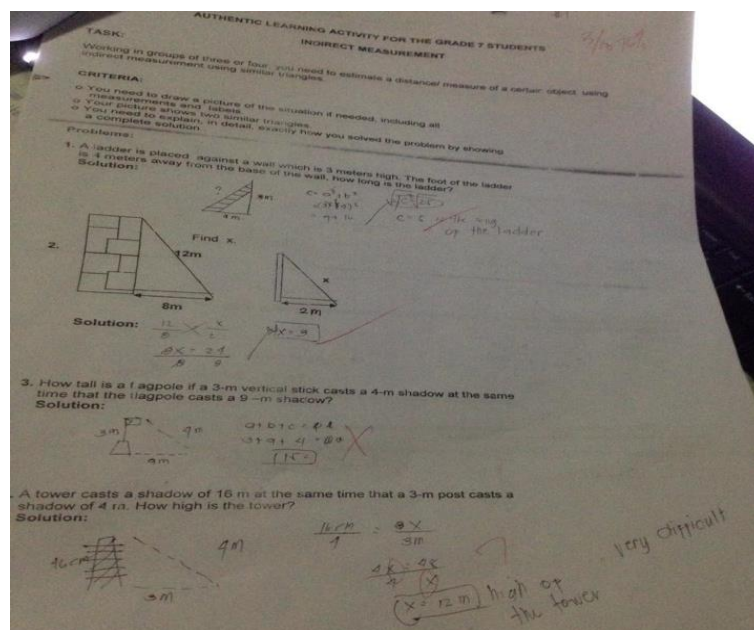
The third task is the task that *contain another concept or theme that are rich enough to be explored over a substantial period of time, from a week to an entire school year and beyond*. This task is ranked the first. According to Reys and Colleagues (1995), that learning might not manifest itself in observable behavior until sometime after the educational program has taken place.

Task no.4 is the task that *enable the student to try to construct an illustration based on his understanding*. According to the study of Silver and Colleagues (1990), learning does not mean simply receiving and remembering a transmitted message; instead, educational research offers compelling evidence that students learn mathematics well only when they construct their own mathematical understanding. Table 5 shows that average percentage mean is 47.60. This implies that the tasks being done were beginning level.

Table 5. Average percentage of authentic learning experiences in mathematics

Authentic-on Learning Experiences	Average	Rank
1. The tasks often relate to problems that Students encounter in their lives or communities.	28.75%	3
2. The issues and concepts involved can be Solved using the same mathematical concept.	22%	4
3. The tasks contain another concept or theme that are rich enough to be explored over a substantial period of time, from a week to an entire school year and beyond.	87.5%	1
4. The task enable the student to try to construct illustration based on his understanding.	52.13%	2
<b>Mean</b>	<b>47.60</b>	
<b>Description</b>	<b>Beginning</b>	

Note: See Table 2 for details.



**Figure 3. Exhibit C.**  
 Filled Authentic Questionnaire by selected Grade-7 Student

**Level of Students’ Achievement in Mathematics**

Table 6 presents the distribution of level of students’ achievement in Mathematics. As presented in the table, there are 9.10% of students fall under beginning level, about 27.27% students fall on developing and approaching proficiency, 31.82% are considered a proficient student, and 4.55% and advanced students. The average percentage is 89.57% which implies that on the average grade 7 students are proficient level in regards to their achievement in mathematics. This implies that students proficiency in mathematics can be improve by proper guidance of the teacher. Implementing meaningful undertakings in mathematics implanted in real-life applications can be creative and can enhance their learning experience.

Table 6. Distribution of level of students’ achievement in mathematics

Level of Students’ Achievement in Mathematics	Frequency	Percentage (%)
Beginning	2	9.10
Developing	6	27.27
Approaching Proficiency	6	27.27
Proficient	7	31.82
Advanced	1	4.55
<b>Average Percentage</b>	<b>89.57</b>	
<b>Over all Description</b>	<b>Proficient</b>	

Note: See Table 2 for details.

**Different Mathematics Learning Experiences of Grade 7 Students**

In determining the significant difference between the different types learning experiences of the students, the total points gained in the achievement mathematics questionnaire was used. These also described in consonance with the experiences identified per activity. As reflected in Table 7, there is a highly significant difference (F=38.451, p-value<0.001) across the three types of mathematics learning experiences of the students.

Table 7. Test results on the difference of mathematics learning experiences

<b>TESTS OF BETWEEN-SUBJECTS EFFECTS</b>					
DEPENDENT VARIABLE: MATHEMATICS LEARNING EXPERIENCES					
SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	P-VALUE
BETWEEN GROUPS	1948.571	2	974.286	38.451***	<0.001
WITHIN GROUPS	481.429	19	25.338		
TOTAL	2430.000	21			

NOTE: \*\*\*-HIGHLY SIGNIFICANT AT 1% LEVEL.

Based on the homogenous subsets shown in Table 8 and with the aid of using Tukey Honestly Significant Difference (HSD) test, the three types of mathematics learning experiences were found to be significantly different pairwise, with the minds-on experiences as the highest (mean=99.90) followed by hands-on (mean=92.71) and the last is authentic (mean=77.00) learning experiences. These results manifest that students have to be exposed to more activities that will enhance authentic learning since students are weak in this type. In order to enhance authentic learning, teachers must consider experiential learning theory. The experiential learning theory is a holistic perspective that combines experience, perception, cognition, and behavior. The theory presented a cyclical model of learning, consisting of four stages. One may begin at any stage, but must follow each other in the sequence: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Perhaps, authentic learning needs more time to be developed (Nicaise et al., 2000). And this is the reason why authentic learning experience is low. In this case, constancy and consistency in the exposure of authentic learning-driven activities are worthy to be considered. Hence, level of achievement in mathematics can be improve by developing and enhancing the authentic learning attitudes of the students (Code et al., 2016).

Table 8. Multiple comparison test for different type of learning experiences

TYPE OF MATHEMATICS LEARNING EXPERIENCES	N	SUBSET		
		C	B	A
AUTHENTIC	8	77.00		
HANDS ON	7		92.71	
MINDS ON	7			99.00

NOTE: DIFFERENT LETTERS MEANS IT IS SIGNIFICANTLY DIFFERENT.

## Conclusion

This study attempted to evaluate the different types of learning experiences of grade 7 students in relation to their level of achievement in Mathematics. The 3 types of learning experience involve in this study are Hands-on, Minds-on and Authentic learning of students. Results revealed that the Mean Percentage Score (MPS) of the 3 types of learning experiences are beginning level. This means that most of the students are not expose and enhance by these learning experience in mathematics. Hence, based on the findings, it is concluded that teachers should let the students actively participate and engage in learning activities, develop skills and processes for problem solving, reasoning and communicating. Mathematics teachers must give activities that involves Hands-on learning embedded by real life applications. Particularly, a group activities that will enable them to discuss within their group mates to come up with new ideas. The students will learn to work with others, and value the diverse ideas with their peers. Apparently, in order to keep the students improve the Minds-on experience is to let them experience the challenge and logic accompanied by interest and motivation. This experience focus on the core topics in mathematics that use a critical thinking processes to create and discover new concepts. Further, authentic learning must involve motivation and enthusiasm in problem solving. This will develop their decision making and critical thinking towards mathematical problems. The study revealed that there is highly significant difference across the three types of mathematics learning experiences of the students and authentic learning has the lowest percentage score.

It is concluded that a proper assessment must be done in authentic learning aspect. Assessment should be contextualized and allow students to show deep understanding of concepts. Also, it emphasized students' ability to link ideas in mathematics, apply the knowledge in realistic view and solve mathematical problems. Thus, it lies completely upon the mathematics teachers in creating learning experiences to be more meaningful and improve the level of academic performance. It is recommended that teachers must use of a variety of manipulatives and teaching strategies that can address the diversity of learning styles and developmental stages of grade 7 students. It will help also if the mathematics teacher has a positive attitude and good personal qualities that will surely have a positive impact on student's mathematics achievement. Furthermore, it is strongly recommended that similar research study should be led with larger sample size of high school students to come up with richer information about the learning experience and its corresponding level of achievement in mathematics.

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## TEACHERS' VIEWS ON THE INTEGRATION OF TECHNOLOGY IN EFL CLASSROOM

**Firima Zona Tanjung**<sup>1,2)</sup>

<sup>1</sup>Universitas Borneo Tarakan, Indonesia

<sup>2</sup>Universitas Pendidikan Indonesia, Indonesia

correspondence: [zona\\_borneo@upi.edu](mailto:zona_borneo@upi.edu)

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### **Abstract**

In many study results, technology integration has been indicated to contribute regularly on the development of students' 21st century skills ultimately in this digital era. This condition particularly creates new challenges for language teachers, e.g. being digitally literate, being adaptable with rapid technological changes, finding alternatives to stimulate the students to learn, and creating conducive class atmosphere. Considering previous points, this paper presents teachers' views on the integration of technology in their EFL classroom. A qualitative method was utilized in which the data were in the form of comments dealing with technology use and teachers' views on technology integration in their classroom. The compiled data were then analyzed by applying an interactive model. The findings showed that teachers have positive views on the integration of technology in EFL classroom. Stated benefits of technology integration on enabling the development of students' 21st century skills, teachers are highly demanded to encourage students' active participation by engaging them through meaningful learning activities and use of technology simultaneously. Therefore, teachers should put high attention on the process of selecting, preparing, integrating, assessing, and evaluating types of technology being employed in classroom instruction.

**Keywords:** EFL teaching, Technology integration, 21st century skills

### **Introduction**

The development of technology has set education in high demand of reform on its pedagogical approach. Issues of pedagogical approaches then become significant and it results in the discussion of teacher role in education. Moreover, it leads us to the point of whether teachers are familiar with technology use in their profession or not. Certainly, Prensky (2001) asserts that there are "digital native" and "digital immigrant" due to their accent towards technology use. Remarkably, people—mainly born before the year of 1980—are likely to be mentioned as "digital immigrants" since they get difficult to integrate technology in their daily life (Prensky, 2001). However, a particular research has found that the brains of people with the age of 55-70 or classified as digital immigrants can

adapt and utilize technology called internet after given a week for practice (Herther, 2009). It shows there is a possibility for digital immigrants to adapt with their environment mainly dominated by the use of technology. In this case, it is so-called neuroplasticity of brains (Autry & Berge, 2011). Therefore, definition of digital native and digital immigrants can vary and possibly shift in accordance with the education, class, culture, and gender (Davis, 2008; Ransdell, B. Kent, & Long., 2011). Regarding the aforementioned points of digital native and digital immigrants, many researches were undertaken mainly about teachers' perceptions solely as digital natives or as digital immigrants in the context of integrating technology in teaching-learning process (J Lei, 2009; Mundy, Kupczynski, & Kee, 2012; Williams, 2012). Nevertheless, what the author refers to in this paper is that teachers' perception not viewed as absolute digital natives or immigrants since the gap between them are blurred because of many factors (Baek, Jong, & Kim, 2008; Guo, Dobson, & Petrina, 2008; Kuehn, 2012; Weiss & Hanson-Baldauf, 2008). Briefly, this paper focused on the issue of teachers' perception on technology integration in EFL classroom.

The perception of technology integration in educational context mainly language classroom has been considered as one of the significant matters to enhance learning outcome (Cope & Ward, 2002; Parr, 1999; Whitworth S., and Berson, 2003). Moreover, this perception does not intend to put teachers to have a distance with their students yet it encourages teachers to do a paradigm shift towards technology use in their teaching-learning process. However, the use of technology in educational practices does not mean that teachers do not take a responsibility towards students' learning progress yet students should get guidance in using technology. It is necessary since they can apply the technology not for academic purposes but for their personal matters (Jing Lei & Zhao, 2007). Further, both teachers and students have to have same perception of technology use in the classroom because if the students are willing to use technology and teachers are not encouraged to do so then problems may happen and influence the attempts of achieving course goals (Royer, 2002). Thus, teachers' beliefs, commitment and efforts to utilize and incorporate strategies to develop their professionalism on using technology for teaching purposes are highly required since these are the intrinsic and extrinsic factors dealing with their profession (Ertmer, Ottenbreit-leftwich, & York, 2007). Supporting the approach of integrating technology in the classroom, the perception of teachers, whether they are classified into digital native or digital immigrant, show that they are seeing technology can be effectively integrated and beneficial for students in the context of educational purposes (Martin, 2011; Mundy et al., 2012). Recently, research results showed that computer efficacy, teacher efficacy, and classroom technology integration are strongly related and the use of student-centered pedagogical approach is influential on teachers' determination towards the forms, ways, and timing of technology integration in the teaching-learning process and curriculum as well (Askin, 2017). However, teachers also have to give students instruction on digital responsibility since they make use digital platform in teaching-learning process (Williams, 2012).

Further, by taking the importance of teachers' ability into account mainly for motivating and inspiring their students during teaching-learning process, this research proposed a question which was "How is teachers' view on the integration of technology in English language learning classroom?" Then, the scope of technology integration is limited to the use of mobile application, internet, networks and communication devices for educational practices in the secondary and tertiary level.

### **Method**

This study employed qualitative method and focus group discussion as the research design. Morgan (as cited in Morgan, 1997) states that there are "rules thumbs" namely homogeneous strangers to be participants in the discussion group, taking fairly structured interview with high involvement of moderator, consisting of 6 up to 10 participants per group, and there are three up to five groups per project. Nevertheless, this study did not apply all mentioned rules thumbs since several conditions may relatively rare to meet all those criteria (Morgan, 1997).

This study involved five teachers from different level of education. They came from similar province located in Java Island, Indonesia. All participants were chosen purposively since the researcher wanted to answer the research questions by taking consistency of respondent involvement throughout all given session of discussion. The involvement of moderator was less so it enabled participants to let them speak for themselves (Breen, 2006; Morgan, 1997). The discussion was conducted through online platform. The data were collected through focus group discussion using online discussion board (Cher Ping & Seng Chee, 2001). Data were in the form of comments dealing with technology use and teachers' views on technology integration in their classroom. Further, the researcher analyzed the compiled data by applying stages of an interactive model source (Miles, Huberman, & Saldaña, 2014).

### **Findings and Discussion**

In order to answer the research questions, there were some topics being discussed by the focus group members. They were related to (a) their perception towards teaching digital literacy that directly connected to the use of technology in educational practices. Their explanation must include specific reasons to support their ideas; (b) whether or not they utilize technology in their teaching-learning process and do they get benefits from the technology integration; and (c) the way they integrate technology in their EFL classroom.

Remarkably, regarding the first topic, most of participants perceive themselves as digital immigrants since they need to learn about technology and how to teach using it in the classroom. As stated by Participant 1 (P1), she perceived herself as digital immigrants and because of technology advancement, teachers are the person of charge for educational reform mainly pedagogical approach. Thus, teachers should take into account the action of shifting themselves to be digital natives. Further, P4 asserted that teachers should realize that students nowadays cannot be taught using old-fashioned ways of teaching as

digital immigrants once experienced. Meanwhile, P3 mentioned that the mastery of technical and cognitive skills are highly needed by the students since they have to find, understand, evaluate, create and share their ideas or information through many forms. Additionally, one of forms is through digital platform. Interestingly, P2 clearly stated that teachers are not the only knower in the classroom since students can find out the information related to their learning materials before they are taught in the classroom. It deals with the rapid flow of information that they can obtain through the use of internet. Agreed with P2, P5 mentioned that this digital era encourages teachers to adapt with new circumstances and change their way of thinking about using technology. Then, specifically, P3 added that since teachers and students utilize technology in their teaching-learning process, they need to learn and understand about netiquette so they will show or represent good behaviors to others. Considering aforementioned point, netiquette can be regarded as part of digital literacy as well because the values of respecting each other are important for students not only in their academic life but also in their daily life.

Taking a closer look at participants' responses towards the second topic, various viewpoints are given more intensively. All participants stated that they realize the significance of technology integration and seriously made an effort on determining what technology type they applied to meet the course objective. P4 asserted that since her students expect to get meaningful experiences of English education, valuable education through the technology use is considered as their right of digital natives. Previous perception was in line with what P5 had. She started using technology such as mobile apps to make her teaching process more meaningful and interesting for her students. More importantly, she believes that her students are able to have learning experiences, enjoy the learning process, and get benefits of learning by applying technology in teaching-learning process. Strengthening aforementioned viewpoint, P1 affirmed that she, as a digital immigrant, needs to learn to be autonomous in the purpose of catching up her students' paces. Similarly, P2 thought that technology integration is highly required in the classroom. Therefore, she utilizes technology, not only PowerPoint slides but also mobile apps, to provide various teaching approaches and help students achieve the learning goals for technology use provides new corner that enables students to work collaboratively and individually simultaneously. Furthermore, she added that by integrating technology in EFL classroom, students are motivated to be more self-confident and brave to state their ideas. Likewise, P3 delivered her perception that technology use without etiquette will leave bad effect on students. Hence, in her opinion, technology benefits students if it is used with high responsibility. Therefore, the integration of technology in educational setting should be supported with strong foundational knowledge of digital literacy.

Related to the third topic about how the participants integrate technology in their EFL classroom, each participant has their own ways and it is very interesting. P1 integrated technology in her classroom through the use of particular mobile applications mainly for improving students' speaking and writing skills. She said that the choice of application is dependable and adjustable since the application must engage students and promote their learning activities on

the spot. P4 had slightly been similar to previous participant for which she mentioned that careful lesson plan and adjustment on teaching methods, content, skills to teach, type of technology, and respect for originality become significant to consider in order to educate and give students opportunity to improve their skills and promote good behavior. The main thing is technology is used mostly to assist students achieve their learning goals with etiquette. Having parallel viewpoint to P4, P2 thought that course objective and students' problems on learning the materials can be resolved through the adjustment of technology use. She added that the use of mobile application such as Quizlet can positively contribute on students' improvement on vocabulary mastery while previously they got difficulties on words spelling, pronunciation, and use mainly in their writing. Further, P3 utilized technology in her teaching by the use of particular mobile application such as Quizlet especially for flashcard features. It is beneficial since her students showed improvement for their pronunciation. Additionally, she even thought that she would conduct formative assessment by utilizing online platform as medium for her students since it could enable students to have comprehension on materials being tested. Briefly, students can have control over their learning pace. However, P3 also alerted that teachers should have comprehensive understanding on mobile application usage in order to organize effective and efficient learning activities. Equally, P5 integrated technology in her classroom by emphasizing several highlighted points such as the devices that will be used, the devices' operating system, the instructions of application, the learning goals and purpose of using the application, and various creativities the students extend or apply in their learning process. These points are in accordance with technical aspects of selecting devices earlier than creating content (Mahon, 2014). And so, technology is useful to integrate in teaching-learning process on condition that it meets learning goals, increases students' learning motivation, and enables students to get meaningful learning experiences.

Teachers' viewpoint towards technology integration influences their attitude and pedagogical approaches which highly contribute to students' learning quality. Thus, the initial matter that they should have related to the technology integration is of their commitment to adapt with new circumstances and develop their own skills to motivate students learn and use English (Ahmadi, 2018; Arifah, 2014; Lynch & Campos, 2014; Prensky, 2001). Commitment is highly required since it is the wheel that can encourage teachers to open up their mind and enforce them to understand their students' needs. Additionally, commitment leads teachers to make an attempt to ensure their students engaged actively in the class session and learn things from their classmates. However, having high commitment is not merely sufficient yet teachers also have to change their attitude towards the use of technology (Jhurreev, 2005; Prensky, 2001). Moreover, teachers also have to prepare themselves in exploring the use of technology itself in order to elevate quality of learning (Richards & Renandya, 2002). Thus, teachers should encourage themselves to learn or deepen knowledge about the way they make use technology in their teaching process (Almerich, Orellana, Suárez-Rodríguez, & Díaz-García, 2016; Prensky, 2001). Dealing with the point of preparing teachers, the issue of netiquette should take into consideration since students should be

taught about how to make use of language in their communication through online platform (Warschauer, M. & Meskill, 2000). Definitely, knowing and applying netiquette on online platform is one of positive attitudes that the students get through the integration of technology in their classroom (Jing Lei & Zhao, 2007; Solano, Cabrera, Ulehlova, & Espinoza, 2017). Overall, commitment, attitude, self-skill development, and netiquette are significant to promote successful integration of technology in EFL classroom.

### Conclusion

The results of this study show that teachers have strong positive views on the integration of technology in EFL classroom, as being indicated in previous studies. Moreover, teachers are willing to transform their approaches to be more student-centered. Particularly, teachers' commitment, readiness, and concerned efforts to utilize and develop their skills on technology use for educational purposes are highly required since they are the role model for students. Besides, what teachers need whenever they make use of technology is *what, when, why,* and *how* they choose types of technology, methods, contents, and teachers' role as the determinants of the teaching-learning process and students' performance as well. Overall, as a consequence, teachers should teach students about digital responsibility in order to make them conscious about benefits and drawbacks of technology use.

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## **DISTRACTION IN LEARNING: A CASE-STUDY OF MISDEMEANOUR FACTORS AMONG VOCATIONAL STUDENTS FROM TEACHER PERSPECTIVES**

**<sup>1</sup>Suhaizal Hashim, <sup>2</sup>Alias Masek, <sup>3</sup>Affero Ismail, and <sup>4</sup>Sutarto Hadi Priyanto**

<sup>1,2,3</sup>Universiti Tun Hussein Onn Malaysia, Malaysia

<sup>4</sup>Universitas Negeri Yogyakarta

suhaizal@uthm.edu.my; aliasmasek@gmail.com; affero@uthm.edu.my;

sutartohp19@gmail.com

correspondence: aliasmasek@gmail.com

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### **Abstract**

Previous studies reported that disciplinary problems that occur amongst school students from teacher perspective; while some studies reported that this problem becomes increasingly serious and widespread, but both retract students from learning. Henceforth, this survey was conducted to investigate how far the problem occurred among vocational college students especially catering students. An interview session was conducted with several catering teachers in two vocational colleges in Southern Region of Malaysia, which focuses on three types of problems namely bullying, truancy and stealing. Data were analysed using thematic analysis using deductive approach. Result indicated that these discipline problems occur among catering students is at alarming level. Peers and students' background contributed to students' misdemeanours. Thus, these factors can be a starting point for further mitigating the cases and more focuses should be given on students' learning.

**Keywords:** disciplinary problem; bullying; truancy; stealing; catering students

### **Introduction**

Nowadays, discipline problems that occur among school students were common problem that retract students from learning for themselves, peers or for the whole classroom. Buerah, Shanah & Hamimah (2015) state moral and social problems among young generation (including students) has become increasingly disturbing lately, which can be studied from the context of school sociology theories. One of the factors lead to this discipline problem is students who were facing pressures. Husmiati & Adi (2012) state the aggressive behavior and disciplinary problems undertaken by these students have exceeded the limit. This problem is happening inside and outside of the school as well. A study showed that secondary schools are plagued with disciplinary problems but that experienced principals and teachers could endanger discipline in schools. The

study also found that peer group pressure could be positively channelled to facilitate discipline (Adekeye, Gesinde, Nwabueze, & Adebayo, 2018).

Furthermore, Mohamad (2015) in his study stated that the total numbers of discipline cases happen among students in Malaysia were high. This situation will definitely have an impact on Malaysia's education in shaping the young generation with good moral values. This discipline problem happens not only in Malaysia but it also happens globally. In Britain, a study conducted by the Department of Education in 2012 on disciplinary problems of school students reported that every one of the five secondary schools in Britain was categorized as 'bad' (Mohd, Roslee & Dayang, 2017). The statement above clearly shows that discipline problems happening among school students is worrying. This reflect to students who were facing the punishment, according to Kupchick and Catlaw (2014), negative impact of punishment such as school suspension could affect students' development and individual skills. Thus, this might affect the government effort to increase skills workers, especially in vocational school in Malaysia.

One of the main disciplinary problems was bullying. Bully is an endless problem which it often occurs among school students. This problem has a profound effect on the bully, bully victim and also the bullying witnesses occurring (Afroz, Phil & Shafqat, 2015). Ersilia & Christina (2017) in their study stated that bully problem has been studied for over past 40 years. Globally, bully is a very serious problem that should be taken into consideration by all parties. Violence committed by school students especially bully has been identified over the last few decades and this is a serious problem in the education sector (Destya, 2013). Bullying in schools is a problem that has a negative impact on teaching and learning environment in schools (Amin, Mohamad, Khairunnizam & Salleh, 2016). Junainor (2016) stated that bully problems that occur among students will affecting health such as having problems with eating habits and weight. Bully problem will also create fears that interfere with the process of self-growth and prevent effective teaching and learning (Muslihah & Fatimah, 2016).

Then, Buerah, Shanah & Hamimah (2015) stated that class truancy happens because of laziness and not interested in learning. The attitude of class truancy will sooner lead to school truancy. A study conducted by Mohd, Khalid, Ag & Halimah (2014) found that teachers are linked to truancy issues in school. According to them, the boring teacher's teaching and the attitude of the teachers when they failed to attract the attention and interest of the students would cause this truancy problem. To prevent class truancy problem among school students, teachers should focus on attracting students to participate in learning sessions (Syarif, 2013). Students who are less interested in teaching and learning sessions will act out of the classroom and consequently will have an adverse impact on their academic achievement (Nazra, 2015).

Lastly, according to Jill & Pamela (2012), theft problem that occurred among students not only involves property but also relating assignment and task theft. One of the factors that caused theft problem among school students is due to lack of religious education given to them. A study conducted by (Fatma, 2012) found that there were school students who were stealing. These school students mostly

steal from their parents and relatives and steal something from their friends. Additionally, there are a handful of school students who also steal from retail outlets and supermarkets. Sri & Soemanto (2015) stated that there are school students who steal did not feel guilty about the loss suffered by the victims due to their immoral acts.

In generalizing the current states of literature, the role of disciplinary knowledge within teachers' and students' seems important to set standards regulate activities inside the classroom and outdoors such as respect for teachers, staff and school management, school and class attendance, bullying, school uniform (dress code), and work ethics. Henceforth, this interview session was conducted to investigate three types of disciplinary problems:

1. Identify teachers' perception towards bully problem among catering students.
2. Identify teachers' perception towards class truancy problem among catering students.
3. Identify teachers' perception towards theft problem among catering students.

## **Method**

A descriptive research design was deployed in order to investigate three types of disciplinary problems which focusing on bullying, truancy and stealing among catering students. Data were collected using semi-structured interview. Participants involved nine catering course teachers in two vocational colleges in Johor. Teachers in this vocational college was selected since the only college that are offering the catering courses in southern region of Malaysia, that was easy accessible for research purpose. Teachers were selected as participants since teachers who were closely and directly handling and solving students' misdemeanour cases. In addition, nine teachers are appropriate for this study (Cresswell, 2014).

## ***Research Instrument and Data Analysis***

Data were collected using an interview. A total of 9 interview questions were designed to answer the research objectives. Survey research interviewing, standardized questions are often posed that seek answers that are open to quantitative procedures. In this semi-structured interview, the researcher provides some structure based on research interests and interview guideline, but works flexibly with the guide and allows room for the respondent's more spontaneous descriptions and narratives (Brinkmann, 2014).

In this study, interview questions have been validated by three experts. First, a validation from language expert; second, a validation from measurement and assessment expert; and third, a validation from a disciplinary teacher in high school. Language specialists are selected to determine the language and grammar of the use of sentences are correct and accurate, while school discipline teachers are chosen to determine the reasonableness of questions related to disciplinary problems that often occur among students. The questions were as follows:

1. Based on your experience, do catering students ever bullied and bullying?

2. In your opinion, what are the factors students bully others?
3. In your opinion, what are the factors students bullied by others?
4. Based on your experience, do catering students involve in class truancy?
5. What are the situations you have faced in class truancy problem?
6. In your opinion, what are the factors of class truancy?
7. Based on your experience, do catering students involve in theft problem?
8. What are the situations you have faced in theft problem?
9. In your opinion, what are the factors of theft problem?

Data collected were analysed using thematic analysis. Thematic analysis is one of the most widely used methods in qualitative research. In this study, deductive approach was deployed since the study have prescriptive factors, namely bullying, truancy and theft. Thematic were identified based on descriptive and value of statements from participants. Thematic analysis is very effective in analysing the theme in any reference source for further research in certain areas of knowledge. Alpenia (2012) stated that thematic analysis is done by looking for codes or themes from transcripts provided. Thematic analysis focuses on a particular theme that aims to know something in more detail. The purpose of thematic analysis is to produce one data obtained based on one theme. Therefore, when using thematic analysis, researchers should look for more general theme first and then specify in some more detailed themes.

**Findings and Discussion**

The results of this study are divided into three parts based on three research questions. First is on how far bully problem happens among catering students. It covers questions in terms of catering students’ involvement in bullying issues, bullying factors among catering students and causes of bullied among catering students. The result shows as in table 1, 2 and 3.

Table 1: Catering students’ involvement in bullying issues

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Bully case exists	<ul style="list-style-type: none"> <li>– Male students stay at the hostel are often bullying others (S1)</li> <li>– Bully happens during teaching practical (S2)</li> <li>– Students who stay at the hostel are often involve in bully problem (S3)</li> <li>– Student in this field used to be bullied and never bully others (S4)</li> <li>– Bully usually involving senior and junior students at the hostel (S5)</li> <li>– Total of students involve in bully problem is not many (S6)</li> <li>– Bully problem happens but too little (S7)</li> <li>– Bully problem happens but not too much (S8)</li> </ul>	9	9

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- Bully problem often heard and happened among culinary students (S9)
- 

Table 2: Bullying factors among Catering Students

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Feeling factor	<ul style="list-style-type: none"> <li>- Students bully because they are not satisfied with someone or something (S1)</li> <li>- Students bully because they are not satisfied with someone or something provided at the hostel (S4)</li> </ul>	2	9
2	Self-satisfaction	<ul style="list-style-type: none"> <li>- Students bully others to complete their task (S2)</li> <li>- Students want to show their charisma to weak students (S5)</li> <li>- Students bully to get attention from others and to make others respect them (S6)</li> <li>- Senior students usually take advantage to bully junior students (S7)</li> <li>- When student bully others, they will feel proud with themselves (S8)</li> </ul>	5	9
3	Background factor	<ul style="list-style-type: none"> <li>- Students bully others because they are having different background and different culture (S3)</li> </ul>	1	9
4	Peers factor	<ul style="list-style-type: none"> <li>- Students are challenged by their friends to bully others (S9)</li> </ul>	1	9

Table 3: Causes of bullied among catering students

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Behavior factor	<ul style="list-style-type: none"> <li>- Junior students who are rude to the senior students usually will get bullied (S1)</li> <li>- Students are bullied because they are not getting well with others (S1)</li> <li>- Students are bullied for misspoken and do not respect others (S4)</li> <li>- Students look weak and easy to bully (S5)</li> <li>- Students who are usually looking weak (S6)</li> <li>- Students look weak and not energetic (S8)</li> <li>- Bully victims are those who do not have many friends (S9)</li> </ul>	7	9
2	Academic factor	<ul style="list-style-type: none"> <li>- Bully victim are those who lack in academic but good in practical work (S2)</li> <li>- Weak students but good in academic</li> </ul>	2	9

3	Junior and senior factor	<ul style="list-style-type: none"> <li>– (S5)</li> <li>– Junior students need to respect senior students (S3)</li> <li>– Junior students are eyed to be bullied (S7)</li> </ul>	2	9
4	Background factor	<ul style="list-style-type: none"> <li>– Bully victims are those who come from different place and having different background with others (S3)</li> </ul>	1	9

Secondly, an interview question has been asked on how far does class truancy problem happens among catering students. It covers information on catering students’ involvement in truancy issues, truancy factors among catering students and causes of truancy among catering students. The result shows as in table 4, 5 and 6.

Table 4: Catering students’ involvement in truancy issues

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Class truancy happens	<ul style="list-style-type: none"> <li>– Class truancy happens between male and female students (S1)</li> <li>– Total of culinary students are not too much but this problem is happening (S2)</li> <li>– Students attend to school but skip class (S3)</li> <li>– Class truancy problem is always happening (S4)</li> <li>– Class truancy always happen no matter what time it is and happen among female and male students (S5)</li> <li>– Class truancy problem cannot be prevented anymore (S6)</li> <li>– Students involve in this problem are not many (S8)</li> <li>– Male students are involving more than female students (S9)</li> </ul>	8	9
2	Class truancy doesn’t happen	<ul style="list-style-type: none"> <li>– Class truancy problem never happened</li> </ul>	1	9

Table 5: Truancy factors among catering students

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Family problem	<ul style="list-style-type: none"> <li>– Students who skip class have family problem and not monitored by family members (S1)</li> <li>– Not monitored by family because they are living at rented house (S5)</li> </ul>	2	9
2	Effect to the school	<ul style="list-style-type: none"> <li>– Students skip practical class (S2)</li> <li>– Raw ingredients prepared are damaged</li> </ul>	7	9

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	and rotten (S3)
	– Skip class during last week of school and do not finish their task (S4)
	– Attend to school but skip theory class (S6)
	– Students skip class in group during last week of school (S7)
	– Students hide in the school toilet in a group (S8)
	– Students skip class because they wake up late and do not finish their project (S9)

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Table 6: Causes of truancy among catering students

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Peers influence	<ul style="list-style-type: none"> <li>– Students who stay outside usually skip class because they are forced by their friends (S1)</li> <li>– Friends play an important role in students’ life (S7)</li> </ul>	2	9
2	Wake up late	<ul style="list-style-type: none"> <li>– Students usually wake up late and skip class (S2)</li> <li>– Students work at night till early morning (S3)</li> </ul>	2	9
3	Behavior factor	<ul style="list-style-type: none"> <li>– Students hate theory class (S4)</li> <li>– Students are not motivated to success (S5)</li> <li>– Students are bored in the class (S6)</li> <li>– Students are bored and don’t like learning sessions by their teacher (S8)</li> <li>– Students are bored, tired and lazy to follow the lessons in the class (S9)</li> </ul>	4	9

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Lastly, an interview question has been asked on how far does class theft problem happens among catering students. It covers evidence on catering students’ involvement in theft issues, theft factors among catering students and causes of theft among catering students. The result shows as in table 7, 8 and 9.

Table 7: Catering students’ involvement in theft issues

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Theft case exist	<ul style="list-style-type: none"> <li>– Theft problem always happen (S1)</li> <li>– Theft problem happens at the lab (S3)</li> <li>– Theft problems happen at the lab and hostel (S4)</li> <li>– Theft problem is always happening (S5)</li> <li>– There’s case involving culinary students (S6)</li> <li>– Theft happens but rarely (S7)</li> <li>– Theft happens during teaching practical (S8)</li> <li>– Theft problem happens (S9)</li> </ul>	8	9

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2	No theft case	– No students involve in theft problem	1	9
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Table 8: Theft factors among catering students

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Valuable items	<ul style="list-style-type: none"> <li>– Students steal money, mobile phones and valuable items belong to their friends (S1)</li> <li>– Students steal at the lab and hostel (S4)</li> <li>– Students steal their friends’ mobile phones at the lab (S5)</li> <li>– Students still steal their friends belonging although actions had been taken (S6)</li> <li>– Students in rural areas are often involve in theft problems (S8)</li> </ul>	6	9
2	School supplies	<ul style="list-style-type: none"> <li>– Students love to steal their friends’ cash</li> <li>– Students steal spoon, fork and knife from the lab to use at the hostel and house (S3)</li> <li>– Students steal small items like spoon and fork (S7)</li> </ul>	2	9

Table 9: Causes of theft among catering students

No	Theme	Answer	Frequency of Encoding Scheme	Total sample
1	Self interest	<ul style="list-style-type: none"> <li>– Students steal mobile phones and sell them to get money (S1)</li> <li>– Students steal spoon, fork and knife to use at the hostel and house (S3)</li> <li>– Students need expenses to go back to their hometown (S4)</li> <li>– Students are desperate to use money and stealing is the solution (S5)</li> <li>– Students steal to feel rich (S6)</li> <li>– Students need spoon and fork but refused to spend money to buy them (S7)</li> </ul>	6	9
2	Behavior factor	<ul style="list-style-type: none"> <li>– Students are lack of moral values (S2)</li> <li>– Students do not care about the impact of their wrongdoings (S8)</li> </ul>	2	9
3	Peers influence	<ul style="list-style-type: none"> <li>– Students are challenged by their friends to steal something like mobile phone and cash (S9)</li> </ul>	1	9

**Discussion**

Bully problem that happens among catering students was analysed through an interview conducted on nine respondents who are also catering teachers at vocational colleges. This bully problem is a serious problem that often occurs. This was also agreed by Raja, Ruslin & Saemah (2017). According to these authors, the violence that occurred among teenagers especially bully problem has been identified over the last few decades as a serious problem. This problem

occurs regardless of gender and time, but the study found that self-satisfaction, peers and background were among the sources of students' misdemeanour.

Class truancy problem is no longer a new issue, even this problem has happened since long ago and has been the major issue for students retract from learning. This is also agreed by Arsaythamby & Ng (2014). They said class truancy problem among Malaysian school students is not a new social issue. This problem is not only occurring in Malaysian schools, but according to Gase, De Fosset, Perry & Kuo (2016), this problem is also one of the most serious problems in schools in the United States. Overall, class truancy problem among catering students is a serious problem. Based on data analysed, eight of nine respondents said they have experienced this problem before. Students need to be supervised in a conducive environment so that they will feel comfortable (Ismail, Hamid, Sidiki, Samad and Harun, 2017) and being happy to be in class.

Theft problem among school students nowadays are getting more serious. A big challenge is waiting for the stakeholders to prevent this issue. According to Zainuddin & Norazmah (2011), the teenagers' behaviour like quarrel and stealing has been difficult to be eliminated anymore. In this study, peer influences were one the factors for students at this age who commit with misdemeanour, which is in line with previous research findings (Steinberg & Monahan, 2007). Peer influence will normally reduce when students age is approaching towards thirtieth, especially when they have grown their own stance on the particular issue. But in this case, theft problem among catering students who are below their thirtieth (teenagers) are in a serious stage (Steinberg & Monahan, 2007). Eight of the respondents stated theft problem is happening among catering students.

Peers factor seems to be the major contribution to students' misdemeanour. One of the step to improve them is by fostering the school climate towards more positive influences on students' academic, social, and behavioural outcomes. A study proposes that the problem such as class truancy can be mitigated by on-punitive measures like rewards that improves motivation for students (Desulme, 2019). According to this author, discipline tracking and ongoing monitoring and assessment of the students' status can reduce truancy.

Generally, improving school climate provides a promising avenue for preventing academic, social, and behavioural difficulties. Teachers are encouraged to play their roles in maintaining a good culture and becomes mentor to these students (Ismail, Hassan, Masek, Hamzah, Ismail, and Subramaniam, 2016). It is suggested that students who involved in bullying, truancy or thefts; stakeholders including parents and teachers have to take their role to monitor and support students and continuously raises students' awareness of the implication of misdemeanours. Teachers should prepare to implement suitable developments and cultures in teaching strategies by providing basic information, involving students to practice and apply relevant skills and implement it in fitting time (Hashim, Mohamad & Muda, 2018). Future research is suggested to explore more on psychological aspect on students' seeking for self-satisfaction, how to mitigate and seeking for self-satisfaction in a more positive way, and how to infuse more positive values internally from education.

## Conclusion

In conclusion, discipline problems commonly occur at this level that may also imply to all similar age students worldwide in the similar environment. In this case, these misdemeanours were among catering students and involved both male and female, including several factors from peers and students' background. In addition, these problems occur not only during class, but also in school areas such as cooking lab and at the hostel. Peers influence can be cured and students' background can be carefully selected during entry process. Thus, these factors can be a starting point for further mitigating the cases and more focuses should be given on students' learning. Relevant parties, educators and counsellors should implement mitigation steps and nurturing good value by looking at the other sides of the misdemeanour factors.

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## **THE COMPLEXITIES OF TEACHING SKILLS IMPROVEMENT PROGRAM IN INDONESIA**

**Mangasa Aritonang**

PPPPTK Bisnis dan Pariwisata

correspondence: [mangasa.aritonang67@gmail.com](mailto:mangasa.aritonang67@gmail.com)

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### **Abstract**

This study investigates the complexities of a teacher training course designed by the Ministry of Education and Culture as a program to improve the teaching skills of teachers. A teacher training program, called Teaching Competency Improvement Program, was conducted as a part of continuing professional development for Indonesian teachers. This training program involved teachers as the facilitators who had attended a one-week training of trainers (ToT) prior to their duties as facilitators. Only those who passed the post test in the ToT were entitled to act as training facilitators. Each facilitator facilitated ten to twenty teacher colleagues in their respective zones following IN1-IN2-ON1-IN3-ON2-IN4-ON3-IN5 pattern for duration of 82 contact hours. This study involved 89 facilitators as respondents to an online survey. Data was gathered and analyzed using qualitative descriptive method. The finding of the study includes problems in the technological tools used in the training program, the time management, the content of the training, coordination problem among parties, and the effectiveness of the training program.

**Keywords:** professional development, blended learning environment, HOTS

### **Introduction**

In-service training for Indonesian teachers has undergone several changes in previous years. The Ministry of Education and Culture of Republic of Indonesia through the Directorate General of Teachers and Education Personnel annually conduct teacher training program to improve the quality of teaching and learning process in the classroom. The training programs are conducted in all provinces and provided for teachers from all levels of education, from primary schools to secondary high schools, and to various teachers of subject matters such as Mathematics, Science, Social Science, Bahasa Indonesia (Indonesian language), English, and class teachers at primary schools. Previous training programs include Guru Pembelajar (Teachers as Lifelong Learners) in 2016 and 2017, Pengembangan Keprofesian Berkelanjutan (Continuing Professional Development) in 2018, and Peningkatan Kompetensi Pembelajaran (Teaching Competency Improvement) in 2019. This study reviews the latest training program, more specifically the training program for teachers of English, and

investigates the complexities of the program from the perspectives of teachers who played their roles as facilitators in the training program.

To improve the quality of learning process which will lead to the improvement in students' quality, the Directorate General of Teachers and Education Personnel under the Ministry of Education and Culture designed a teacher training program called Teaching Competency Improvement Program. The rationale for this program was the poor performance of students in examinations: the national examination by the Ministry of Education and Culture, and international examinations of Program for International Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) (Direktorat Jenderal Guru dan Tenaga Kependidikan, 2019b). In addition to the poor performance of students, the low scores of teachers in a Teacher Competency Test conducted by the Ministry of Education and Culture was another rationale. This teacher competency improvement program is claimed as a form of continuing professional development for Indonesian teachers. The program was designed and implemented in different places according to geographical approach, which is popularly known as zonation system. The purposes of zonation system were to provide equal opportunity for all teachers in Indonesia to access quality learning; to increase efficiency and effectiveness of teaching competency improvement program; to picture teachers' competencies and teaching performances, and to provide insights to school principals and supervisors in doing academic supervision to teachers. In the zonation system, teachers of same subject or study program in one particular area were gathered together in one designated school as a learning center to participate in the program. Around ten to twenty teachers were learning together and led by one facilitator, who is also a teacher from the same zone. Facilitators were selected based on their scores in teacher competency test and had been trained to be facilitators for one week in a training of trainers (ToT) program. As a teacher trainer, my role was a facilitator in the ToT.

The final goal of the teacher competency improvement program was to increase students' competencies through the improvement of teachers' competencies in planning, implementing, and evaluating teaching and learning process (Direktorat Jenderal Guru dan Tenaga Kependidikan, 2019a). The learning interaction in the program was scheduled 82 contact hours within five consecutive weeks, and carried out with an IN1-IN2-ON1-IN3-ON2-IN4-ON3-IN5 pattern. IN sessions mean that the learning process was carried out face-to-face facilitated by the facilitator at the designated school. ON sessions mean that the participants learn by themselves at their own school such as doing some assignment, designing a lesson plan, and put the knowledge they gained into teaching practice. A learning management system (LMS) was created for online learning interaction. There was no face-to-face interaction between facilitator and the training participant during the ON sessions. Control and supervision during the ON sessions was done by the school principal or supervisor. The reason for designing such program was to avoid teachers from leaving their teaching job. Since the ON sessions were allocated during working days, it was assumed that teacher participants spent two contact hours per day for independent learning and

teaching practice. The IN1-IN2-ON1-IN3-ON2-IN4-ON3-IN5 pattern is shown in the chart below.

Week	Training Schedule						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1							IN-1
2							IN-2
3	-----		ON-1	-----			IN-3
			---				
4	-----		ON-2	-----			IN-4
			---				
5	-----		ON-3	-----			IN-5
			---				

The content learned in the program consisted of two main subjects: pedagogical knowledge and professional knowledge. The pedagogical knowledge includes issues about teaching and assessment which stimulate students' higher order thinking skills. The professional knowledge means the content as listed in the curriculum and syllabus. The selected content was to be taught to their students during the teaching practice in the ON sessions. In so doing, two out of four teacher competencies (professional competency, pedagogical competency, personal competency, and social competency) (Kemdiknas, 2007) are enhanced through the training program. Additional learning content in the training program includes students' character building and literacy activities/programs to make it consistent with the policy from the Ministry of Education on three components of 21<sup>st</sup> century skills (character, literacy, and competency) (Budhiman, 2017; Redhana, 2019), and introduction to the learning management system (LMS) for the online learning interaction. By the end of the training program, teacher participants sat a post test to measure their learning achievement, which include pedagogical and professional knowledge content. The passing grade to past the test was 70.

### Literature Review

The more complex skills students need to learn has led to changes in the role and functioning of schools, and to what is expected of teachers as well. In Indonesia, teachers are asked to facilitate students' meaningful learning, to engage students more actively in learning process, to stimulate students to think critically and creatively and to solve problems, to encourage collaboration and communication among students, to make more effective use of information and communication technology tools, and to nurture attitude and character (Direktorat Jenderal Guru dan Tenaga Kependidikan, 2019c). To enable teachers to cope with all the demands, continuing professional development of teachers is required. Teacher professional development is on-going, includes training, practice and feedback, and provides adequate time and follow-up support to enhance the teaching environment in the classroom (Teacher.org, 2020). Effective professional development is defined as "structured professional learning that results in changes in teacher practices and improvement in student learning outcomes" (Darling-

Hammond et al., 2017). A teacher professional development course is perceived to be effective when, by the end of the training course, teachers' pedagogical knowledge and skills are enhanced, and teachers get insights to be more creative in their teaching practices (Kabilan, 2019). In designing an in-service teacher training course, it is very important to think issues like what types of knowledge teachers need and how teachers learn (Kelcey et al., 2017). Therefore, the issues of what Indonesian teachers actually need to know and how they construct their knowledge have to underlie the design of Indonesian teacher professional development programs. Then, the duration of the teacher training program, the intensity, the strategy of delivery will be designed based on those two aspects (Kennedy, 2016).

Currently, what Indonesian teachers need to know is what higher order thinking skills are and how to develop students' higher order thinking skills. Critical thinking has been seen as one of the most wanted skills in workplaces (Gray, 2016), students, therefore, need to be exposed to critical thinking and learning skills in order to be able to compete in workplaces. The Ministry of Education and Culture has put an emphasis on developing students' critical thinking skills as a priority along with character and literacies. Teachers have been exposed to HOTS-oriented teaching approaches in various training courses (Direktorat Jenderal Guru dan Tenaga Kependidikan, 2019c) including in dissemination of Curriculum 2013. Teaching approaches are oriented to develop students' higher order thinking skills, which include transfer of knowledge, critical thinking, and problem solving. This policy seems to be an extreme paradigm shift as teachers were used to teach to fit into exam-oriented system. Studies show that teachers are not prepared with the new teaching approach which emphasizes on critical thinking skills (Chun & Abdullah, 2019; Ramadhana et al., 2018; Widana et al., 2019). Learning approaches that are claimed to be effective to stimulate students' higher order thinking skills include project-based learning and problem-based learning approaches (Jailani et al., 2017; Mustika et al., 2019; Setiawan & Bharati, 2018).

## Method

A qualitative descriptive study is used to depict a detailed phenomenon to answer the "how" and "who" questions (Sobandi, 2016). This study describes the complexity of the training program, which includes how teachers involved as facilitators in the program perceive the program, and what aspects need to be maintained and to be improved for future professional development. An online survey/questionnaire was developed using Google form as in [http://gg.gg/survey\\_pkp2019\\_ari](http://gg.gg/survey_pkp2019_ari) to gather information from potential respondents. The questionnaire consists of three main parts: 30 questions using Likert Scale ranging from strongly agree, agree, disagree, and strongly disagree; 4 short answer questions to obtain personal information such as name (optional), school (optional), education background, and teaching experience in years, 2 essay questions - one to ask opinion about issues related to the training program and the other one about future program for teacher professional development. Even though respondents wrote their names and schools where they teach, their

identities are kept confidential. The link of the online survey was distributed to potential respondents through WhatsApp groups, and was left open for ten days. A total number of 89 teachers responded via the link. Data analysis was done using inductive analysis. Each response was closely investigated and then grouped into sub themes and bigger themes. Irrelevant comments were excluded. Data was then interpreted and described.

### **Findings and Discussion**

The findings of the study are classified and discussed into themes.

#### ***Master Teachers as Training Facilitators***

The respondents to the questionnaire are 89 teachers who played roles as facilitators of the training program. They are teachers of English from junior high schools (SMP) and senior high schools (SMA/SMK) with teaching experience from five to twenty-seven years. They are all holders of at least bachelor degree in English Education from different universities. 92.1% respondents mentioned that their teaching experiences and English language proficiency contributed to their self-efficacy and confidence to act as facilitators. 96.6% respondents claimed that they had done their job as facilitators well.

As mentioned earlier, they were trained to be facilitators for one week and had passed the post test. However, some respondents mentioned that the one week training with the heavy load of the content to learn was not sufficient. Not only to master the training content, in practice they were also demanded to learn and to understand the mechanism of the implementation of the training, including training participant recruitment which was supposed to be the job of the committee – local office of education. They facilitated teachers' learning in their own zones. The followings are their perspectives on the teacher training program.

#### ***Online Component***

Most unsatisfactory comments are related to the online component of the teacher training program. The learning management system (LMS) which was designed for online learning interaction was not easily accessed. Teacher participants and the facilitator could not make online learning interaction. Consequently, the LMS was used mostly for submitting participants' assignment. In some places, the participants could not submit their assignments online, but handed the softcopy of the assignment in person to the facilitator. Other problems in the online component include limited access to internet and participants' low computer skills. A discussion forum in the LMS became useless because it was not used for learning interaction. Instead of using the LMS, WhatsApp was created and used for online discussion between participants and facilitator and among participants. WhatsApp is believed as having advantages over other technological tools employed for learning purposes, such as low cost, simplicity, accessibility, efficiency, and natural language. Facilitator's availability and the principle of learning anytime anywhere were claimed as two top advantages (Gon & Rawekar, 2017). Synchronous and asynchronous interaction on WhatsApp is also seen more engaging and has the potential to support learning collaboration in

a blended learning environment (Mahapatra et al., 2016). Therefore, it is suggested that the Ministry of Education and Culture needs to consider combining WhatsApp with the LMS for future teacher training program.

### ***Time Management***

The implementation time of the teacher training program varied from one zone to another, depending on the policy of the local office of education. At the initial design, the training program was supposed to be running around September to October, during teaching and learning process within a semester. In fact, mostly the teacher training program was implemented by the end of a semester, and it was perceived to be annoying. End of a semester is a busy time for teachers, both for teacher participants and facilitators. It was time for semester test, scoring students' work, and reporting the test result. Beginning or mid-term is perceived more appropriate for teachers to attend the training course. Some teachers also commented that the face-to-face tutorials (IN program) conducted on Saturdays and Sundays were annoying personal and family time. Respondents claimed that mostly teachers have one day free from teaching during weekdays. That one day should have been managed in one zone and allocated for the face-to-face meeting of the program. The duration of the training was perceived to be sufficient.

### ***Coordination among relevant institutions***

The implementation of the teacher training program involved several parties, such as the Directorate General of Teachers and Education Personnel, local offices of education at provincial and district levels, schools, teachers as training facilitators and as training participants. Therefore well-managed coordination among those parties are very essential. The study finds that coordination between facilitators and local office of education has been good to some extent. However, around 15% facilitators complained that communication with local office was not running well. They complained that local office did not know much about technical and mechanism problems of the training program. Recruiting training participants and arranging schedule were the most problematic things. They suggested that there is a need to have the same understanding on the teacher training program between the Directorate General of Teachers and Education Personnel and the local office of education. In addition, respondents also suggest that teacher forums at each zone, which is known as *Musyawah Guru Mata Pelajaran* (MGMP) in Bahasa Indonesia, needs to be involved to help the committee in recruiting participants. In some regions, MGMP has been running well, and they know the members quite well. It implies that they could suggest who should attend the training and who the right person to be the facilitator in their zones is.

### ***Training participants***

93.2% respondents reported that their training participants were enthusiastic to participate in the teacher training program. This indicates the willingness of teachers to improve their teaching competency, and that opportunity to attend a teacher training course was very rare. Teachers seemed to be aware the

importance of in-service training as it contributes toward an individual being more competent and satisfied in their roles as teachers. It also improves teachers' efficiency, ability, knowledge and motivation in their professional work because through in-service training, teachers acquire new understanding and instructional skills (Omar, 2014). However, some facilitators reported a different case in their zones. Teachers who were invited to participate in the training program did not show up, and some others withdrew from the training program for various reasons, such as lack of ICT skills and time constraints. Lack of computer skills and the large number of assignments from the training program were some factors that drove participants to withdraw. Facilitators recommended that senior teachers who were about to be retired should not be invited to the training program. Priorities should be given to junior teachers who are more motivated and more eager to learn. 87 out of 89 respondents also reported the total number of their participants and the number of participants who passed the post test. A total number of 1.394 out of 1.532 participants (90,99%) from 87 classes passed the post test. Respondents suggest that those who failed the test were given one more opportunity to sit the test. However, this expectation was not possible to do. Instead of retaking the test, the teachers should attend another training program in the future. Another administration program was that some retired teachers were reported to be invited to the training program. Consequently, some seats in the training courses were empty. This indicates that the data at the local office of education was not updated.

### ***Content***

Consistent with a finding in a study (Lestari, 2017), teacher participants claimed that the HOTS-oriented teaching strategy was interesting and important material, but in practice they still do not know how to develop students' higher order thinking skills. Ironically, time allocated to discuss this topic in the training program was very limited. A deeper investigation and discussion, and examples of HOTS-oriented teaching practices are very much required. Respondents mentioned that teachers need more examples of teaching approaches which are more applicable in the classroom. To complement the HOTS-oriented teaching strategy, HOTS-oriented assessment is also very much needed to enable teachers to construct tests. The tests should require students to demonstrate their higher order thinking skills such as to analyze, to synthesize, to argue, to deep understand, to apply, to evaluate, and to create (Watson, 2019). Respondents suggest having more time in practicing to construct such HOTS-oriented tests. This is consistent with study's findings in an Indonesian teachers context that teachers' knowledge in stimulating and developing students' higher order thinking skills and to assess it through test construction is still low and need to be improved (Ramadhana et al., 2018; Retnawati et al., 2018). However, to accommodate more time in one particular subject in a short period of a training course might not be possible. A special workshop in one particular subject might be an option to accommodate teachers' need. Widana et al (2019) claim that work motivation and creativity play important roles to help teachers construct HOTS-

oriented tests. These two components need to be considered in a teacher training program.

In addition to teaching and assessment materials, content about English subject (lesson unit) in the teacher training program was also commented by respondents. The content was selected from school curriculum and was not timely appropriate when it comes to teaching practice in the classroom. For example, the content to be discussed and to be practiced according to the training program was about procedure text. However, when it is time for training participants to practice it in the classroom, it is not appropriate with school's schedule. Therefore, respondents suggest that training participants are given authority to choose a topic for teaching practice in the classroom.

### ***The effectiveness***

Omar (2014, p. 4) states that “the effectiveness of a teacher training program is very much related to the awareness of teachers for self-improvement and development.” This statement seems consistent with the finding of this study. As mentioned earlier, the motivation of training participants to attend the training course was high. The teachers also show their willingness to participate in further professional development courses. Overall, the IN1 IN2 ON1 IN3 ON2 IN4 ON3 IN5 pattern was perceived, on one hand, to be time efficient because the training course did not disturb their teaching jobs. Teachers did not have to leave their classes to participate in the training course. On the other hand, some teacher participants complained to attend the face-to-face tutorials on weekends because they normally spent weekends with their family. It was also perceived to be effective because the content of the training program was relevant to teachers' need even though some improvement and modification is still needed. The program provides the training participants with new insight in teaching strategy, including in stimulating students to think critically and creatively, and in encouraging students to work collaboratively and communicatively.

### **Conclusion**

Overall, considering that 90,9% teacher participants passed the post test, the implementation of the teacher training program is perceived to be successful and effective to improve teachers' knowledge and skills in teaching strategies which oriented to HOTS. Since higher order thinking skills has become the crucial needs in this technology era, particularly in the workplaces, Indonesian schools need to prepare and provide their students with those skills. To get a better result, the duration of the training, particularly time allocation in discussing HOTS needs to be extended. The needs of school and community, particularly the needs of workplaces, have been made a vital consideration in designing and planning the teacher training program. This is consistent with the principles of in-service education as mentioned by Osamwonyi (2016). Teachers, therefore, need to be exposed to samples of teaching approaches such as project-based learning and problem-based learning. The enthusiasm of majority of teachers to participate in the program indicates teachers' awareness of the importance of personal and professional growth. Teachers who have attended the training course have to

implement what the HOTS-oriented teaching strategies in their teaching practices. School principals and supervisors play important roles in this part to ensure that any professional development of teachers have an impact to students. This is consistent with the goals of the training program – to increase students' competencies (Direktorat Jenderal Guru dan Tenaga Kependidikan, 2019a). However, problems arose in the implementation of the teacher training programs need to be identified, discussed, and solved by the policy makers and the designers of the training course. Some modification such as time management, content, and a better coordination among parties involved in the program is very much needed. ICT tools for online dimension of the training needs to be improved. A training course for teacher professional development is most effective when cooperatively initiated and planned (Osamwonyi, 2016). As an in-service education for teachers, the teacher training program needs to be re-examined and revised for a better teacher training program in Indonesia.

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## **ACTION RESEARCH ON MATHEMATICS PHOBIA AMONG SECONDARY SCHOOL STUDENTS.**

**Kaushik Das and Madhurima Gupta**

Gobardanga Hindu College, India

[kaushik.das53@gmail.com](mailto:kaushik.das53@gmail.com); [madhurimagupta825@gmail.com](mailto:madhurimagupta825@gmail.com)

correspondence: [kaushik.das53@gmail.com](mailto:kaushik.das53@gmail.com)

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### **Abstract**

The purpose of this study is to find out the causes of fear in the mathematics of eleventh-grade students and to find a solution. Action research is a method that has proven to be valuable as a problem-solving tool. It can provide opportunities for reflection, improvement, transformation, and solutions to learning. The idea for this project began as a discussion among the Mathematics Phobia at Secondary school in West Bengal followed by WBCHSE Curriculum. The researchers investigate several dimensions of Mathematics Phobia. Several research questions stand out: a) Find out how much is an error in the curriculum? b) Finding students' lack of interest in learning mathematics? c) Find out how students' attitudes toward teaching methods and d) Find out Error in the learning process. The idea for this project began as a discussion among the Mathematics Phobia at Secondary school in West Bengal followed by WBCHSE Curriculum. The researchers selected 50 students from the 11th-grade class, of which 32 were male and 18 are female. Researchers formulated 12 questions and four Hypotheses. The methodology of the study is a mixed type involving interpretative, analytical study of documents, interview, survey questionnaire, observation, qualitative and quantitative data analysis, and study secondary sources, like books, university news, expert opinion, articles, journals, thesis and websites, etc. This study researcher using statistical method percentage & bar-graph & finally, meaningful suggestions are offered.

**Keywords:** Action Research, causes of mathematics phobia, innovative approaches, mathematics phobia, mathematics education, remedies of mathematics phobia.

### **Introduction**

The mathematical phobia is an obstacle to academic progress, whose reasons are very important to inquire into but are not always possible to do. This fear is expressed in the students of mathematics class and it is revealed in the standard of improvement of the students. Depending on the Phobia of mathematics, the teaching methods of teachers, teacher-student relationships, use of abusive words, etc. (Nwoke, 2016). It can be said that the mathematics of the Basic Education

Core curriculum is very important for the development of the human mind. It enables a person to think logically and systematically, analyze various problems or situations, anticipate, plan, make decisions, solve problems, and apply mathematics in everyday life. Mathematics is the means of sharpening the individual's mind, shaping his reasoning ability and developing his personality, hence, its immense contribution to the general and basic education of the people of the world (Asiedu-Addo and Yidana, 2000). This classroom action study is a very useful tool for teaching students to effectively overcome the fear of mathematics and to teach teachers most effectively. Mathematics encourages the practice of self-reliance and helps students think about their problems and solve them (Adedayo; 1997). Mathematics has played an important role in the development of society from pre-historic times until today and its role is more important than ever and more important in the future (Makarfi, 2001). Negative beliefs about mathematics affect the teachers' response to the helplessness they have learned from the students, and on the other hand, which they believe can be successful in mathematics as a result of successful mathematics experiences (Karp, 1991). Teachers' beliefs play an important role in mathematics that has a powerful impact on teaching practice (Charalambos, Philippou & Kyriakides, 2002; Ernest, 2000). Mathematics-anxiety is not a separate condition but it is—"construct with multiple causes and multiple effects interacting in a tangle that defies simple diagnosis and simplistic remedies" (Martinez & Martinez, 1996, p.2; Bessant, 1995). Negative sources of faith and math anxiety can be divided into three categories: The origins of negative beliefs and Mathematics-anxiety can be classified into three categories: a) environmental, b) intellectual, and c) personality factors (Trujillo & Hadfield, 1999). To help pre-service teachers overcome their negative beliefs and concerns about mathematics, an intervention is needed that helps pre-service teachers make radical changes in the nature of mathematics and the beliefs and concepts about speech (Levine, 1996). Phobia in mathematics is learned as a psychological response, and it often causes intense anxiety (Tillfors, 2003). Mathematics-laboratory makes teaching and learning activity-based and experimentation oriented from the elementary school stage to higher studies & it exhibits relatedness of mathematics concepts with everyday life in real situations (Das, 2019). This study influences the initiation of using mathematics laboratory in teaching-learning and connect with the theoretical parts. The mathematics laboratory uses a method other than the dialectic method as a platform and to have a significant impact on the technique or knowledge creation. Math lab makes teaching and learning activity-based and experimentation oriented from the elementary school stage to higher studies. Math teachers should use math lab for teaching purposes. It exhibits relatedness of mathematics concepts with everyday life in real situations. Math teachers should be trained for the use of a math lab in the class according to syllabi. The Pedagogical Approaches in Mathematics Education explores the responsibility of Mathematics Teachers & finds out the problems and challenges to integration Mathematics and Pedagogical knowledge & it reduces the problems and challenges to integration Mathematics and Pedagogical knowledge (Das, 2019). Mathematical knowledge and mathematical usage are mentioned in the syllabus,

students will get more importance in mathematics & it can connect mathematics with the use of technology, mathematics will be more appealing to students (Das, 2019). Henceforth, this interview session was conducted to investigate three types of disciplinary problems. First, it is to examine the causes of mathematics phobia. Second, it is to find out the lack of interest of students in learning mathematics. Third, it is to find out the error in the teaching process, learning process & mathematics curriculum. Last, it is to present the remedy of mathematics phobia.

### ***Statement of the Problem***

This study was aimed at examining the causes & remedy of mathematics phobia in Secondary School Students. This is an area that has been researched but the tools and techniques needed to find the truth of the research have been used. It is important to investigate and identify what affects students' phobia about mathematics and the development of their attitude. The present study was designed to search from each student the possible dislikes related to the most important school determinants of mathematics. The results of student evaluations and their impact have been considered as a consequence of the phobia of mathematics. The environment and teaching methods suitable for mathematics education are of particular importance. The appropriate curriculum in mathematics emphasizes the necessary technology and the interest of students, who fear math concepts.

### ***Population and Sample***

The population of interest for this study consisted of 11th standard students from Bidhannagar Municipal School followed by WBCHSE Curriculum located in Bidhannagar, Kolkata. This study areas of emphasis include teacher preparation, coaching and mentoring in-service teachers, on-line learning among practicing teachers, technology-supported classroom instruction, problem-based learning, curriculum development, Student motivation, teaching-learning process, teaching process & teacher quality for K-11 mathematics.

### ***Purpose of the Study:***

The importance of this study is that it will help to identify the causes & remedy of mathematics phobia in Secondary School Students. Researchers identify the causes of mathematics phobia. Finally, the researchers recommend a remedy for those that will read and implement the work.

### ***Method***

The sources of data gathered in the present study are surveys, published online action research work, and interviews. The current document-based analytical approach is employed for data analysis. Historical and sociological approaches have also been adopted for analyzing the collected data. The methodology of the proposed study is based on the quantitative analytical document-based & statistical analysis has been furnished.

### ***Methodology Employed***

It is based on qualitative & quantitative research. It has the chief characteristics of recent document & data based analytical research.

### ***Research Materials***

1. Questionnaires
2. Government documents
3. Peer reviewed Journals
4. Books
5. Magazines
6. On-line documents from some relevant and reliable internet sources.

### **Findings and Discussion**

#### ***Findings***

1. Research plan  
Researchers have structured this action research into several steps:  
Step: 1. The attitude of improving the mathematics of the school students has been observed.  
Step: 2. Identifying the research problem or question.  
Step: 3. Select the probable causes of mathematics phobia among children.  
Step: 4. Formulation of Hypothesis.  
Step: 5. Formulation of Research Questions.  
Step: 6. Gathering the necessary information.  
Step: 7. Analyzing and interpreting the information.  
Step: 8. Give meaningful suggestions.
2. The probable causes of mathematics phobia among children are as follows
  - a. Error in curriculum.
  - b. Poor economically status of students.
  - c. Lack of mental ability in comprehending the mathematical concepts.
  - d. Error in teaching process.
  - e. Lack of technologies.
  - f. Error in learning process.
  - g. Biased evaluation procedure.
  - h. Lack of interest of students in learning mathematics.
  - i. Ineligibility to demonstrate the lesson in an appropriate manner.
  - j. Lack of learning environment.

Among the aforesaid probable causes the following causes are considered for research purpose. Researchers pickup four most causes for Mathematics Phobia & these are:

- a. Error in curriculum.
- b. Lack of interest of students in learning mathematics.
- c. Error in teaching process.

d. Error in learning process.

The following hypothesis was formulated for the study.

H<sub>0</sub>: There is no significant difference between Mathematics Curriculum & Learning.

H<sub>1</sub>: There is no significant difference between students' interest & learning mathematics.

H<sub>2</sub>: There is no significant relationship between teaching process & mathematics phobia.

H<sub>3</sub>: There is no significant relationship between learning process & students' achievement.

### 3. Sample of Data

For this research 50 students of Bidhannagar Municipal School are taken and the research is conducted on them.

### 4. Tools of the Study

Based on the hypothesis formulated 12 questions are made. This information is collected based on those questions. So, in this case, questionnaires are considered as the tool of study. The questions based on hypothesis are as follows:

12 questions were created based on the Hypothesis made by the Researchers. Data was collected from the students through this questionnaire. Thus, the questionnaire has been used as a data collection tool. The following Hypothesis - based questions are given in the following table:

Table 1. Formulation of Hypothesis and Research Questions

Formulation of Hypothesis.	Questions.	No. Of Questions.
H <sub>0</sub> : There is no significant difference between Mathematics Curriculum & Learning.	The syllabus of mathematics is huge. So, I fear studying mathematics. The procedures are not properly explained in our Mathematics book.	2
H <sub>1</sub> : There is no significant difference between students' interest & learning mathematics.	I am not interested in understanding mathematical concepts and ideas. I do not feel the urge to practice the sums which are done in school at home. Teacher cannot explain the concepts properly. Teacher does not use Black-board, charts & other teachings Aids to make the students understand the mathematical concepts.	2
H <sub>2</sub> : There is no significant relationship between teaching process & mathematics phobia.	Teachers do not ask us any questions while teaching. Teacher do not behave with us in a friendly manner.	6

	I am afraid of my mathematics teacher.			
	The teacher do not arrange any quarries or enquiries.			
H <sub>3</sub> : There is no significant relationship between learning process & students' achievement.	I cannot remember the formulae. I try to memorize all the sums without understanding the concepts.			2

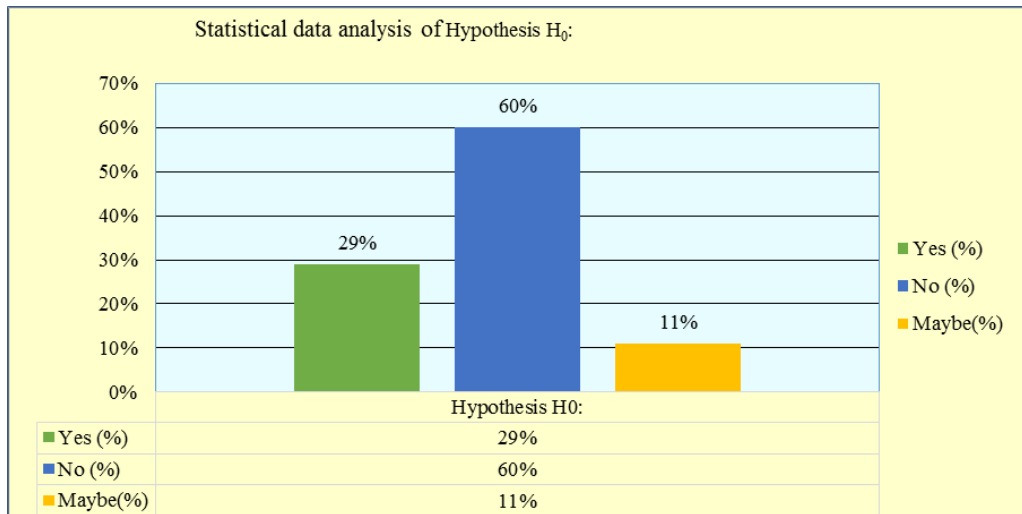
Table 2. Students' opinion on the basis of questionnaire

Sl. No.	Questions.	Yes. (%)	No. (%)	No reply. (%)
1.	The syllabus of mathematics is huge. So, I fear studying mathematics.	10	88	02
2	The procedures are not properly explained in our Mathematics book.	48	32	20
3	I am not interested in understanding mathematical concepts and ideas.	0	100	0
4	I do not feel the urge to practice the sums which are done in school at home.	20	80	0
5	Teacher cannot explain the concepts properly.	10	84	06
6	Teacher does not use Black-board, charts & other teachings Aids to make the students understand the mathematical concepts.	42	54	04
7	Teachers do not ask us any questions while teaching.	04	94	02
8	Teacher do not behave with us in a friendly manner.	06	90	04
9	I am afraid of my mathematics teacher.	30	60	10
10	The teacher do not arrange any quarries or enquiries.	60	24	16
11	I cannot remember the formulae.	88	12	0
12	I try to memorize all the sums without understanding the concepts.	72	28	0

Hypothesis H<sub>0</sub>:

Analysis of students' opinion on the basis of hypothesis: H<sub>0</sub>: There is no significant difference between Mathematics Curriculum & Learning.

	Yes (%)	No (%)	Maybe (%)
Hypothesis: H <sub>0</sub>	$\frac{10 + 48}{2} = \frac{58}{2} = 29$	$\frac{88 + 32}{2} = \frac{120}{2} = 60$	$\frac{02 + 20}{2} = \frac{22}{2} = 11$



Bar-graph 1: Analytical result with respect to Hypothesis H<sub>0</sub>.

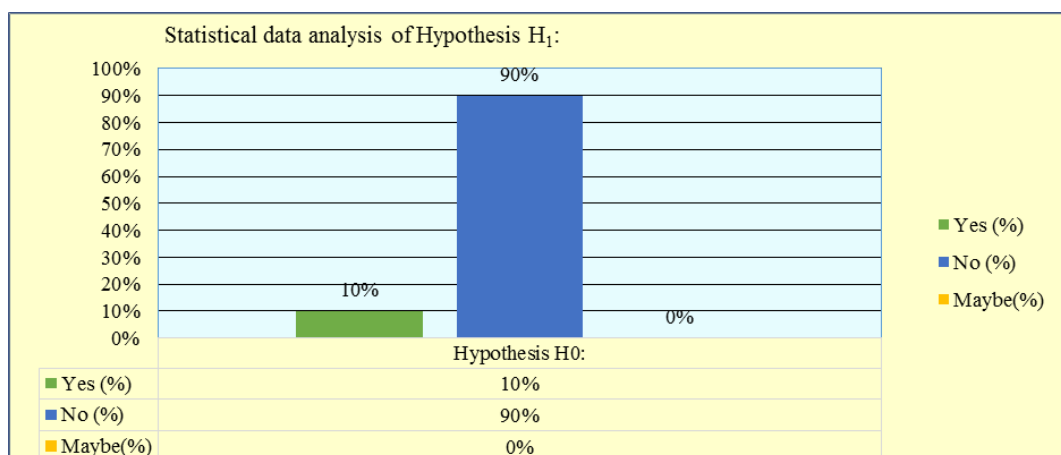
Interpretation of Hypothesis H<sub>0</sub>:

From the above analysis, we can conclude that most of the students do not think that mathematics phobia among them is due to errors in the curriculum. So the hypothesis H<sub>0</sub> is acceptable.

Hypothesis H<sub>1</sub>:

Analysis of students’ opinions based on hypothesis H<sub>1</sub>: There is no significant difference between students’ interest & learning mathematics.

Hypothesis H <sub>1</sub>	Yes (%)	No (%)	Maybe (%)
	$\frac{0 + 20}{2} = \frac{20}{2} = 10$	$\frac{100 + 80}{2} = \frac{180}{2} = 90$	$\frac{0 + 0}{2} = 0$



Bar-graph 2: Analytical result with respect to Hypothesis H<sub>1</sub>

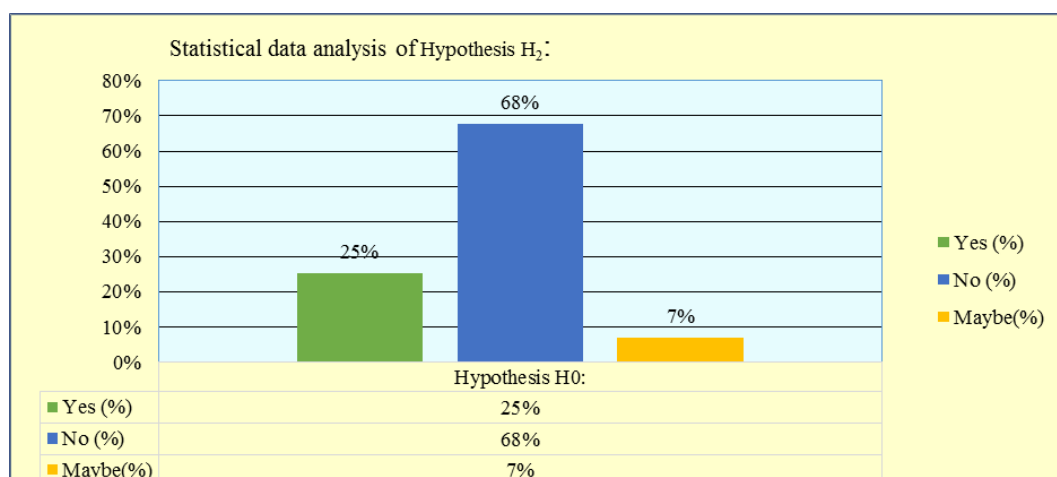
Interpretation of Hypothesis H<sub>1</sub>:

From the above analytical table researcher conclude that most of the students do not feel that the students’ interest & learning mathematics is not the cause of mathematics phobia among students’. So this particular hypothesis is acceptable.

Hypothesis H<sub>2</sub>:

Based on students’ opinion the hypothesis H<sub>2</sub>: There is no significant relationship between teaching process & mathematics phobia.

Hypothesis H <sub>2</sub> :	Yes (%)	No (%)	Maybe (%)
	$\frac{10 + 42 + 4 + 6 + 30 + 6}{6} = \frac{152}{6} = 25.33$	$\frac{84 + 54 + 94 + 90 + 60 + 24}{6} = \frac{406}{6} = 67.67$	$\frac{6 + 4 + 2 + 4 + 10 + 16 + 0}{6} = \frac{42}{6} = 7$



Bar-graph 3: Analytical result with respect to Hypothesis H<sub>2</sub>

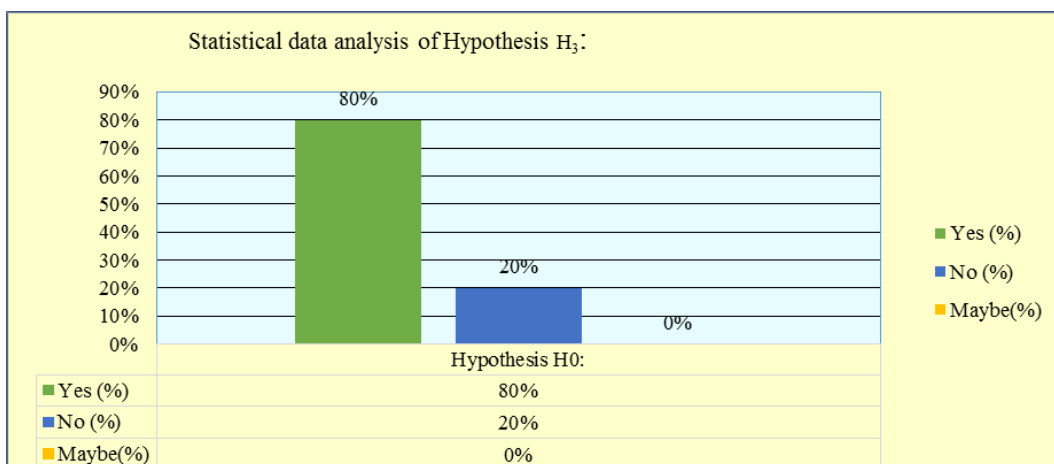
Interpretation of Hypothesis H<sub>2</sub>:

From the above results, the researcher concludes that most of the students do not agree that teaching process & mathematics phobia are not related. So the hypothesis H<sub>2</sub> is acceptable.

Hypothesis H<sub>3</sub>:

Analysis of students’ opinions based on hypothesis H<sub>3</sub>: There is no significant relationship between the learning process & students’ achievement.

Hypothesis H <sub>3</sub> :	Yes (%)	No (%)	Maybe (%)
	$\frac{88 + 72}{2} = \frac{160}{2} = 80$	$\frac{12 + 28}{2} = \frac{40}{2} = 20$	$\frac{0 + 0}{2} = 0$



Bar-graph 4: Analytical result with respect to Hypothesis H<sub>3</sub>

**Interpretation of Hypothesis H<sub>3</sub>:**

From the above analysis, the researcher concludes that most of the students think that the learning process & students’ achievement is the cause of mathematics phobia. So the hypothesis H<sub>3</sub> is rejected.

**Discussions**

1. Students do not think about the curriculum as much as it creates fear among them about mathematics. So students do not support this reason.
2. Lack of explanation for learning mathematics is felt by students in mathematics books.
3. Students are keen enough to understand the concept of mathematics.
4. Although the teacher satisfactorily explains the concept of mathematics but he does not use enough blackboards and teaching materials (TLM).
5. The teacher's friendly relationship with the students does not in any way scare the teacher.
6. The teacher asks students subjective questions while teaching in the classroom.
7. Students memorize formulae and theories without understanding mathematics. Cannot use required formulae and cannot remember formulae when applying mathematics.

**Recommendations**

1. Mathematics teachers must use the mathematics laboratory as well as the organization.
2. The teacher will make the math subject easier by Math-game.
3. The necessary remedial classes will be arranged for the weaker students.
4. Needs to action research activity at school.

5. Math teachers should try to make student active and motivated during mathematics classes.
6. Teacher must use different ways all method of teaching.
7. Teacher should clear doubts in classroom itself.
8. Teacher should give daily life examples while teaching.
9. Teacher should take revision after teaching topics.
10. Students shoot habit of practicing sums and doing homework regularly.
11. Teacher should use appropriate teaching skills.
12. School should be arrange workshop.
13. The future researcher should conduct classroom action research for teaching other subjects and other levels of education such as primary schools, college and universities. Also, they should make an in-depth observation in a classroom for obtaining more details. In the future, we shall extend our study to higher education levels for mathematics education.

### **Conclusion**

This study contextually specifies teaching and learning strategies for teachers to develop a deep understanding of students' lessons. This study shows that attitude towards mathematics phobia and its causes are significantly and positively correlated, both for boys and girls. Behaviours that are friendly and concerned about such students provide the positive emotional and motivational conditions necessary for depth learning. Although the mathematics curriculum is high, students are not worried about it but are not satisfied with the proper interpretation of mathematical problems, formulae and theories in the book. For future mathematicians and problem solvers in India, the school also needs to look at mathematics education. The present study shows that mathematics phobia is due to memorizing the formulae and lack of understanding of the concepts.

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## HOW DO STUDENTS BEHAVE WITHIN THE FINAL EXAMS?

**Halili**

Yogyakarta State University

correspondence: halili@uny.ac.id

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### **Abstract**

This study explores the attitudes and behaviors of Yogyakarta State University students within final exams as well as to analyze the factors that influence their attitudes and behaviors in taking those exams. This qualitative research employs a descriptive-analytic approach. The data are collected by observation on 740 students participating in the final exams and interviews with 20 people of them. Data gathering techniques used are observation, in-depth interview, and documentation. The result shows that the attitudes and behaviors of observed students within attending the final exams are categorized into the level of maximum-positive (65.7%), while 24.9% of them perform attitudes and behaviors that can be classified into the category of minimum-positive. On the other hand, the minority of them (8.4%) can be grouped into minimum-negative, and the rest (1%) is in the category of maximum-negative. Many factors are influencing the attitudes and behaviors of the maximum and minimum positive, namely: a) stances of preparation, b) spirituality and strong character, c) mental stand of 'nothing to lose'. Meanwhile, the factors influencing attitudes and behaviors of minimum and maximum negative categories are a) unpreparedness for exams, b) a sense of pseudo-collectivism and prejudice, and c) circumstance of opportunities.

**Keywords:** Attitude, character, student, final exam

### **Introduction**

The problem of characters should be identified before the character education development and delivery. That is why the study on how students express their attitudes and behaviors should be significantly conducted (Tiwari and Panwar, 2014).

Nowadays the character education is popularly scrutinized as part of systemic solutions to respond to the phenomenon of ruinous characters amidst national life (Jalaludin, 2012; Bahri, 2015; Sultoni, 2016; Nurhisam, 2017). In that sense, the high number of corruption cases in various government levels occurs. Besides, the mafia, as well as transactional lawsuits in many law enforcement procedures rise. Meanwhile, the use of violence amidst the horizontal relation of society spreads. In electoral events, money politics strengthens while cartels politics which eventually build oligarchy within polity banalize. Moral hazards in many economic activities rise. Even an acute pragmatism among the education

atmosphere enhances. Those all reflect the decay of collective character in one fell swoop.

These phenomena are sublimated by various anomalies. At *das solen*, the law enforcement officers should enforce the law based on justice, but at *das sein*, they ruin the law and consequently they are being prisoned. In the idea, tax officials should collect the tax to increase that the national income increases, on the other hand, they gnaw the national income by manipulating the tax bills. Ideally the officers of education should show a sort of well-educated behavior, meanwhile they factually often corrupt the educational development fund, and the like. These phenomena are the so-called 'the circus stage' by the ex-National Education Minister, Muhammad Nuh (Detiknews, 2010).

In the Indonesian educational context, character education is seriously designed as one of the break-through ways and initiatives to overcome the morality problem that recently becomes a serious threat against the integrity of the nation. Awareness of its urgency and processes to set up the framework has been started from ten years ago. In an academic note coming from discussion about "Menggugat Lunturnya Nilai-Nilai Nasionalisme dan Karakter Bangsa" on almost decade ago, December 2010, Yogyakarta State University idealized character education as a response for various morality problems and nation character building amidst moral gaps in the national life within fields of economics, social, politics, law, and education. In that sense, the implementation of character education is too urgent to fail.

The success of character education, however, is not just influenced by the material aspect of character education. It also relies on its congruence and suitability with the context of the community or the entity in which the text will be implemented. For instance, the text of civic education in the schools is highly influenced by the environment built within. So is in the universities.

On one hand, the text of character education becomes the very dependent variable in influencing the character of the young generation as the successor of the national human resources and iron stock of changes, especially university students. On the other one, its context will be more independent. Moreover, the character education context reflects the most influential thing in succeeding in character education. Those contexts can be seen from various characters of students, especially in personal, social, and academic behavior. The character meant here is the personality (Koesoema, 2007: 80). Personality is considered "the character or style or a particular character from a person derived from formations received from the environment, for example, the family environment from childhood and also the person's innate characteristic from birth."

Students' characteristic in the academic point of view can be observed from; their attitude and behavior in participating the lectures, extracurricular activities, and also other co-curricular activities; how their academic relation among other students and their relation to the lectures are, and; how their attitudes and behaviors in joining the exam such as mid-semester examination and final examination, and thesis examination are. This research focuses on the study of the students' attitudes and behaviors in joining the final exam.

This study is urgent to conduct in order to understand, at least, two main issues; first, the quality and intensity of students' preparation in facing the exams that influencing the attitudes and behaviors in joining them; and second, the appropriate actions to do and conditioning to perform that is carried out by the faculty management during the exams.

### **Method**

This study is qualitative research using a descriptive-analytical approach. Based on the classification arranged by Arikunto (2002: 107), The resources of data used in this study are paper and person. Person means per individual as the subject, while the paper is the source of secondary data in the form of documents such as regulations and documents about a technical rundown of the final exam within the research areas. The subjects of this research are the students. The subjects are derived from any students of any major that pointed purposively (as the observation object) and snowball (as the informant of interview).

Data collection techniques in this research are described as follows. 1) Observation: by observing directly in final exam rooms from various majors. The observation was carried out in real-time when the exam is ongoing. The observation was conducted in 26 classes from different subject from semester II, IV, VIII and even X from 10 different majors (Civics Education, Management, Economics Education, Geography Education, Historical Education, Accounting, Office Administration Education, and Nation Administration. 2) In-depth interview: conducted to significant informants that represent two categories of attitudes and behaviors (positive and negative). The interview is conducted thoroughly to 20 students from 10 different majors. 3) Documentation: the document scrutinized in this research is the exam regulation and students' examination card. The instruments used in this study are an interview guide and observation guide, and also check-list and recording notes. The checklist and recording notes are used to track and record the data.

According to Moleong (2002: 178), to check the validity of data in qualitative research, the researcher employed the triangulation of method and sources. The triangulation of the method is carried out by comparing the credibility level of information obtained from one technique or others, for example, interview blended with observation, and the like. The triangulation of the source is carried out by comparing the data obtained from a particular document or other documents.

The analysis technique used is the inductive approach. Following Sugiyono (2015: 112), data analysis processes in the research include data reduction, data display, conclusion, and verification.

### **Findings and Discussion**

#### ***Findings***

Subjects of the research are students of Yogyakarta State University, represented by 740 students of several departments participating in the final exams. They are coming from 10 different majors among two faculties of social and human sciences, namely the Faculty of Social Sciences and Faculty of

Economics which is currently divided into two faculties, the Faculty of Social Sciences and the Faculty of Economics.

The subjects of this research consist of different classes and grades of semester II (two), semester IV (four), and semester VI (six), and a class of them combines students from different semesters namely VIII (eight), X (ten), and XII (twelve).

The students becoming subjects of the research are taking various subjects, namely Pedagogical, Information and Technology, Religion, Philosophy of Pancasila, Lesson Planning, Civics Education, Pancasila, Commercial Law, Economic Cooperation Practice, Global Perspective, Management of Office Administration Laboratory, Historiography, History of Islam, Soil Geography, The Base of Politics, Descriptive Statistic, Oceanography, Qualitative Research Method, Indonesian Economic, Taxation, Social Statistics, and System Information of Management.

After accomplishing the process of data analysis, the result of the research can be described as follows.

1. Students' attitude and behavior in participating in the final exam

Students' attitude and behavior can be classified in four relative categories, namely: a) maximum-positive, the circumstance is when the students participate in the exam with a look of well-preparedness and answer the written questions calmly, b) minimum-positive, the category includes the students who seem not enough ready and do the exam with a look of unwell-preparation, c) minimum negative, it is when the students try to cheat in answering questions in the exam, and d) maximum negative, the category is for a circumstance when the students who participate in the exam are obviously cheating in the exam.

Using those categories, the research result of 740 students participating in the final-exam in the even semester of 2017/2018 shows that: 486 students or 65.7 % were included in the maximum positive category. Meanwhile, 184 students or 24.9 % were categorized into the minimum positive category. 62 students of 8.4 % were included in the minimum negative category, and there are only 8 students or 1% were categorized into negative maximum criteria of attitude and behavior.

2. Factors influencing the students' attitude and behavior in participating in the final exam

The result of the research shows that some factors are influencing the students' attitude and behavior within participating in the exams. Some of the factors are as follows.

a. Spirituality and strong character.

The students with strong character and spirituality could be scrutinized by some doctrines they believe in. They have a strong belief that 1) every dishonesty is not endowed by The Almighty God, 2) not good way that is reached in a certain activity will lead to a not good result too, 3) a students' competency is not described by a good score of Final exam, 4) resignation is the best way (to be resigned to the exam result). Be resigned to something is the best way even in the

worst situation, such as when doing the exam. Those characters avoid the students from cheating others' answers.

b. Stance of preparation.

Good preparation means an optimal study before facing the exam can make the students feel confident in doing the exam. If they are ready they will not have any reason to cheat or anxious to get answers from others.

c. The feeling of nothing to lose.

Feeling resigned to what the exam score will be, can also lead to the attitude of ignorance in facing the exam. The feeling of nothing to lose is in the form of ignorance and submission of the result of the final term test they will obtain.

Besides, some factors that influenced the minimum negative of attitude and behavior are:

a. Unprepared for the exam.

The preparation that is not optimal because of the lack of studying leads the students to have an intention to do cheating.

b. A sense of pseudo-collectivism and prejudice.

The students trying to cheat assume that cheating is not just done by herself /himself. They believe that other students also do cheating so that they think that they will leave behind if they do not do cheating also. Besides, some of them have a prejudice that the lecturer will not have sufficient time to correct their works, either individual tasks or group tasks, moreover, the incidental tasks. So that they do one way or another to get a very good score in the Final exam, not to mention, using the deceitful ways.

c. Possibility of opportunities to do cheating.

Based on the students' argument, those kinds of opportunities are, as examples, the exam supervisor is not precise in supervising the exam (they are chatting with another supervisor outside the classroom, reading a newspaper, or typing using laptop), the space among chairs is too narrow, if someone sits next to the smart and 'kind' student, or sit next to other similar students who like to cheating.

### ***Discussion***

From the result of the research discussed previously, some important points that can be implied.

1. 'Cheating? No Way': Strengthening of Spirituality and Character

The cheating phenomenon is a negative note for the character builder and the nation's future. This socio-psychologically phenomenon expresses a serious problem for the young generation, namely instant culture. This reminds of the note from Mochtar Lubis (1992) and Koentjaraningrat (2004) about Indonesian people and their innate characteristics, for example, people want to be quick in reaching their goal without the effort to follow the right path. Some academic

cheating actions carried out by students include cheating on exams, copying friends' answers, copying from the internet without mentioning the source, plagiarism, presenting attendance signatures, preparing cheat sheets for examinations, copying friends' assignments, asking friends during exams or quiz, glance at or see friends' answers, tell answers to friends during exams or quizzes, and there are many other things that can be included in academic cheating criteria (Sagoro, 2003).

However, for those who have character and strong spirituality, they tend to avoid cheating in the exam. The biggest motif in avoiding cheating is transcendental determination. God is the biggest determining factor. The sanction of dishonesty is a sin and there will be no blessing from God if someone does the deceitful things. These motivate the students, to be honest in following the exam.

From the more secular perspective, students with strong character believe that the attitude in doing the exam reflects who they are. Thus, the students that usually do cheating represent non-creative character and unwilling to hard work. They are conscious that this behavior will influence the future of their real life.

In this perspective, to fight against the dishonesty in an exam is one of the most significant ways in character building. To do that, the main sublime method to overcome the dishonesty in an exam is to strengthen the character and spirituality of the students. These two things can minimalize the cheating behavior and cheating itself. If there are more students who anti-cheating behavior, the fewer students will do cheating. Utilizing that, cheating behavior will be decreased. According to Ratna Megawangi (2004), character education requires the involvement of all aspects of the human dimension, so that it is incompatible with the education system that emphasizes memorization and orientation to pass the exam

## 2. 'Position Determines Achievement': Improvement of room management and distribution of exam participants

One popular slogan among students about the exam is "position determines achievement". Denotatively, the phrase means if someone gets the most proper sitting position in the exam, so his/her achievement (read Gross Point Average) will be good or high in a score. That kind of statement needs to be prudently observed because the implicit meaning is negative. The proper position means a strategic location which is quite far from the exam supervisor's monitoring or located next to or among the smart students that academically can be reliable in doing the exam.

Thus, it is usual if the favorite position that enables them to do the negative behavior and attitude in doing the exam is mostly at the back rows that far from the supervisor's monitoring. Besides, the side row that is not in a line with the supervisor is also the favorite. Besides, the middle of the room also becomes the proper position that makes them feel "comfortable" and "save" in the middle of the "crowd".

Based on those phenomena, it can be concluded the best way that can be organized to fight against the dishonest behavior in the exam is by reforming the exam management especially in arranging the sitting procedure. The maximum

quantity of students in each room is the prominent thing that must be paid intensive attention. The most ideal quantity for the rooms in the area of researches is 20 students per room. On the contrary, based on the factual observation conducted in this research, each exam room was used for about 40 students. This made the space between the chairs is too narrow so that enable the students to do negative behavior in doing the exam.

Also, the numbering of the exam desk that is not randomly ordered enables the students to get a certain position. For example, a student with student number 14, they might just move to number 14, 13, 15, 13, or 16. Even when there is no addition of the students from different year generation or different semesters, so the initial student will sit in number 14.

This un-randomly numbering might lead to a certain system with other students that are not moving too. This is so potential to give them a chance to do cheating. A student knows exactly who is 'kind' in sharing the answer among his/her friends

Usually, after the third day of the exam, the number on the desk would already be torn apart or disappear because it was not stuck perfectly on the glossy desk. This condition enables the students to "hunt" the most proper sitting desk in line with the jargon "position determines achievement". Moreover, on the last days of the exam, almost all of the numbers have already disappeared from the desk, thus, the competition to get the best position is higher because the students did not prepare for the exam well. The challenge facing teachers and teacher educators is whether to allow the moral formation to occur opportunistically, letting students learn what they will, for good or bad, come what may; or whether to foster an intentional, transparent and deliberative approach that takes seriously the moral dimensions of teaching and schooling (Narvaez, 2008).

#### *A Wise Supervisor: The Revitalization of Supervision Technique and Function*

One of the prominent factors that determine the chance to have cheating attitude and behavior during the exam is the effectiveness of supervising carried out by the exam supervisor. That effectiveness determines by the supervisor's profile, the strictness in supervising and the obedient in following the exam rule.

Opportunities exist when the weakness of a system such as lack of control and the application of strict sanctions. Students will commit cheating when they are depressed and in such circumstances the supervisor of the test fails to carry out their duties of supervising carefully and the examiners who do not take decisive action to students who commit fraud can facilitate them to commit cheating (Murdiansyah, 2017).

There are various profiles of supervisors. Some of them are fierce, however, some others are quite easy-going and tend to be wise in a negative way. It means that they are letting any kind of situation during the exam, including the negative behavior and attitude in the exam.

The strictness or not of the supervising process also becomes the main factor for students participating in the exam to have a chance in doing negative attitudes and behaviors. According to the observation during the exam and interview with the participant, mostly the supervisor which also lecturing the subject examined

tend to pay more attention and be very strict in the exam process. The students also feel reluctant to do the cheating behavior, for example when the exam is supervised by the lecturer who teaches the subject being examined, the supervisor will have the whole right about the score given to students. It is different if the exam is supervised by the Final exam committee or the exam administrator, the reluctance in cheating will be very decreased because they are not the ones who have the authority to determine the last score about the subject being examined.

The fidelity to the exam rules organized by the exam committee is a significant thing to decrease the negative attitude and behavior during the exam. As an example, in an exam regulation stated that the supervisor should direct the students to collect their bags and other belongings in front of the classroom, except the stationaries and exam paper, however, this regulation is not carried out purposefully. Based on the observation, the students could able to reach their notebooks or textbooks.

### **Conclusion**

According to the previous discussion, it could be concluded as follows. First, the result shows that the attitude and behavior of observed students of two faculties of Yogyakarta State University within attending the final test are mostly categorized into the level of maximum-positive (66.7%), while 24.9% of them had attitudes and behaviors that can be categorized into category of minimum-positive. On the other hand, a minority of them (8.4%) can be categorized into minimum-negative, and the rest (1%) is in the category of maximum-negative.

Second, many factors are influencing the attitude and behavior of the maximum and minimum positive, namely: a) preparation, b) spirituality and strong character, c) feeling of nothing to lose, in the form of ignorance and submission of the result of final term test they will obtain. Besides, factors that influence attitudes and behaviors of minimum and maximum negative categories are a) unprepared for exams, b) a sense of pseudo-collectivism and prejudice, c) possibility of opportunities. These results imply that: first, the general attitude and behavior of students as the subject of this study indicates that the phenomenon is quite positive. Second, the character and spirituality of examinees tend to be the determinant factor of their attitude and behavior in the exam, exceeding the intelligence factor and the technical management of the exam.

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## **THEORETICAL EXPLORATION OF ART THERAPY AND EDUCATION FOR AUTISTIC CHILDREN**

**Muchammad Bayu Tejo Sampurno<sup>1</sup>, Yayi Suryo Prabandari<sup>2</sup>  
and Martinus Dwi Marianto<sup>3</sup>**

<sup>1,2</sup>Universitas Gadjah Mada, <sup>3</sup>Indonesian Institute of Arts Yogyakarta, Indonesia

<sup>1</sup>[muchammad.bayu.t@mail.ugm.ac.id](mailto:muchammad.bayu.t@mail.ugm.ac.id); <sup>2</sup>[yayisuryo@ugm.ac.id](mailto:yayisuryo@ugm.ac.id);

<sup>3</sup>[mdwimariant@gmail.com](mailto:mdwimariant@gmail.com)

correspondence: [muchammad.bayu.t@mail.ugm.ac.id](mailto:muchammad.bayu.t@mail.ugm.ac.id)

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### **Abstract**

This paper aims to explore art therapy methods that are able to become one of the complementary media to improve the communication skills of children with autism; explain concretely the contribution of art flexibility as a complementary media in communication therapy for autistic children; and explain the integration of the principles of therapy. These three topics will be explored using a number of theories about art therapy that have developed, as a research beginning on the development of methods of art therapy and art education for autistic children. The approach in this study uses the method of content analysis of the phenomenon of art therapy, which is implemented as a perspective to see the phenomenon of art education for autism in Yogyakarta, Indonesia in 2019. This study begins with a study of the development and patterns of art therapy which has been going on in Indonesia. Afterwards, the current foothold of art therapy will be known, and able to explain the reasons related to the development of art therapy in Indonesia. The results showed that the models of art therapy and art education for autistic children in Indonesia did not include the development of art therapy, learning methods through play, and did not understand the empathy space as a learning space for autistic children. Art exploration has good potential to be developed as a method of therapy and education for autistic children. That is because, art has the flexibility and natural nature of children, namely playing and making a sense of comfort, so that autistic children feel in one frequency with the teacher so that the educational and therapeutic process runs smoothly and optimally. The emergence of the concept of 3B (being, becoming, and belonging) in the space of empathy, increasingly claims that art cannot be separated in the world of learning in autistic children.

**Keywords:** Theoretical exploration, art therapy, art education, autistic children

## Introduction

Autism has become one of the most common childhood disorders today, reaching all of life in the world. Autism is currently widely discussed, but not balanced with public knowledge about the term autism, so that identification of autism is often too late. The delay in identification has the potential to cause a prolonged effect of autism. The impact of late identification can interfere with children's social development, communication, and mindset.

Autism is in the spectrum of disorders called Autism Spectrum Disorder (ASD). This category of disorder is classified through the Diagnostic and Statistics Manual (DSM) under the Pervasive Developmental Disorder label, which includes a diagnosis of autism, Asperger's syndrome, and Pervasive Developmental Disorder not Otherwise Specified (PDD-NOS) (American Psychiatric Association, 2013). Together, they represent categories of disorders characterized by rigidity of thinking, lack of emotional influence, and interference in sensory processing (Jaarsma & Welin, 2012). DSM-5TM defines autism disorder as a disorder or abnormality in social interaction and communication, as well as limited activities and interests (American Psychiatric Association, 2013). Therefore, communication is a major disturbance in autism, which makes it isolated from the environment and seems to have its own world.

Autism was almost simultaneously mentioned in 1940 by Leo Kanner in the United States and Hans Asperger in Austria. Both use the word "autism" to describe the condition with a label that was first used by psychiatrist Eugen Bleuler in 1911 to describe aspects of schizophrenia (Frasier-Robinson & Graham, 2015). This refers to the reduction of relations to people and the outside world in an extreme way that excludes the surrounding environment except oneself. This reduction or isolation can be described as withdrawal from social life into the self, according to the words 'autistic' and 'autism' which are derived from the word autos (Greek) meaning "self". The World Health Organization (WHO) on its official website states that 1: 160 children in the world experience autism disorders (accessed on 3 July 2018), which in the early 2000s had a prevalence of around 1: 1000 births, and research in 2008 showed an increase of 1.68: 1000 births, a fact that shows that people with autism is increasing from year to year, therefore, to answer parents' concerns about autism disorders, research is continuing to look for methods of healing autism (Bower, 2011).

Jim Sinclair in 1993 said that a person cannot release autism from his person, and instead the environment must accept the individual's autistic personality (Baron-Cohen, 1989). This is supported by the term neurodiversity by Judy Singer who said that atypical neurological development is a natural variation of the human gene. Thus, neurodiversity is associated with the term autism which is a 'disorder', and promotes the idea that individuals with autism disorders cannot be cured because they are not a disease, and do not need medication. On the other hand, although autism is believed to be incurable, researchers see an opportunity to improve the nervous system in autism (Richler, 2013). In addition, researchers continue to develop methods to improve the quality of life of people with autism. Related research continues to be carried out, ranging from the use of drugs and vitamins, as well as therapeutic models such as Applied Behavior Analysis

(ABA), Developmental, Individual Differences, Relationship-Based Approach (DIR), occupational therapy, sensory-integration therapy, speech therapy, art therapy, and The Picture Exchange Communication System (PECS) (Frasier-Robinson & Graham, 2015; Richler, 2013; Whitehouse, 2013).

The healing action or commonly referred to as therapy is often done at the therapy site. "The rank is the same as being climbed, the village head is the same as being descended". The parable would be similar to what happened in Indonesia in seeing the phenomenon of autism. Institutions that offer therapy services for children with autism are increasing in line with the increasing number of people with autism in Indonesia. Basically, the place of therapy is a space or space to deal with autistic children, and most of the space is a closed room (Beaudet, 2012). The space paradigm that has developed so far makes everything termed 'space' must have a dividing wall. However, the question arises "what about public space, public pedagogy, and other spaces that are interpreted more broadly?". Each individual is free to determine their own space. If the topic is a place of therapy, then the therapist and children with autism are free to determine their own space. As long as they have the same intention, it can be said that they are in the same room. Space can be in every place, whether in the field, forest, schoolyard, patient's home, even a place of worship (Hamil, 2016; Peters, 2017). From the arguments above, the idea emerged to redesign the therapy room for autistic children. The setting of the therapy room encourages to facilitate the process of experiencing multisensory experiences that combine senses in response to the therapeutic process so that the output and outcome of art therapy are achieved. In the therapy room, art emerged as a method. Art that has flexibility can enter into synchronization between therapists-children with autism-therapy rooms (Bayu Tejo Sampurno & Anggun Camelia, 2020).

Art as a psychotherapy for children has been discussed by Gross and Haynes who introduced the application of art therapy to children in the Handbook of Art Therapy (C. A. Malchiodi, 2003). For children in general, artistic expression has become a natural language that children have and can be a valuable asset in expressing trauma, sadness, or other traumatic events. Children, both with autism or not, have difficulty in expressing the problems or disorders they experience, and art is one of the media for children to communicate non-verbally.

Based on the explanation above, this research wants to explore important points that can be considered as methods and models of art therapy for autistic children in Indonesia, taking into account the interrelationships between therapeutic concepts and art. The purpose of this study is to help improve the communication skills of children with autism which are carried out through the process of painting. The therapeutic process is carried out in the therapy room where a mutual and mutual relationship exists between the therapist-child autism-media therapist-the surrounding environment. When children play in the therapy room, basically children with autism - who are still in the category of 'children', make art like other children in general, namely as 'nature' children (Lowenfeld & Brittain, 1982). That is because art has aspects that are very close to the world of children, namely aspects of play in which there is a pleasant nature.

### Literature Review

The literature review is carried out systematically about the study of art therapy practices in journals, books, academic research in the electronic search. Electronic searches were conducted with temporal restrictions in 1990-2018. The databases used as sources are Google, ProQuest, JSTOR, Springer Link, SAGE Journal, and Taylor Francis Online. The search term used consists of a combination of: art, therapy, autism, then after that it is applied again with additional keywords children, methods, effects, and results. The points to consider in full-text screening are (1) Children with autism with a maximum age of 15 years who are the primary subjects of research; (2) Identification of limitations including high functioning autism and gifted; (3) Art therapeutic interventions with the aim of improving children's skills, communication skills and social interaction; and (4) Art as a medium of expression of autistic children who are described in relation to changes in behavior, communication, and social interaction.

Research on the topic of art therapy is largely dominated by the role of art to help overcome problems in the fields of health and psychology. Melinda J. Emery with her research entitled "Art Therapy as an Intervention for Autism", describes and explores in detail how the development of autistic children with images that fit the child development scheme. The study also sought to explore methods for dealing with voice control in children with autism, who often scream when communicating verbally (Emery, 2004). This study analyzes the shape and color symbols conveyed by autistic children through their paintings and relates them to the improvement in the visual communication of autistic children. This research is limited to visual communication, without trying to see the implications of art therapy for the ability of children with autism to communicate verbally.

Carl E. Stafstorm, Janice Haviena, Anthony J. Krezinski with the title "Art Therapy Focus Groups for Children and Adolescents with Epilepsy" trying to see the effects of art therapy conducted on 16 research respondents who suffer from epilepsy. Research shows the ability of the development of creativity represented in the picture is below the aged standard of artistic development. Childhood Attitude Toward Illness Scale which is used as a measuring tool is used repeatedly but does not show a difference between pre-test and post-test scores (Stafstorm, Haviena, & Krezinski, 2012). However, all parents of respondents rated positively about the cognitive benefits of participating in art therapy.

Research on art therapy that makes it a tool in improving language skills of autistic children is carried out by Chung-Hsin Chiang, Wei-Tsuen Soong, Tzu-Ling Lin, and Sally J. Rogers with the title "Nonverbal Communication Skills in Young Children with Autism". In addition, similar research was also conducted by Annete Marjorie Miller-Jones with the title "The Effect of Music Therapy upon Language Acquisition for Children on the Autism Spectrum Aged 3-8 years". The results show increased speech, progress towards special educational goals, emotional well-being, expressive communication at home and community, and improvement in social skills. The language skills of children before and after participating in music therapy sessions range from nonverbal situations to singing songs, from using gestures to talking three to four words, from using language

without pragmatics to make friends, and from saying one to two words phrases to regulate their emotions (Chiang, Soong, Lin, & Rogers, 2008; Miller-Jones, 2017). Art therapy research in the family was conducted by Beth Nemesh entitled "Family-based Music Therapy: Family Therapists' Perspectives" which explained the benefits of collaborative action between music and family therapy. Furthermore, this therapeutic model is able to combine family-based music therapy interventions in family therapy practices and family-based education (Nemesh, 2016). The dominant difference with the research conducted is in the chosen field of art, where Miller-Jones and Beth Nemesh use music.

Amy Morrison with her research entitled "Understanding Children's Preferences in Art Making: Implications for Art Therapy", explains the three findings of art therapy, namely first, knowing how children's experiences in producing various forms of artwork. Second, what abilities are improved when the child works in art, Third, what tendencies make the child do the process of creating art. The results show that children prefer open and unstructured art experiences that encourage creativity and expression (Morrison, 2013). The findings show that children prefer if given the freedom to choose subjects and materials when creating art. Contributions to the preferences of children's art-making include the experience of art at home with various materials as well as the experiences they experienced with encouragement from family members. Sarah Hamil with research entitled "The Art Museum as a Therapeutic Space" explores the quality of various perspectives of art therapy practices in the context of museum-based art therapy. Museum-based art therapy is defined as an art therapy that has a partnership with the museum as part of a strategic effort for clients to engage in community activities. The results of this study indicate that the museum setting provides an important role for art therapy in the context of society, and is able to provide an understanding of organizational relationships that are difficult to understand for individuals who experience disturbances (Hamil, 2016). This research is used by researchers to be an initial reference, about the design of 'space empathy' as a therapy room for children with autism.

Furthermore, research is also conducted by looking at the time spent in art therapy. Kelly Kotowski with her research entitled "The Calling Canvas, Weaving Together Words and Images: A Narrative Inquiry into the Creative Voice of Students with Autism Participating in A Creative Lunchtime Program", provides a perspective on researchers about the importance of setting time and place on the success of the process art therapy. The results showed that the main symptoms that emerged when communicative exploration during the lunch session was ongoing were about space, creative expression, socialization, time management, and trust (Kotowski, 2013). This research provides a holistic understanding of the benefits of art-based teaching from the perspective of students. The findings of this study are a beginning in the development of communication therapy models for children with autism in school.

Kyle Hunter and Deborah Barnbaum try to describe the aesthetic value produced by the work of autistic children from John Dewey's theory of art and aesthetic experiences. The title of the research conducted by Kyle Hunter and Deborah Barnbaum is "Pragmatic Aesthetics and the Autistic Artist". The study,

entitled "Drawing Connections with Autism" by Kayla Mane Flanigan, contains a study of paintings of children with autism that are used as a media to identify emotions felt by children with autism (Dewey, 1980; Flanigan, 2011; Hunter & Barnbaum, 2012).

Research on art therapy is also carried out in the assessment process to find out the existence of art in the educational process as one of the therapeutic actions. Research conducted by Ji Sun Yoon with the title "Therapeutic Art Intervention in Elementary Art Class" is one of them. This research begins with a literature review of art therapy and art education so that it can put objectivity well. This research shows that there is art therapy in the education process. This study confirms that art teachers without a broad background in art therapy should not try to interpret the mental state of their students through the artwork they produce. Art teachers must pay attention to signs that might indicate an alarming problem and negotiate with the school authorities (Yoon, 2014).

Research on the relationship between art and the improvement of children's abilities appears in several studies found. Alvina Wong and Woro Kurnianingrum with the title "Application of Art Therapy to Improve Self-Esteem Middle Age Childhood" explain the application of art therapy to increase the self-esteem of middle childhood children who are still less effective in some previous studies (Wong & Kurnianingrum, 2018). The purpose of this study is to apply art therapy as an effort to increase self-esteem in middle childhood children in the community. Furthermore, research by applying the method of art therapy was also carried out by Andy Saputra, Sandi Kartasasmita, and Untung Subroto with the title "Application of Art Therapy to Reduce Symptoms of Depression in Prisoners". This research tries to prove the role of art therapy in helping to reduce depression in prisoners who have been imprisoned for the first time and are serving prison sentences of more than five years (Saputra, Kartasasmita, & Subroto, 2018). Based on the results of the comparison of the post-test with the PHQ-9 pre-test to measure depressive symptoms, in general, the participants had reduced symptoms of depression. But the biggest change was found in participants with moderate levels of depression than participants with mild levels of depression. This shows that art therapy is useful in reducing symptoms of depression in prisoners who were first sentenced and with sentences of more than five years.

The trend of art therapy research in Indonesia is only limited to the application of the art therapy model and does not touch the exposure of the exploration of art therapy methods or to the interdisciplinary study between therapy, art, and other fields. The studies in Indonesia (Joseph, Satiadarma, & Koesma, 2018; Kusumawardhani, Kurnianingrum, & Soetikno, 2018; Magdalena & Natalia, 2018; Wijaya & Tirta, 2018), are almost the same as the research described in the previous paragraph, which only applies art therapy to improve the ability of individuals or groups. The research mentioned above does not try to explore the interdisciplinarity of several disciplines.

Of all the literature reviews outlined above, none of them gave rise to an art therapy ecosystem with a focus on expressive art therapy carried out in a therapeutic setting and discourse related to the artistic value of autistic children

paintings. In addition, the literature review above shows that art therapy still does not have a strong footing because it is still in negotiations between the disciplines of health, psychology, and the arts. Art is not one of the important and fundamental fields for children's education so that although many have proven that art is able to be one of the healing media, it still does not show the urgency of art which is able to make important contributions to other disciplines. This, both directly and indirectly, makes the position of art underestimated in scientific discourse. By carrying out various studies that have been done before, then the benefit of the literature review for this research is to map the position of research among similar studies. Thus the originality of research can be maintained and can be justified.

### **Method**

The approach in this study uses the method of content analysis of the phenomenon of art therapy (Creswell, 2010; Leavy, 2017; Somekh, 2006; Tashakkori & Creswell, 2008) for autistic children with the classification of Asperger's Syndrome in Yogyakarta. Data was taken in Yogyakarta, Indonesia, with autistic Asperger Syndrome children aged 10 years. The data was taken in 2019, by collecting the results of interviews that were extracted into descriptive explanations, so that important models were found in the administration of art therapy. Autism cannot be completely cured, so treatments and interventions that are commonly termed as therapy become important for individuals with autism disorders. Basically, therapy aims to reduce behavioral problems that interfere and improve abilities in certain areas such as communication, cognition, and independence. Therapeutic actions used include ABA (Applied Behavior Analysis), sensory integration (SI), psychotherapy, play therapy, and creative arts therapies. On the basis of the variety of therapeutic actions for children with autism, researchers used an interdisciplinary approach to conduct therapy for children with autism, in which this study tried to focus on the disciplines of the arts and health, taking into account other sciences (Dobinson & Dunworth, 2019; Moran, 2002; Remley, 2017). The approach was chosen because (1) this study wanted to bring up the art therapy ecosystem and the artistic value it contains, and (2) researchers believe that to deal with complex disorders in children with autism, complex approaches are also needed. The expressive art therapy approach uses the thoughts of Cathy Malchiodi, which is integrated with the educational approach in the therapy process (C. Malchiodi, 2007; C. A. Malchiodi, 2003). The educational approach is used to provide a negotiation between approaches in learning and art therapy (Ki Hadjar Dewantara, 2004). In addition, by considering an educational approach, this research also takes up space management in learning, which will be developed in accordance with one of the objectives of this research, which is to create a space or setting of art therapy (M. B. T. Sampurno, 2019).

### **Findings and Discussion**

In the process of art therapy, there is a creative process displayed by the child, both consciously and unconsciously. The creative process is a key point that can

be the next assessment in the therapy process. In addition, the key point when the creative process is also an aesthetic show because it shows the element of beauty that is at the same time able to become a model of the art therapy ecosystem. From the creative process in which therapeutic actions are carried out, artistic paintings will be produced. If we say art, the representation of objects for children with autism is not the same as a normal child. Representation starts with the objectification process (Dewey, 1980; Goldie & Scellekens, 2007; Graham, 1997; Hall, 2002). Objectification is an imaging sense of what is seen by children with autism, where children with autism only choose one that has attention, so there will be aesthetics of the symbol chosen (T. Sampurno, 2015).

The objectification process comes into conceptual awareness, which in the context of education will generate psychological energy. In the process, children will be given input of understanding and knowledge in interpreting objects, and it will provide self-confidence and increase morality consciously from one's own personality (Wahana, 2018). Furthermore, to the process of imagination in which there is a symbolization in the mind of an autistic child, there is pictorial thinking. Pictorial thinking experienced by children with autism has a unique subjectivity compared to normal children in general (T. Sampurno, 2015). The occurrence of the process from objectification to expression will help autistic children get out of their inclusive circles to be exclusive so that other people are able to understand the will of the autistic child and communicate through his paintings. In addition, the resulting painting has its own aesthetic value, because there is metacognition and metanarrative of symbols in it. This research also tries to see the identity and artistic expression of the creative process and painting of autistic children as a therapeutic complexity to improve the communication skills of autistic children.

The first result is a therapeutic methods with an approach used is the health approach with the expressive art therapy sub-category. This approach is a slice of the arts and health. In it there is also a setting where the therapy, which is the scope of the integrated arts, health, education, and sensory fields. The therapeutic approach in this study begins with argument which illustrates that autistic children have complex disorders, which are triggered by communication problems, thus affecting the nervous system to motor coordination (Hobson, 1986; Smagorinsky, 2016). This argument supports the researcher to choose the focus of expressive art therapy from art therapy as a therapeutic approach used in this study. Expressive art therapy combines psychology and creative processes to promote growth and emotional healing. This multimodality art approach to psychotherapy uses the innate functions of various art forms as a therapeutic tool to help correct individual disorders. Expressive art therapy was chosen because it is believed to be able to integrate interdisciplinarity in making art therapy models that have an impact through cognitive, sensory, interaction, and kinesthetic experiences.

Expressive therapies add a unique dimension to psychotherapy and counseling because they have several specific characteristics not always found in strictly verbal therapies, including, but not limited to, (1) self-expression, (2) active participation, (3) imagination, and (4) mind-body connections (C. Malchiodi, 2007). Researchers with autistic children will express themselves not only with a verbal approach as an art act during the therapy process. Art will

stimulate the development of ideas, self-expression, imagination, motor skills, structured orientation, sense of responsibility, spatial intelligence, form recognition, self-experience with the surrounding space, and eye contact (Kellman, 2010; Remley, 2017). Tactile and visual experiences during the art therapy process are intended to provide stimulus to behavioral changes and their integration with cognitive, sensory, kinesthetic, behavioral, and communication experiences of autistic children.

Art therapy is different from teaching art or educating art. Art therapists use clinical interventions to strengthen and expand art activities for children with special needs by focusing on therapeutic goals. The position and role of the art creation process take precedence over the products produced in art therapy. Art therapists do not focus on techniques in art or provide aesthetic knowledge to children. Through an understanding of children's behaviors and psychological attributes, the design of art therapeutic actions is made to improve children's abilities, both in cognition, affection, and psychomotor (Suparjoh, Shahbodin, & Mohd, 2020). In this regard, art therapists work with people with autism to enhance collaboration, interaction with the environment, as well as body awareness and coordination. The purpose of art therapy is to bring up symbols in art, which function as tools to process and activate hidden thoughts and feelings. Furthermore, the arts enhance the ability to think abstractly, and communication both verbal and non-verbal for children with autism. Art therapy uses a variety of materials and modalities that can help autistic students to organize, process, and coordinate their experiences that are too much or that are not stimulated.

Gross and Haynes in the *Handbook of Art Therapy*, revealed several reasons for the expression of art can be used in child therapy, namely (1) art can reduce anxiety and help children feel more comfortable with the therapist, because the role of a therapist is more accurately described as an 'intermediary', not as a 'healer' who mediates between the patient and the memory stored in the child as a patient, then brings the two together so that a method or method can be determined so that the memory stored in the patient's mind can be revealed, it is intended to be able to decide on further action as a healing step with the right media; (2) the art of improving memory (memory); (3) the art of training children in storytelling (narration) because basically art (in this discussion is drawing) is used as a way to open up, to help children construct trauma narratively while helping them remember traumatic events; and (4) art can encourage children to tell more clearly when compared with verbal telling (Minturn, 2004; T. Sampurno, 2015; Schweizer et al., 2009).

Sigmund Freud's theories about the id, ego, and superego are used to see the extent of the therapy carried out. In his theory, Sigmund Freud sees psychoanalysis as a therapeutic medium because there are terms of reframing and re-exposing which also exist in the process of creating art (Adolph & Berger, 2015; Jessica N Lester & Paulus, 2012; Liu & Luton, 2011). Reframing is a way of thinking to look for creative alternatives to see a problem from more than one point of view, from various perspectives, so that the problem does not become a burden. Re-exposure is opening or dismantling, by bringing their experiences back into awareness so that they can guide them more regularly because

reopening trauma experiences to victims is a major component in the process of trauma intervention (T. Sampurno, 2015). Memory, whether traumatic or not, is always carried in everyday life. Therefore there is a need for placement so that this memory is placed in the right place. The purpose of the overall disclosure is to make fragments of traumatic events that have been experienced, separating from their influence on daily behavior that may not be in accordance with the experience that is being passed at this time. This becomes important for children with autism, because negative memory has the opportunity to close or limit its potential, and its simplest form is: difficulty communicating.

Furthermore, the discussion leads to the function of art for children, namely as a medium for feelings, communication, play, and understanding. The function of art therapy is to help children to get out of the problems they are experiencing, and find out the right methods for recovery of children's problems. In other words, works of art created only as a moderation between therapist and child.

Memories and their experiences, in particular, have been reported to emerge through touch, imagery, or carefully guided body movements (Whitehouse, 2013; Willis, 2007). When the process of transferring from the mind into the form of a painting, the child's mind is controlled by the subconscious and traumatic problems or conditions experienced by children are expressed in symbols that are representations of what they want, see, and think about, and from these symbols can be detected events traumatic experienced by children. When working with children and their artistic expression, the thing that the therapist needs to pay attention to is to enter the child's world, see with the child's vision and perception, so that the therapist is able to truly understand what the child represents in his painting.

Art for autistic children is also able to unleash the potential possessed by children. An autistic child, as is known as a 'child with special needs', must have special potential as well, but may not yet be seen about his potential. Not all autistic children have low intelligence abilities, as many as 20% of autistic children have IQs above 70 (Stahmer, Schreibman, & Powell, 2016; Zwaigenbaum, 2011). This indirectly causes autistic children to have a variety of potentials, one of which is in the arts. In its need for art, art is a child's need to communicate, speak, and think very comprehensively. At the time of art, all thoughts and feelings of children will be active, even the child's mind will be mixed with children's feelings. The mind that is processed in such a way will become an idea that is expressed in works of art. Most autistic children who live in a repetitive world, and make the child seem to live like a robot, without innovation, and without imagination. Art which is the work of the right brain gradually educates children with autism to imagine, communicate, with pouring in the form of art. Artworks that are the result of processing ideas and ideas 'force' children to think creatively, play with their memories which ultimately all the elements are poured into the artwork.

The essence of art is placed on one's intuition and feelings. Ki Hadjar Dewantara in "Ki Hadjar Dewantara's Part I: Pendidikan" also says about art which is all human actions arising from living feelings and is beautiful, so that it can move the soul of human feelings (Ki Hadjar Dewantara, 2004; Lowenfeld &

Brittain, 1982; Maria Zulfiati, Suyanto, & Pamadhi, 2019). Autistic children are given education about memory processing which always refers to the experience as the main element in expressing their ideas and ideas.

Beauty can be known through experience and is formed by experience by imagining something (Kattsoff, 2004). Experience in art is categorized into two types, namely: artistic experience (the act of production) and aesthetic experience (perception and enjoyment). Artistic experience is an art experience that occurs in the process of creating art (Graham, 1997; Soemardjo, 2000). When an autistic child paints, the brain activates and stores all of its artistic experiences. For children with autism, it is a process of developing personal abilities that are very good, because they can use long-term memories they have. This experience is felt by children with autism when doing artistic activities called creative processes. In the creative process, all thoughts and feelings of children will be active, so that it can be interpreted all the senses owned by children will be active and finally poured into the form of art. Artwork produced by children with autism may not be many who know the intent and purpose, but if examined carefully the meaning of the work can not be analyzed instantly (T. Sampurno, 2015).

The thing that needs to be emphasized is when creating art, children with autism are not obstructed by various definitions or conceptions about the ideas and ideas to be conveyed. In contrast to today's 'modern' children who seem rigid and afraid to try new things because they are too focused on the definition and conception of an object (Goldie & Scellekens, 2007). Indirectly, spontaneity possessed by autistic children in creating work can produce extraordinary works because of the potential for a lot of pouring in the form of new symbols in the work.

Specifically, the three dominant disorders in the behavior of autistic children are (a) interference with symbolic visualization, (b) communication and language, and (c) social interaction (Jessica Nina Lester, Muskett, & Reilly, 2017; Magnusen, 2006; Martin, 2009). Autistic children have never been able to develop the use of language or visual symbolization games. Autistic children tend to do repetitive actions when given instructions relating to visual symbolization. The myth that is often heard is "children diagnosed with autism are unable to play or engage in fun activities with others", not completely and not always right. Autistic children can be involved in games, even though their play is limited and different from children in general.

Autistic children can learn to play with special interventions. Therefore, the use of therapy on the basis of the play is very helpful for children with autism as well as play activities for children in general (Mittledorf, Hendricks, & Landreth, 2001). This game helps children to see parents, therapists, teachers, or caregivers as facilitators of good or fun things; especially teachers who teach classes for children with special needs tend to have higher pressure than teachers in general (Widyawati & Felicia, 2017), it will provide comfort, reduce the pressure in understanding the material, both for the teacher and all students because the material is given by playing with imagination creativity. When a child can see people as good people, they are more likely to want to be involved and seek attention from others, making children reduce the 'autistic' they have. In playing

children will lead the game and they are allowed and encouraged to follow their own autonomy. Play can be partial but can teach social integration and awareness of others, especially in group-based games (Mittledorf et al., 2001).

The symbolic play reflects representational abilities that are manifested in interactions with objects and reflects the process of representation in social interactions. Both of these behaviors collaborate in the coordination of children's minds in the use of visual symbolization which can be used as a medium of communication, also to bridge between the thoughts of what is experienced and felt by children with autism, in the form of visual representation. Basically, most autistic children are able to play symbolically, but only with initial training and/or stimulatory assistance (Sigman & Mundy, 1987; Voyat, 1982). The lack of symbolic games is also a significant communication problem in general because there is a strong relationship between symbolic games and language development. In this regard, art is a medium for playing symbols that children are not aware of in the process of expressing their emotions.

In the process of art therapy, there are four things that according to Malchiodi are the link between art and psychotherapy, namely transference which is a projection of children's feelings that are not realized to the researchers represented through art and actions during the therapeutic process, spontaneous expression of the child, imagination, and space and transitional objects as a means that is able to bridge the subjective and objective reality of children in representing the attachment and relationship between themselves and their experiences concretely through art (C. Malchiodi, 2007; C. A. Malchiodi, 2003; Sherratt & Peter, 1999).

Another thing that is not less important is the space settings. Therapeutic process settings are carried out in spaces that are termed 'empathy spaces' (Macintyre, 2010). In the space of empathy, the writer borrows the term 'triangle relationship', which describes the relationship between the child, therapist, and art form. The three-axis of the triangle refers to the dynamics between the client, therapist and art form. The art therapy approach by painting places a greater or lesser emphasis on each axis. The art form itself will provide important information as a guide to the initial assessment of the location of the disorder in children, and identify the extent of the success of the art therapy process.

Empathy space provides space for autistic children to communicate in a specific way. Persons with autism often close communication to regulate hyper-sensitivity and stimulate feelings. In the therapy room, the ability to explain material with movement and other media is needed to connect the task with the goal. When working with people with autism, it is important to think about the sensory aspects of art material. This is necessary, because on several occasions autistic children have difficulty with visual processing and perception, also when pouring it on paper. Art in the space of empathy presents challenges for autistic children to perform movements or acts of art as a therapeutic process. Therefore, competence and empathy of the therapist are needed. Competence and soul empathy need to go hand in hand, to determine the next therapeutic action will be given to people with autism (Pellachini, 2012; Singh, 2016).

A therapist with competence and a good spirit of empathy will be able to provide challenges to people with autism in demonstrating the behavior, actions,

and motor movements that are connected with those around them. When an autistic child performs art, in fact, all of his senses are active. Internal and external memory, artistic and aesthetic experience, processing and casting ideas, conveying ideas through symbols of shapes and colors, to non-verbal communication using movements. The multisensory activation will increase the concentration of autistic children, as Kellman argues that with attention focused on motor movements which are the pouring of memory, will be able to increase the concentration of individuals (Kellman, 2010; M. B. T. Sampurno, 2019). Furthermore, when individuals focus on the object in front of him, then the body will automatically provide a stimulus to change anxiety into comfort.

The continuing role of therapist, autistic child, art media and all those who support it, has an important influence on the art therapeutic process. To the base, the relationship in the space of empathy, a perspective on Merleau-Ponty's embodiment is used. Embodiment assumes that a living body is the center of human development, including the development of consciousness, mind, and cultural practices such as art (De Jaegher & Di Paolo, 2007; Merleau-Ponty, 1962). The ecological approach involves the interaction of the body and the environment or the incorporation of organisms-the environment, both of which can change. Embodiment sees bodily actions and movements as the basis of perception and center of human consciousness. The body through its actions forms confidence in self and self-efficacy that are important for children's health and artistic and aesthetic experiences.

### **Conclusion**

Integration that occurs in the space of empathy gives rise to and raises the concept of 3B (being, becoming, and belonging) as a therapist method in performing art therapy carried out in the empathy space. Being is a concept where the child feels 'there'. In this concept, the therapist will take a personal approach that has implications for increasing children's confidence. Becoming is a concept when a therapist participates in art activities together with an autistic child in the empathy room. It aims to provide a sense of equality to children with autism. Belonging, the concept of following the child's thinking without leaving therapeutic controls.

The results of the therapeutic process in the empathy room have naturalistic properties, which means it is possible to increase or decrease according to determinants such as the characteristics or specificity of the child, the physical and mental health conditions of the child when performing art therapy, abilities, tendencies, and learning preferences of each child during the art therapy process, and involvement with the child's family.

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**RESEARCH-BASED LEARNING:  
EFFECTS ON THE METACOGNITIVE AWARENESS  
OF SENIOR HIGH SCHOOL STUDENTS**

**Mark Anthony C. Mamon, Alejandro G. Esperanza, and Julie Anne T. Vital**

Las Piñas City National Senior High School – Doña Josefa Campus

Schools Division Office – Las Piñas City, The Philippines

markcatedralmamon@yahoo.com; [shsdonajosefa@gmail.com](mailto:shsdonajosefa@gmail.com)

correspondence: markcatedralmamon@yahoo.com

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**Abstract**

This research study assessed the effects of research-based learning (RBL) on the metacognitive awareness of senior high school (SHS) students, specifically metacognitive knowledge and metacognitive regulation, and the correlation between their subcomponents. Fifty-six (56) Grade 12 students who have taken research subjects were obtained as respondents using purposive sampling. The respondents answered a 52-item metacognitive awareness inventory (MAI) with 17 items on metacognitive knowledge and 35 items on metacognitive regulation. Findings show that RBL developed a high level of conditional, procedural, and declarative knowledge among SHS students. The learning approach also developed a very high level of debugging strategies, and a high level of planning, information management system, evaluation, and comprehension monitoring. Furthermore, there is a weak or a moderately significant positive correlation between some subcomponents of metacognitive knowledge and metacognitive regulation as the effect of RBL. In conclusion, RBL has a considerable impact on the metacognitive awareness subcomponents of Grade 12 students.

**Keywords:** metacognitive awareness inventory (MAI); metacognitive knowledge; metacognitive regulation; research-based learning; senior high school (SHS)

**Introduction**

In the Philippines, research subjects are offered in the Senior High School (SHS) curriculum of the K-12 program as applied track subjects. These subjects are offered in both Grade 11 and 12 levels. These subjects include Practical Research 1 (PR1), Practical Research 2 (PR2), and Inquiries, Investigations and Immersion (III). It is evident that SHS curriculum is a research-based learning (RBL).

It is a learning model that enables the students to analyze, synthesize and evaluate their integration of knowledge and its application in real life (Susiani et al., 2018). RBL is also characterized as an authentic learning that used problem-solving, cooperative learning, hands-on, and inquiry-based discovery approach

with a basis on constructivist philosophy (Poonpan & Suwanmankha, 2005; Amelia, 2018; Susiani et al., 2018). Research-based learning engages students to formulate questions, generate hypotheses, search for related literature, plan and execute methods such as collection and analysis of data, and interpretation of findings, draw conclusion/s, report and present results (Poonpan & Suwanmankha, 2005; Susiani et al., 2018).

The benefits of RBL as a learning approach are the following: improves student motivation and enthusiasm; develops critical, problem-solving, and analytical-thinking skills; promotes the student's active learning and academic performance; allows the students to discover the significance of the knowledge and skills they learned; molds the learner's abilities and skills necessary for professional and personal life (Arora et al., 2017); and improves the skills in communication, leadership, and management (Sumbawati & Anistyasari, 2018).

Although there are studies on the effects of RBL on the learning process and academic performance of students, there are no research studies about its effects to the metacognition of the learners. Metacognition has been considered as a significant factor on the success of learning among students (Savira & Laksmiwati, 2017). Metacognition is the knowledge or awareness, and the ability of the person to monitor and regulate one's own cognition, knowledge, processes, and affective states (Balcikanli, 2011; Cihanoglu, 2012). It has been reported that students who are metacognitively aware can regulate and engage their learning process enthusiastically. Therefore, these learners are motivated and have high self-satisfaction (Cihanoglu, 2012). Furthermore, metacognition is involved in all learning phases which include understanding new concepts or information and in problem solving (Kallio et al., 2017).

Metacognition has two basic components, which are knowledge of cognition and regulation of cognition (Balcikanli, 2011; Feiz, 2016; Limueco & Prudente, 2018). Knowledge of cognition, or metacognitive knowledge, is the individual's knowledge of their own cognition (Balcikanli, 2011; Feiz, 2016). Metacognitive knowledge has the following subcomponents: declarative knowledge, procedural knowledge, and conditional knowledge (Balcikanli, 2011; Feiz, 2016; Limueco & Prudente, 2018). Declarative knowledge refers to the person's knowledge of his or her cognitive processes such as abilities, skills, and intellectual resources. Procedural knowledge refers to the person's knowledge on how to apply or use one's own cognitive process, and implement it using strategies. Conditional knowledge refers to the person's knowledge of condition and circumstances and about when and why to use learning procedures or strategies (Schraw & Dennison, 1994; Feiz, 2016).

On the other hand, regulation of cognition, or metacognitive regulation, refers to the actions that facilitate the learning process (Balcikanli, 2011; Feiz, 2016). It is composed of five (5) subcomponents that include planning, information management strategies, comprehension monitoring, debugging strategies, and evaluation (Feiz, 2016; Limueco & Prudente, 2018). Planning involves selecting appropriate learning procedures (strategies) and cognitive processes (Young & Fry, 2008). Information Management Strategies involves the skills and the learning procedures (strategies) in processing information more effectively

(Schraw & Dennison, 1994). Comprehension monitoring refers to the awareness of one's own learning procedures or strategies used or performed (Schraw & Dennison, 1994; Balcikanli, 2011). Debugging strategies comprise of learning procedures (strategies) that can be used for correcting errors on comprehension and performance (Schraw & Dennison, 1994). The last subcomponent is evaluation, which refers to the appraisal of the effectiveness of performance and regulatory processes of one's own learning (Schraw & Dennison, 1994; Balcikanli, 2011).

Because metacognition is a significant factor in all phases of learning, it is very important to assess this among students. Apparently, this will be the first report to determine the metacognitive awareness of senior high school students as an effect of research-based learning they obtained from the three (3) research subjects/courses. The findings of this research study will be of great help to educators to evaluate RBL as a learning approach, not on the academic achievement which was already reported by several research studies, but on metacognitive awareness which has not been reported. This will promote or negate RBL as a learning strategy that improves knowledge of cognition or regulation of cognition.

This research study was conceptualized to assess the effects of research-based learning (RBL) on the metacognitive awareness of senior high school (SHS) students. Specifically, this study aimed to determine the effects of RBL on the metacognitive knowledge and metacognitive regulation of SHS students, and the correlation between their subcomponents as an effect of RBL.

## Method

This quantitative research used a cross-sectional study design wherein it assessed the effects of research-based learning (RBL) on the metacognitive awareness, specifically metacognitive knowledge and metacognitive regulation, of senior high school (SHS) students.

The participants of the study included fifty-six (56) Grade 12 students who already took the applied track subjects' Practical Research 1 and Practical Research 2, and who are currently taking up Inquiries, Investigations, and Immersion (III) subject. Purposive sampling was used to obtain the 56 respondents.

The 52-item metacognitive awareness inventory (MAI) developed by Schraw and Dennison (1994) was used to measure the student's knowledge of cognition (metacognitive knowledge) and regulation of cognition (metacognitive regulation). MAI measures metacognitive knowledge that includes 8 items on declarative knowledge (DK), 4 items on procedural knowledge (PK), and 5 items on conditional knowledge (CK). On the other hand, MAI determines metacognitive regulation that includes 7 items on planning (P), 10 items on information management strategies (IMS), 7 items on comprehension monitoring (CM), 5 items on debugging strategies (DS) and 6 items on evaluation (E).

Statistical mean, percentage score, and standard deviation were computed using Microsoft Excel to descriptively analyze the results of metacognitive awareness inventory (MAI). Pearson's correlation analysis between the

subcomponents of metacognitive knowledge and metacognitive regulation was performed using Statistical Package for the Social Science (SPSS) Version 22 (IBM Corporation, 1 New Orchard Road Armonk, New York, United States).

The ranges of percentage scores on the student response in MAI are as follows: Very High (81% - 100%), High (61% - 80%), Medium (41% - 60%), Low (21% - 40%), and Very Low (< 21%) (Lusiana & Andari, 2019).

The strength of correlation was based on the guide proposed by Evans (1996) for the absolute value of r: 0.00 – 0.19 (very weak); 0.20 – 0.39 (weak); 0.40 – 0.59 (moderate); 0.60 – 0.79 (strong); and 0.80 – 1.0 (very strong).

### Findings and Discussion

Table 1 shows the mean, maximum and percentage scores, and standard deviations of metacognitive awareness subcomponents of Grade 12 students. All metacognitive knowledge subcomponents have high percentage scores with the highest percentage score on conditional knowledge (CK), followed by procedural knowledge (PK), and declarative knowledge (DK) with the lowest score. Among metacognitive regulation subcomponents, only the debugging strategies (DS) has very high percentage score, and all other subcomponents have high percentage scores.

Table 1. Mean, maximum, and percentage scores, and standard deviations of metacognitive awareness subcomponents of senior high school (SHS) students

	Mean Score	Maximum Score	Percentage Score (%)	Standard Deviation
Declarative Knowledge (DK)	4.84	8	60.50	1.67
Procedural Knowledge (PK)	2.88	4	72.00	0.88
Conditional Knowledge (CK)	3.96	5	79.20	1.03
Planning (P)	5.52	7	78.86	1.46
Information Management System (IMS)	7.45	10	74.50	1.64
Comprehension Monitoring (CM)	5.09	7	72.71	1.56
Debugging Strategies (DS)	4.46	5	89.20	0.83
Evaluation (E)	4.38	6	73.00	1.34

Table 2 shows the Pearson correlation between the subcomponents of metacognitive awareness. There is a weak significant positive correlation of DK with PK, CK, CM, and E; PK with IMS; CK with P, DS, and E; P with CM; and IMS with DS. However, there is a moderately significant positive correlation of PK with CK and P; CK with CM; and CM with E. The results show that as one metacognitive subcomponent increases, the other subcomponent also increases in a weak or moderate level.

Table 2. Pearson correlation between the subcomponents of metacognitive awareness.

		DK	PK	CK	P	IMS	CM	DS	E
Declarative Knowledge (DK)	r	1	0.371**	0.283*	0.153	0.139	0.277 *	0.015	0.327*
	Sig		0.005	0.035	0.259	0.305	0.039	0.910	0.014
Procedural Knowledge (PK)	r		1	0.461**	0.434**	0.306*	0.247	0.131	0.257
	Sig			0.000	0.001	0.022	0.066	0.335	0.056
Conditional Knowledge (CK)	r			1	0.315*	0.085	0.432**	0.318*	0.327*
	Sig				0.018	0.532	0.001	0.017	0.014
Planning (P)	r				1	-0.143	0.368**	0.113	0.140
	Sig					0.292	0.005	0.408	0.304
Information Management System (IMS)	r					1	0.055	0.286*	0.220
	Sig						0.687	0.033	0.103
Comprehension Monitoring (CM)	r						1	0.135	0.399**
	Sig							0.319	0.002
Debugging Strategies (DS)	r							1	0.232
	Sig								0.085
Evaluation (E)	r								1
	Sig								

\*Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

The high percentage scores of senior high school (SHS) students on conditional knowledge (CK), procedural knowledge (PK), and declarative knowledge (DK) are contributed by the learning activities they experienced in research subjects. CK refers to the knowledge of the person about why and when to use strategies or learning procedures. PK refers to how strategies or learning procedures can be used or implemented. DK refers to what factual knowledge the learner needs to acquire before it can be used in cognitive process (Schraw & Dennison, 1994; Feiz, 2016). In the learning competencies of research subjects,

students learned what factual knowledge is needed, and when, why, and how to use strategies or learning procedures during their understanding of the following topics: design a research project related to daily life; state research questions; and choose appropriate qualitative and quantitative research designs, sampling, data collection, and analysis.

Very high score on debugging strategies (DS), and high scores on planning (P), information management system (IMS), evaluation (E), and comprehension monitoring (CM) have been obtained possibly because the curricula of research subjects engage the learners to competencies and activities that will enhance or strengthen their learning and memory, or the cognitive regulation skills. Metacognitive regulation, as enhanced by RBL, refers to the control of the learner to its own cognitive processing (Kallio et al., 2018). In RBL, students were able to regulate cognition by the prediction of an action or an event, monitor ongoing research activities, evaluate the results of their actions and strategies, test the real outcomes, coordinate and control attempts in solving and answering the problems.

The findings on weak or moderately significant positive relationships in some subcomponents of metacognitive knowledge and metacognitive regulation indicate an effect by RBL. According to Imafuku et al. (2015), research activity contributes a high-impact on the skills and attitudes of learners through a student-centered, and inquiry-based learning. RBL encourages the students to be actively involved in their learning process, thus shaping their scientific attitudes, through problem-solving, authentic learning, cooperative learning, and inquiry-discovery approach (Amelia, 2018). RBL was able to affect the metacognition of SHS students, which according to Dulger & Bekiroglu (2018), is a higher-order mental process that requires skills and strategies in solving a problem. In research, students are tasked to pose research questions or investigative problems, or to state the objectives or purposes of the study, in which they are required to answer, address, or solve through qualitative or quantitative methods. It is suggested that there is a moderate positive correlation between the learner's metacognitive awareness and their problem solving skills (Dulger & Bekiroglu, 2018).

RBL also teaches the students on how to take new information and utilize them in different ways in real life. Learning research can engage the students to integrate or incorporate various learning principles (Khuana et al., 2017). Aside from integrating research, RBL enables the students to learn the role of research, understand the generic research skills and processes, foster environmental research, and promote inquiry-based activity. These components of RBL, based on the report of Khuana et al. (2017), support the metacognition of SHS students. RBL supports the learners' thinking about their own learning and mental processes. As a result, metacognition is developed and becomes an important factor that improves self-regulation, critical thinking and problem solving skills, which are all directly enhanced by research activities.

If learners developed their metacognitive knowledge and metacognitive regulation, they become high-performing in the academics (Akman & Alagoz, 2018). It was found out that the subcomponents of metacognitive knowledge and metacognitive regulations have positive relationship with academic achievement. These findings are based on the observations that students with enhanced

metacognitive awareness can perform academically better and strategically think more than the learners with weak metacognitive awareness. RBL is an applicable learning approach to improve and develop metacognitive awareness, because research provides opportunities and experiences for students to integrate theoretical concepts learned inside the classroom and apply them in practical activities. As a result, the learning process becomes more meaningful, thus engages the interest of students to search for knowledge (Granjeiro, 2019). Along with the learning process engaged by RBL, metacognition comes in as an important factor for the success of that learning. Metacognition allows learners to plan, adjust, and monitor their learning process effectively (Savira & Laksmiwati, 2017).

It was also reported by Amelia (2018) that research improves or enhances the quality of learning through activities such as formulating research problems, implementing methods or procedures, solving problems, and disseminating results. RBL probably improves metacognition with these learning opportunities or experiences, because it allows the learners to use different thinking skills. With these opportunities or experiences, students become aware of their knowledge, and they know why, when, where, and how to utilize this knowledge to different learning situations (Tok et al., 2010). The findings of this study suggest that RBL promotes metacognitively aware individuals. Based from Tok et al. (2010), ineffective learning strategies result to weak metacognitively aware learners, which are students that have undeveloped analytical and problem solving skills to address classroom challenges. Furthermore, poor metacognition results to non-autonomous learners, which are individuals that can't control, plan or monitor their own learning strategies and progress. This study suggests that RBL is one the learning approaches that supports and enhances the metacognition of learners, both in knowledge of cognition and regulation of cognition, specifically among SHS students.

### **Conclusion**

Research-based learning (RBL) is a learning approach that develops high conditional, procedural, and declarative knowledge among senior high school (SHS) students. RBL also develops a very high level of debugging strategies, and a high level of planning, information management system, evaluation, and comprehension monitoring among the learners. Furthermore, there is a weak or a moderately significant positive correlation between some subcomponents of knowledge of cognition (metacognitive knowledge) and regulation of cognition (metacognitive regulation) as the effect of RBL.

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## **THE EFFECTIVENESS OF GROUP GUIDANCE SERVICES WITH FISHBOWL METHOD TO IMPROVE FURTHER STUDY DECISION MAKING FOR VOCATIONAL SCHOOL COUNSELOR**

**Ibnu Athiyah**

PPPPPTK Penjas and BK, Bogor, West Java  
correspondence: [ibnup4tkbk@gmail.com](mailto:ibnup4tkbk@gmail.com)

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### **Abstract**

This study aimed to examine the effectiveness of group counseling services using the fishbowl method to improve decision making for further study in vocational school counselor. This research was an experiment study with one group pretest-posttest design. The subject of vocational counseling guidance teachers (school counselors) research in East Jakarta. The population in this study were 32 vocational school counselors. The sampling technique used was purposive sampling of 15 people. The research instrument used was the scale of the decision made by the researchers themselves, with a validity of 0.304 (Pearson Product Moment) and reliability of 0.894 (Alpha Cronbach), data normality test with the Shapiro-Wilk test ( $0.567 > 0.05$ ). Data analysis techniques using parametric statistics with paired sample t-test with ( $t = -18.263, p < 0.05$ ). The results of the study provide an understanding that group guidance services with the fishbowl method were effective in increasing further study decision making in vocational school counselors.

**Keywords:** group guidance, fishbowl, decision making

### **Introduction**

The era of the 21st century as the era of information and communication technology, has entered the space of human life in the field of social and work life. Almost all activities related to work, have used technology without exception in work. In the digital and modern era there have been many changes both in the fields of economy, law, education, culture and security. As a result there have been changes and new problems in life in the world of work, especially the world of education for vocational counseling guidance teachers (school counselors) This change in government policy can cause vocational counseling guidance teachers (school counselors) or the vocational counseling guidance teachers (school counselors) community to experience sadness, anger, difficulties and ease in every decision taken to increase competence and income, especially those related to the future of their work. For this reason, vocational counseling guidance teachers (school counselors) as agents of change in schools must be calm, open, and think rationally in moving towards the decisions taken.

Decision making according to Baron (Kurniawati, 2015) is a process of identifying problems, determining the purpose of solving, making initial decisions, developing and evaluating alternatives, and selecting an alternative that is then implemented and followed up. This shows the decision making procedure from the introduction, analysis and improvement of the activities carried out. Meanwhile, according to Terry (2004) states that decision making is an election based on certain criteria for two or more alternatives that make decisions possible. This reveals that in making decisions meet certain requirements to be executed.

Drumond (Syafaruddin, 2004) states that decision making is an attempt to create events and shape the future. This revealed the existence of an activity effort to bring about a change in improvement from before. Different things Mondy and Premeaux explained that decision making is a process when there are a number of steps that must be carried out and evaluating alternatives to make decisions from all alternatives "(Syafaruddin 2004). This revealed the decision making was chosen only one choice based on the available alternatives. Appropriate decision making for further studies is a choice that is based on a number of mature considerations and takes into account objective and subjective factors. Individuals who have good decision making are characterized by indicators with ability to make decisions, have power over the influence of others and have confidence in decision making.

According to Sutikna (1998) further studies are a continuation of studies. This reveals that further studies are further education or connections after graduating from primary and secondary / vocational education to higher education. In this research what is meant by further study for vocational counseling guidance teachers (school counselors) is further education after graduating from elementary, secondary / vocational education to higher education by taking a counseling guidance study program. Further study decision making at the bachelor level (undergraduate) counseling guidance for counseling guidance teachers (school counselors) with a non-counseling background is a crucial period because it will form a professional path through which professional educators will go through their professional lives. This choice determines which aspects of individual potential should be developed, alternative types that are considered possible to live, and the lifestyle to be followed counseling guidance teachers (school counselors) are professional positions in education. According to the minister of education and culture regulation (2014) the Guidance and Counseling teacher is an educator who has a minimum academic qualification of an undergraduate education (s-1) in the field of guidance and counseling and has competence in the field of guidance and counseling. Based on preliminary research conducted by researchers to vocational school teachers in vocational training classes in East Jakarta. It was found that there were still many counseling guidance teachers (school counselors) in the education unit in the background of non-counseling undergraduate level, serving as counseling guidance teachers (school counselors) in the education unit. In fact they have contributed significantly in the development of Indonesian young generation resources through education.

But if this condition is left and there is no progress for further study in counseling guidance, it will be problematic for themselves and the progress of the counseling guidance services profession in the implementation of scientific counseling guidance in schools. Some attitudes and behaviors that indicate the counseling guidance teachers (school counselors), the absence of decision making further study counseling guidance, there are still many other counseling guidance teachers (school counselors) who persist with the current conditions, including those who still think that there is no government regulation prohibiting or firing counseling guidance teachers (school counselors) with non-guidance undergraduate background counseling served counseling guidance teachers (school counselors) at school. There is no government regulation that requires counseling guidance teachers (school counselors) background education in the first level of counseling guidance, so non counseling guidance counseling undergraduate can still take the school counselors certification program.

Associated with the intervention study decision making, in counseling guidance has many services that can be used to help, one of which is group guidance services. According to Sukardi (2008) explained that group guidance services are services that allow a number of participants to collectively obtain material from certain sources (especially supervisors or counselors) that are useful to support the daily lives of individuals as students, family members, and community as well as to consider in decision making. This revealed the group's guidance in getting information from its source directly about supporting information on daily life as a provision for making decisions. According to Wibowo (2005) group guidance is a group activity where the group leader provides information and directs the discussion so that group members become more social or to help group members achieve common goals. It revealed the group's guidance there was a leader who provided information and controlled the course of activities to discuss the group members' social problems. According to Rusmana (2009) group guidance is the process of providing assistance to individuals through a group atmosphere that allows each member to participate actively and various experiences in an effort to develop insight, attitudes and or skills needed in an effort to prevent problems from arising or in personal development efforts. It expresses group guidance as a useful aid in developing insight, behavior and preventing the emergence of new problems for its members. Prayitno (2008) states, that group guidance is guidance services provided in a group setting. According to Gazda, group guidance (Prayitno, 2008) is an information activity for a group of students to help them make appropriate plans and decisions.

Regarding methods that help expedite the process of group guidance interventions towards further study decision making, one of which uses the fishbowl method. According to Silberman (2013) the fishbowl method is a discussion method that uses a circle format. Some students form a discussion circle and other students form a listening circle around the discussion group. The Fishbowl method is very appropriate for increasing student attention and developing discussion skills. This revealed the Fishbowl method as a discussion method with a small circle format for the main players and a large circle

surrounding the small circle as observers of the discussion. Based on the above, group guidance services need to be provided to a number of counseling guidance teachers (school counselors) as participants of this training. This research is important to be carried out in order to create the stability and optimism of counseling guidance teachers in further studies. So one of the efforts that can be made to improve the decision making of counseling guidance teachers (school counselors) in further studies is through group guidance services with the fishbowl method.

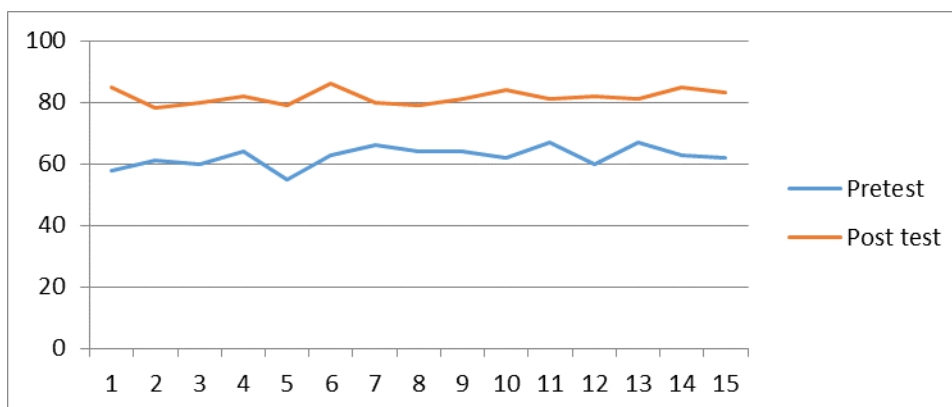
**Method**

This study used an experimental method with one group pretest-posttest design. The subjects of this study were counseling guidance teachers (school counselors) in East Jakarta Vocational Schools. The study population was 32 people, then the sample technique used was purposive sampling of 15 people. The research instrument used was a group cohesiveness scale with a validity of 0.304 (Pearson Product Moment) and a reliability of 0.894 (Alpha Cronbach), a data normality test with the Shapiro-Wilk test ( $0.567 > 0.05$ ). Data analysis techniques using parametric statistics with paired sample t test.

**Findings and Discussion**

*Findings*

Based on the data obtained before and after the group guidance service is provided with the fishbowl method for advanced study decision making at the vocational counseling guidance teachers (school counselors). The details can be seen in the following graph



Graph 1. Development score of further study decision making at vocational counseling guidance teachers (school counselors)

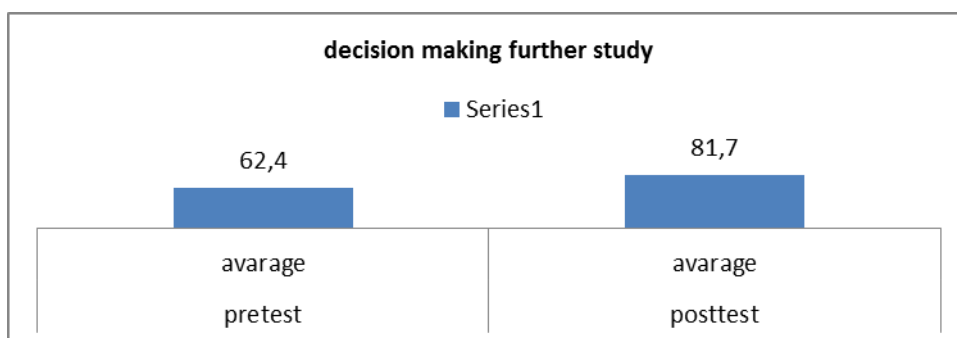
Based on graph 1. above, there is a difference in the score of decision making for further study of vocational counseling guidance teachers (school counselors) before and after group guidance services are given using the fishbowl method. In the graph, the score of further study decision making at the vocational counseling guidance teachers (school counselors) has undergone a change that is an increase. Then to find out the distribution of data in a particular data group before and after

the fishbowl method group guidance service was provided. The normality of the decision data for the further study decision of the vocational school teachers is carried out.

Table 1. Normality test before and after making decisions further study

Tests of Normality				
Shapiro-Wilk				
		Statistic	df	Sig.
before	after	.955	15	.598
	before	.953	15	.567

Based on the results of table 1.1 above and because of the number of samples of this study 15, meaning that under 50, the researchers used the results of the Shapiro-Wilk normality test. So based on a review of the Shapiro-Wilk normality results showed a significant value of  $0.567 > 0.05$  meaning that the study sample came from a population that was normally distributed.



Graph 2. Comparison of the average decision making further study

Based on graph 1.2 above shows that the average achievement of further study decision making scores, if reviewed based on the average difference before and after the fishbowl method group guidance service intervention is given, using the O2-O1 formula, the average achievement of vocational counseling guidance teachers (school counselors) scores increased by 19.3. This showed that there were differences in the average score for further study decision making in vocational counseling guidance teachers (school counselors).

Table 2. Paired sample t-test

Paired Samples T-Test										
		Paired Differences			95% Confidence Interval of the Difference			t	df	Sig. (2-tailed)
		M	SD	SEM	Lower	Upper				
Pair 1	before - after	-19.33	4.100	1.059	-21.604	-17.063	-18.263	14	.000	

Then to find out the results of the research hypothesis, based on table 1.2 above, the results of the t-test statistic were significant with the statistical test

value of -18,263. This can be seen from the probability  $<0.05$ . In the statistical test above in the Sig. (2-tailed) for the two-tailed test is marked in .000. Then it can be said that group guidance with the fishbowl method is effective in increasing study decision making in vocational school counselors.

### *Discussion*

An overview of the level of decision making for further study of vocational counseling guidance teachers (school counselors) before and after getting group guidance services using the Fishbowl method. On average the scores after being given the intervention group guidance services with the fishbowl method obtained an average higher than before being given the intervention is 19.3. It means that further study decision making for a vocational counseling guidance teachers (school counselors) to study again in a counseling guidance study program is important for the benefit of his career as a vocational counseling guidance teachers (school counselors) in a vocational secondary education unit. Then based on the results of the hypothesis test to determine the effectiveness of group guidance interventions with the fishbowl method obtained data there is significance because based on the results of paired sample t-test obtained -18,263, meaning that this probability is smaller than the significance level of 0.005 ( $t = -18.263, p < 0.05$ ). This means that group counseling with the fishbowl method is effective in increasing decision making for further study in vocational counseling guidance teachers (school counselors).

Then based on the results of previous studies relating to the title of research on group guidance has been carried out by Utomo (2015) the title of the research group guidance model with fishbowl techniques to develop students' advanced study decision making skills. The results of the study prove that the group guidance model with fishbowl technique can develop advanced study decision-making skills in high school students. This is also reinforced by research on group guidance that has been conducted by Supriyanto and Amien 2018. Group Guidance Services Based on Folklore for Middle School Students. The results of the study prove that effective Group Guidance Services are used based on Folklore for Junior High School Students.

Other research on group guidance has been carried out by Ema (2015) the development of a group guidance model with role playing techniques to develop student confidence. Research results prove the development of group guidance models with effective role playing techniques develop student confidence. It turns out that group guidance can also be used for other interventions, as has been done by Korohama et al (2017) a group guidance model with modeling techniques to improve student career maturity. The results of the study prove the group guidance model with modeling techniques to improve student career maturity.

Research on group guidance was conducted by Hidayat (2013) a group guidance model with stimulus control techniques to increase student learning independence. The results of the study prove the group guidance model with stimulus control techniques to improve student learning independence. Research on group guidance was conducted by Purwati et al (2012) a group guidance model with fun game techniques to reduce anxiety speaking in front of the class. The

results of the study prove that the group guidance model with fun game techniques effectively reduces speaking anxiety in front of the class. Research on group guidance has been conducted by Samseno et al (2017) group guidance with mind maps and self-rewards to improve student learning skills. the results of the study prove that group guidance with mind maps and self-reward is effective in increasing student learning skills. Regarding methods that help expedite the process of group guidance interventions towards further study decision making, one of which uses the fishbowl method. According to Silberman (2013) the fishbowl method is a discussion method that uses a circle format. Some students form a discussion circle and other students form a listening circle around the discussion group. The Fishbowl method is very appropriate for increasing student attention and developing discussion skills. This revealed the Fishbowl method as a discussion method with a small circle format for the main players and a large circle surrounding the small circle as observers of the discussion. Research on the fishbowl method has also been carried out by Kundoor et al (2019) researching the effectiveness of the fishbowl method in teaching clinical chemistry for first-year medical students. The results support the application of the fishbowl method in the medical curriculum to teach clinical concepts in the most efficient way. The study also recommends further detailed studies in this field.

Another research about fishbowl has been done by Azwan (2017) researching the effectiveness of fishbowl techniques to improve students' self-efficacy in speaking. The results of the study prove that fishbowl techniques are effective for increasing students' self-efficacy in speaking. While other research on fishbowl has also been done by Mutalik (2016) students' perceptions and learning outcomes in pharmacology-based "fishbowl" strategy seminars on drug dependency seminars. The results of the study prove the method "fishbowl" on learning outcomes is better for students and positive perceptions, students prefer seminars rather than lectures on drug dependence. Another research on fishbowl has been done by Rahma (2015) fishbowl method to improve students' speaking skills. The results of the study prove that the fishbowl method can improve students' speaking skills. Other research on fishbowl has been done by Meryance and Edy (2017) the effect of three-stage fishbowl learning strategies on students' mathematical problem solving abilities. The results of the study prove that the three-stage fishbowl decision learning strategy influences students' mathematical problem solving abilities

Decision making for further study of vocational counseling guidance teachers (school counselors) is also influenced by himself and the environment. This is in line with research conducted by Md. Aminul Islam and Nehal Hasnain Shoron (2020) with the research title Factors Influencing Students' Decision Making in Selecting University in Bangladesh. The results of the study revealed the distance between home and the university as the main factor, students in Bangladesh in choosing a university. This was also reinforced by research conducted by Wijayanti, Desy Nawangsari, Kusnarto Kurniawan (2016) with the research title "the influence of information services on symbolic modeling techniques on self-efficacy of further study decision making." the results prove that further study

decision making on students can be influenced through information services with symbolic modeling techniques.

Continuing further studies into higher education in the era of the industrial revolution 4.0 there has been a change in learning in the classroom using technology. This is in line with research conducted by Álvaro Hernán Galvis (2018) research entitled supporting the decision making process of blended learning in higher education: literature review and good practice. The results of the study revealed that tertiary education needs to make the decision to provide face-to-face and online mixed learning for lectures. For vocational counseling guidance teachers (school counselors) with non-guidance counseling backgrounds this certainly helps in completing studies, because they can do work and study. Based on the discussion above based on theoretical studies and the results of previous research related to the title of this study, it can be generalized researchers that group guidance with the fishbowl method is effective in improving decision making for further study of vocational counseling guidance teachers (school counselors).

### Conclusion

Based on the research data, it can be concluded that the group guidance service with the fishbowl method is effective in increasing the decision of further study in vocational counseling guidance teachers (school counselors). This can be seen from the existence of a significant difference in the average score of further study decision making for vocational counseling guidance teachers (school counselors) before and after the classical guidance service is given with the fishbowl method. Test for normality with Shapiro-Wilk ( $0.567 > 0.05$ ). Data analysis techniques using parametric statistics with paired sample t-test with statistical test values ( $t = -18.263$ ,  $p < 0.05$ ). The results of the study provide an understanding that group guidance services using the fishbowl method are effective in increasing study decision making in vocational school counselors.

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## **SINGLE-SEX EDUCATION: DOES IT MAKE A DIFFERENCE TO STUDENTS' ACADEMIC ACHIEVEMENT?**

**Surya Fajar Cahyo Nuraeni**

Monash University, Australia

correspondence: [suryafajarcn@gmail.com](mailto:suryafajarcn@gmail.com)

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### **Abstract**

Gender gap in education has been Indonesian government's big concern (Bappenas, 2013). The Ministry of National Development Planning of Republic of Indonesia has reflected data showing gender gap in academic achievement among boys and girls in Indonesia. They also realize the importance of catering for gender differences during teaching and learning process. They believe that providing single-sex education is an effective way to narrow gender academic achievement gap in schools. In this paper, single-sex education, coeducational education, and academic achievement become the core concepts to analyse this issue. The result of this investigation proves that single-sex education enables teachers to address gender differences in their classroom, enhances students' motivation, and increases students' participation in learning process. Finally, these are beneficial to students' academic achievement. The discussion of this investigation brings implications for education practitioner to promote the implementation of single-sex education as it has positive impacts on students' academic achievement. In addition, the discussion is expected to have implications for policy makers to consider the needs of implementing single-sex education to narrow gender academic achievement gap.

**Keywords:** single-sex education, academic achievement

### **Introduction**

Single-sex education is not a new educational practice and it has been growing for decades in many countries, including in Indonesia. In Indonesia, coeducational education is perceived as an ineffective system that results in academic achievement gap among boys and girls. The Ministry of National Development Planning of Republic of Indonesia summarises the results of the last four Programme for International Student Assessment (PISA) held in Indonesia that reveal boys' underachievement in Bahasa Indonesia and English literacy (Bappenas, 2013). They also report the results of Quality of Education in Madrassah Study (QEM) conducted by the Ministry of Religious Affairs of Republic of Indonesia in 2011 showing that while boys fell behind girls with their languages, they outperformed girls in Science, and that they made no difference in Mathematics (Bappenas, 2013). This strengthens gender stereotypes regarding

those subjects. Moreover, this leads to gender bias that affects teachers' negative attitudes during teaching and learning process. Furthermore, gender differences in interests still exist among boys and girls in Indonesia. Data shown by a regional office of the Department of Education in Indonesia reports that among thirty four vocational high schools in a city, two of them are boys' schools, and another one is a girls' school (Diknas Padang, 2017). This reflects that boys and girls have different interests towards major or field of study. These, finally, reinforce the idea of providing single-sex education to narrow gender gap in academic achievement in Indonesia in the future.

The provision of single-sex education is derived from the awareness that coeducational education does not enable teachers to accommodate gender differences among boys and girls in their classroom, a crucial element of an effective teaching and learning process. Opponent against single-sex education may think that boys and girls are the same, both characteristics and learning style. In fact, research has shown that boys and girls are different in terms of physical, cognitive, personal, and social domains that affect their learning style (Ormrod, 2008). These differences need to be concerned by teachers in order to maximise learning process and achieve equal academic achievement (Ormrod, 2008). This strengthens the belief that single-sex education is able to accommodate gender differences among boys and girls as well as to narrow the gap in their academic achievement. By implementing single-sex education, all students will receive equal opportunities during teaching and learning process, regardless of their gender. This will motivate them to participate fully in that process. Consequently, many believe that this practice brings benefits to students' academic achievement. For clarity purposes, single sex education is clearly defined as any education levels that separate students based on their gender (U.S. Department of Education, 2005). On the contrary, coeducational education refers to mixed-gender education where both boys and girls are educated together (U.S. Department of Education, 2005). Then, academic achievement is well explained as "learned proficiency in basic skills and content knowledge" (McCoy, Twyman, Ketterlin-Geller, & Tindal, 2005, p. 9). Those key terms will guide this essay to critically examine the benefits of implementing single-sex education to students' academic achievement.

Therefore, this paper will argue that single-sex education benefits students' academic achievement. The discussion will begin by presenting critical argument about the positive impacts of single-sex education on students' academic achievement. Then, this will lead to three supporting arguments arguing the benefits of implementing single-sex education to students' academic achievement. Firstly, single-sex education gives teachers opportunities to address gender differences in their classes. Secondly, it positively affects students' motivation. Finally, this education practice improves students' participation during teaching and learning process. These three supporting arguments will be supported by academic evidence and relevant literature. Some critiques evaluating these concepts will also be presented. Finally, a conclusion and implications will be presented based on three supporting arguments.

### **Theoretical Framework**

In most countries, including in Indonesia, gender issue in education is a big concern. This is influenced by a raise in the government awareness of gender equality in education. Concerning this issue, Indonesian government focus on inequality education outcomes, boys' and girls' underachievement, gender bias, and gender stereotypes in the educational field. The government come to realise that boys and girls have different learning styles and it requires curriculum and teaching learning strategy that respect this difference (Bappenas, 2013). This implies that the existing education practice which is coeducational education does not successfully deal with this concern. Meanwhile, eliminating gender bias and gender stereotypes as well as narrowing gender gap in education are the Indonesian government's ultimate goals (Bappenas, 2013). Additionally, they put academic achievement on the top of everything. As a result, single-sex education is perceived as an obvious answer to achieve the goals. It has been claimed that single-sex education contributes towards students' academic achievement, particularly in narrowing gender gap in their achievement.

Many studies are conducted to examine whether single-sex education results in both boys' and girls' academic achievement improvement. Spielhofer, Benton, and Schagen (2004) conducted a study examining the results of General Certificate of Secondary Education (GCSE) in England. Based on their study, it concludes that girls perform better in single-sex schools than their peers in coeducational schools and girls with lower scores benefit more from this education setting. Also, it reveals that boys whose achievement is low perform better in single-sex schools than those in mixed schools (Spielhofer et al., 2004). Confirming this result, Malacova (2007) conducted a study in UK to examine the students' progress from Key Stage 3 (KS3) to GCSE. The findings have shown that boys and girls in single-sex schools progressed higher than those in coeducational or mixed schools and they made improvement in every subject taken. Meanwhile, the girls in coeducational schools made the lowest progress (Malacova, 2007). Benefits of sex-segregated schools are also found in elementary level. Malik and Mirza (2014) find out that both gender involved in their study achieve better academic results in single-sex schools than those in coeducational schools. Further, the study proves that the girls' academic results in coeducational schools are more affected than those of boys (Malik & Mirza, 2014). This implies that girls' academic achievement depends on learning environment and the presence of opposite-sex peers. Thus, it is important to examine the way single-sex education positively impacts on students' academic achievement. There are three benefits of this educational practice that I will argue for.

### ***Addressing Gender Differences in Classroom***

The first reason why single-sex education benefits students' academic achievement is that it allows teachers to accommodate gender differences existing among boys and girls during teaching and learning process. When designing gender-differentiated instruction for their classes, teachers need to consider boys' and girls' physical activity differences. Ormrod (2008) states that boys are more

active than girls. Boys tend to keep moving and active while girls can sit still for reading, for example. Often, boys have problems with school discipline and this causes teachers to pay more attention to them during teaching and learning process. In addition, girls develop their physical faster than boys (James, 2007). For instance, girls complete their puberty faster than boys and it influences their emotional and cognitive development. This makes them more mature for their age compared to boys and reflects their different ways of thinking. Also, cognitive differences among boys and girls should become teachers' concern. James (2007) explains that a slight different in boys' and girls' brain anatomy leads girls to spend more time making decisions and change it often while boys can quickly consider and decide something. In addition, James (2007) remarks that boys are better in remembering facts relating to spatial relationships and girls are better in details and word-related. This is why boys like math and science more than languages or social studies. Then, Ormrod (2008) claims that boys perform better at visual-spatial tasks and girls have better verbal skills that enable them to talk more. Considering this, there is a need for teachers to address these unique differences when giving instructions in their classes. This is not possible to be done in coeducational education context where boys and girls are taught together despite their differences.

In single-sex setting, teachers will have opportunities to modify instruction or teaching strategy based on gender differences. This is perceived as a prerequisite for an effective teaching and learning process (Ormrod, 2008). In order to gain maximum learning objectives, teachers value group differences among their students as they cannot expect an instruction to work well regardless gender differences. Ormrod (2008) suggests the idea about equity in teaching that requires teachers to eliminate bias while giving class instruction. This is almost impossible to be done in mixed-gender classes since teachers tend to disadvantage one gender group as they implement teaching instruction that works for another gender group that needs more attention. Thus, separating boys and girls while studying creates this opportunity. A study conducted by Martino, Mills, and Lingard (2005) in nineteen schools across countries in Australia has found that teachers tend to modify their teaching strategy based on different stereotypical characteristics of boys and girls. For example, a teacher involved in this study avoided giving boys open-ended tasks since they concerned boys' orientation to learning. In addition, they designed a teaching strategy that provided fast paced tasks, games, and physical outdoor activities for boys and gave girls tasks requiring longer process since they concerned more about learning process and did not mind sitting still for longer period (Martino et al., 2005). It implies that gender-based teaching strategy encourages students to be more engaged with subjects taught because they find themselves accommodated by their teachers. In addition, Wills, Kilpatrick, and Hutton (2006) highlight boys' and girls' different learning styles that girls learn through open-ended tasks while boys prefer to apply abstract principles to learn and that teachers should consider this to teach effectively. This is addressed by teachers while designing teaching strategy for their single-sex classes.

However, opponents argue that addressing gender differences by splitting boys and girls can lead to gender issue about apparent lack of interaction between boys and girls (Warrington & Younger, 2001). In single-sex classes, gender homogeneity does not give them opportunities to share ideas or even to interact with opposite gender. They also perceive this as a negative impact on boys' and girls' development. In fact, Warrington and Younger (2001) believe that boys and girls still have opportunities to socialise and interact with each other outside classroom. In order to justify this claim, Warrington and Younger (2001) conducted a case study in single-sex classes in a high school in England. From the teachers' perspective, the finding concludes that there is almost no possibility that students will be socially isolated because boys and girls can still meet each other and make friends when they are in the playground, in the same extra-curricular activities, or outside the school. In other words, boys and girls are only controlled to be with their same-sex peers when they are in the classroom and there is no control of their social life outside the classroom. It means that implementing single-sex education does not restrict both boys and girls to socialise with peers across gender.

Therefore, implementing single-sex education gives teachers supports to design pedagogical strategy suitable for both boys and girls. This will positively affect teaching and learning process and academic outcomes even though a little concern about boys' and girls' lack of interaction raises. This is unjustified as boys and girls can still interact and participate in extracurricular activities together. In other words, students in single-sex setting experience effective teaching and learning process that will increase their motivation.

### ***Increasing Students' Motivation***

Gender-based instruction in single-sex education enables teachers to provide effective teaching and learning activities that lead to the development of supporting learning environment for students. In single-sex setting, teachers can accommodate different behavior of boys and girls in which boys are likely to be dominant in classes and often misbehave while girls tend to be quiet and worry about other people's comments on what they do in the classroom (Ormrod, 2008). This is addressed by teachers to ensure that their students find their classroom comfortable place for studying. Several studies have shown positive impacts of single-sex education on learning environment that it reduces students' anxiety by eliminating the presence of opposite-gender in the classroom, controls distractive behaviour, and gets students focussed (Kissau, Quach, & Wang, 2009; Martino et al., 2005; Parker & Rennie, 2002; Warrington & Younger, 2001; Wills et al., 2006). This creates positive learning environment for students to grow their learning motivation that coeducational education cannot provide them. Kissau et al., (2009) conducted a study to examine the impact of single-sex instruction on students' motivation to learn Spanish in a high school in Canada. This study reports that in a single-sex classroom, boys will develop their sense of friendship in which they support each other during learning activities that grow their motivation at the same time. Further, this study reveals that learning situation affects boys' motivation more than that of girls. Strengthening the position of

students' learning motivation, Ormrod (2007) highlights the importance of learning motivation in cognitive process and improvement of academic performance through persistence in meaningful learning. Hence, single-sex education is valued as an effective way to raise students' motivation, particularly boys, for language learning.

Despite its positive impacts, girls are reported complaining about incessant talking among their group. They tend to generalise their same-sex peers as talkative that possibly negatively affect conducive learning environment (Kissau et al., 2009). This creates unsupportive learning environment that reduces students' learning motivation. However, this classroom problem is not insolvable. In order to solve this problem, teacher's role in classroom management is crucial. Ormrod (2008) suggests teachers to present rules and instruction to give students information about how they should behave in the classroom to make sure that learning activities run well. Another suggestion is given by McInerney and McInerney (2002) that recommends teachers to develop appropriate behavior in the first few weeks. Establishing expected behavior in the classroom, students, particularly girls in this case, will have idea about what they should and should not do in the classroom. For instance, teachers may tell students, "Get on with something quiet when you've finished your set work or you are waiting for the teacher" (McInerney & McInerney, 2002, p. 253). This will control students' excessive talking and can be a strategy to quiet a noisy class. McInerney and McInerney (2002) also propose the idea for teachers to involve students when designing classroom rules and the need of use inclusive language. Take the use of phrases "in our class", "we should" as example to engage students with rules in their classroom to develop positive classroom atmosphere. Hence, girls' negative behaviour is controllable and good classroom management is the key teachers should consider.

To conclude, single-sex education positively affects learning environment that greatly contributes to students' learning motivation, regardless their gender. In addition, single-sex education gives students opportunities to be less anxious and more focussed that finally support them to learn meaningfully. However, girls often complain about their over talkative friends that get them frustrated. To solve this problem, teachers are recommended to manage their classes by giving rules and instructions to control girls' negative behaviour.

### ***Fostering Students' Participation***

Single-sex education does not only grow students' learning motivation but also foster students' active participation during teaching and learning process. Implementing single-sex education means addressing boys and girls' differences in terms of their learning motivation and sense of self. Girls, according to Ormrod (2008), concern about their best performance in schools more than boys' concern. This encourages girls to be more serious and diligent in classes. However, this discourages them to take risks in their academic experiences and find failure distressing (Ormrod, 2008). They tend to do tasks that they are sure about. Meanwhile, boys are likely to take risks and perceive failure as a step towards improvement. Additionally, boys and girls have different sense of self. While

boys tend to overestimate their academic abilities, girls often underestimate theirs (Ormrod, 2008). Ormrod (2008) also believes that boys and girls develop their own stereotypes. It is perceived that boys are good at Mathematics and Sports and girls are good at reading and Social Studies despite the fact that they have equal abilities. This self-perception leads both boys and girls to encourage and discourage themselves while studying those stereotyped subjects. This has to be surely noticed by teachers to consider the way they encourage students during learning process and single-sex setting allows teachers to do so. Otherwise, these stereotypes will remain exist.

As explained previously, single-sex education creates conducive learning environment and increases students' learning motivation. These two factors foster students' active participation in the classroom. In the absence of opposite-gender in single-sex education, students can boost their confidence and increase their focus. Hart (2016) conducted a study in a middle school in USA involving female students and their teachers. The findings show that 80% of the participants perceived single-sex classroom as supportive setting that enables girls to have positive interactions with their peers and boost their confidence. In addition, 53.3% of participants admitted that they were more focus on learning without presence of boys and their disruptive behavior in the classroom. An important key finding of this study is this environment motivated girls to take risks participating in asking and answering questions because there was no boy who would make fun of them (Hart, 2016). It implies that single-sex education is an effective way to reduce learning anxiety and increase students' confidence that increases students' participation. Hart (2016), then, concludes that this positive environment combined with students' confidence and participation results in better academic achievement in separate classes.

Attention given by teachers also encourages students to actively participate in the teaching and learning process. Younger and Warrington (2006) highlight that single-sex education advantages both boys and girls in enhancing their participation. In segregated classroom, boys get teachers' full attention that allows them to participate more in the classroom without girls' domination and girls take opportunities to learn better under teachers' guidance without being distracted by boys' disruptive behavior. Additionally, single-sex education encourages boys to work collaboratively with their peers (Younger & Warrington, 2006). Without girls' presence, they will not be shy to discuss anything with their peers and ask for help to do the work. Hence, students' participation will increase without presence of opposite-sex.

Although single-sex education enables students to participate more during teaching and learning process, it possibly results in girls' behavior problem that challenges teachers. A study carried out by Younger and Warrington (2006) reveals the fact that some teachers in a single-sex setting find teaching girls-only classes challenging and energy consuming as girls often exaggerate problems and bring it to the classroom. Moreover, compared to boys, girls tend to think over problems and need more time to calm down. Hart's (2016, p. 37) study reports that "girls-drama" is a frequent problem happening in a single-sex classroom. However, teachers can benefit from this problem as it offers social topic for

discussion with girls, such as topic about appropriate behavior that can be implicitly taught by teachers during discussion (Hart, 2016). Through this discussion, positive relationship between students and teachers will be built. Also, teachers will grow students' sense of community when they establish positive relationship. Ormrod (2008) believes sense of community resulted from positive relationship in the classroom will positively affect students' emotional and learning motivation. When students feel accepted in their community, they will be more relaxed and find their learning environment enjoyable and this will encourage them to confidently actively contribute to learning process. This proves idea proposed by Gurian (2011) about perceiving failure in the classroom as a teaching tool. Thus, "girls-drama" will not remain as a problem when teachers are able to manage and take its benefits.

To sum up, supportive setting offered by single-sex education leads students to be more motivated during learning activities. This positively affects their confidence to participate in the teaching and learning process. In this setting, absence of boys or girls is positively valued by both boys and girls. On the contrary, this might be a challenge for teachers to deal with girls-drama. However, when teachers can perceive this problem as a positive implication, they will use it as a discussion topic with girls to have positive relationship and personal development.

### **Conclusion**

In this paper, it is argued that single sex-education brings benefits to students' academic achievement. Three benefits of single-sex education provision support this belief. First, it has been noted that there are gender differences among boys and girls that require teachers to accommodate these differences when giving instruction in their classes. Here, single-sex education allows teachers to cater for gender differences in order to maximally gain learning objectives that affect their academic achievement. However, others believe that this possibly results in lack of interaction with opposite-sex that negatively impacts on students' personal development. In fact, this is not a problem since students still have opportunities to interact with both boys and girls outside their classroom, through an extracurricular activity, for instance. The second benefit is that this education practice encourages students to grow their learning motivation. The absence of opposite-gender in the classroom results in a positive impact that students perceive their classes as positive and supporting setting for studying. This positively influences their learning motivation. On the other hand, students in girls-only classes find their peers talkative that may create classroom problems. In order to prevent this, teachers are encouraged to give students rules and instructions for behavior control. The last point is that single-gender environment increases students' participation during teaching and learning process. Positive environment combined with learning motivation grow students' confidence to actively interact and participate in the classroom activities. Nevertheless, "girl-drama" becomes a challenge faced by teachers. Girls tend to be sensitive and to overthink problems that will affect their focus. Regarding this challenge, teachers

can take advantage of this phenomenon as a discussion topic with girls that will bond teachers-students relationship and to improve girls' personal development. Therefore, it is believed that these three factors benefit students' academic achievement. Finally, the findings discussed in this paper are expected to bring implications for education practitioners and policy makers to promote and consider the implementation of single-sex education to narrow gender gap in academic achievement. Further, it also brings implications for future researchers to investigate this issue in Indonesian context as there is scarce research done in this area.

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## **STUDENTS' TARDINESS HABIT TO ATTEND THE CLASS AT THE STUDENTS OF STIE MUHAMMADIYAH MAMUJU**

**Hamzar and Andi Nursiskawati Siangka**

STIE Muhammadiyah Mamuju, Indonesia

hamzar\_america@yahoo.com; andinursiskawati14@gmail.com

correspondence: hamzar\_america@yahoo.com

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### **Abstract**

This article aims at providing a description of students' tardiness habit to attend the class at the very students of STIE Muhammadiyah Mamuju. This research employed qualitative research. The participants constituted nine students, three lecturers, and three administrators. The instruments were involvement observation, in-depth interview sheet, focus group discussion sheet, and additional questionnaire. The data were transcribed, reduced, and analyzed descriptively. It discovered that there were lots of students' internal tardiness inhibitions and external tardiness inhibitions which impeded the students to be punctual to attend the lectures. Students' tardiness shared profoundly negative impacts on themselves, lecturers, and other punctual students. It is eligible not to allow the tardy students to attend the class if they are late for 1 minute. However, tardiness policy for 15 minutes is given only for unavoidable lateness as long as there is a confirmation to the lecturers or even administrators via phone before the class.

**Keywords:** Tardiness, habit, attend, class, students

### **Introduction**

Tardiness is one of the inhibiting factors of success to every single personality, an institution or even a country both in the world and hereafter. Punctual students tended to acquire higher achievement on test outcomes compared to latecomers, (Betaineh, 2014; Breda, 2006; Taylor, 2014; Weade, 2004), and Taylor (2014) further noted that the occurrences of tardiness could be reduced by implementing of the new method of tracking tardiness. When the researchers taught the students of STIE Muhammadiyah Mamuju in the previous year, they encountered vast majority of students who were tardy to join the class especially in the morning class or even all-time sessions. Moreover, some students had a colossal amount of absenteeism enforced by numerous reasons. At the beginning of the semester, there were some students did not take part, but in the final test, all the students came. The underlying challenges of absenteeism were the extra lectures, nature of timetable, students' residence, lack of sleep, traffic problems, lack of interest, financial problems, lecturer's performance, transportation problems, and mate's influences, (Komakech & Ossu 2014;

London et al., 2016; Maile & Olowoyo, 2017; Shahzada et al., 2011). Ocak et al. (2017) strongly depicted in their research finding, male required more absence than female; otherwise female contributed more lateness than male, (Dafiaghor, 2011; Oghuvu, 2008; Shapira-lishchinsky, 2007). Varghese (2014) conveyed that school tardiness and absenteeism were unable to be optimized through motivation and strategic school policy.

Punctuality is perceived as a necessary virtue differently by every individual, and certain western inhabitants, developed countries regard more punctual as a form of a good habit to cultivate than domestic citizenries, not feeling anxious about being late. In spite of fewer local people do, it might be affected by experience backgrounds and other intervention. Chernyak (2019) portrays proponent techniques to avoid lateness. The researchers opine that tardiness is an activity of arriving late from the scheduled time set by administrators or stakeholders to the targeted place or move. Weade (2004) sheds light on tardiness as a sluggish condition from the scheduled time measurement for work or school. The researchers go along with Blau (1994) that tardiness is classified into three sorts of domain namely avoidable lateness, chronic lateness, and unavoidable lateness.

Some precisely deduce lateness as a culture, but researchers argue that it is a habit because culture should be a sterling depiction, not the bad one. The researchers define culture as everything which is derived from human being as a part of idea, feeling, and action and becomes a pace of lives or habits in certain community while habit is an action that is done individually by regular repetition consciously or subconsciously and which is hard to be stopped doing it except, there is a high purpose, self-commitment, and willingness. Culture is derived from Latin “colere” which means manage or do; Moreover, culture means all human power and activities to manage and to change the world, (Nasution et al., 2015; Rahayu, 2016). Culture includes people’s thought and works from their thought, (Muhammad, 2011). Nasution et al. (2015) demonstrated that tradition or habit is everything which has been done for a long time and becomes a part of communities’ lives, commonly from a country, culture, time, or the same religion. Habit as a thing which is performed by someone frequently or virtually thoughtlessly, specifically something which is demanding to quit doing, (Hornby, 1995). Habit is a series behavior pattern which is often repeated consciously, (Matsumoto, 2009).

In accordance with the illustration, all the previous research explored the cases at school scope except, Kagosi’s work. This research developed previous research and ascertained the novelty to delve into students’ tardiness from different scopes, participants, methodologies, cultural backgrounds, and problem statements. The researchers wondered casual inhibitions which brought about the students to be tardy to attend the class, the impacts of students’ tardiness, and the eligibility not to allow the tardy students attending the class. Thus, the researchers carried out research entitled “*Students’ Tardiness Habit to Attend the Class at the Students of STIE Muhammadiyah Mamuju*”.

### **Literature Review**

Moore (2010) coined that socializing and defiance, school hurdles, and personnel barriers were the primary costs of lateness. Kgosi (2015) pinpointed that transportation obstacles, lack of time management and self-discipline, and long-distance settlements were the paramount contributions to the rise of students' time indiscipline. Going to bed late, watching late-night movies, habit of waking up late, long-distance traffic, mingling with friends of different status, household chores, low innate disciplined anxiety level, family background, cultural background, religious background, no penalties, and excessive facial make-up resulted in lateness, (Dafiaghor, 2011; Onoyase, 2017). Unevaliability of transport, geographical distance, lack of parents' supervision, midnight sleep, teacher-subject discouragement, companion lead, and house chores were justified as the main plagues of tardiness, (Maile & Olowoyo, 2017). Onoyase (2017) asserted that parents should delimit precisely their children at risk of overnight sleep for gadget uses.

Dafiaghor (2011) reported in his research outcomes that the tardiness rate was unable to mitigate by facilitating in accordance with free education counseling together with student discipline, and truancy sweep through the application of electronic systems. Malik et al. (2013) likewise highlighted that the tangible and intangible incentives for the early comers, corroborated by Onoyase (2017), and removal corporal and incorporeal penalties for the latecomers at school as well as parents-teachers conference could reduce the students' repeated tardiness. Conversely, it refutes that of Moore (2010) and Jumare et al. (2015). Betaineh (2014) pointed out that role models, attendance monitoring and records, motivation concerning punctual instruction objectives, seeking lateness motives by personal talk, discipline counseling, and policies or guidelines along with consequences should be put into practice to minimize the lateness sources.

### **Method**

This research employed a qualitative design which was broadly to seek and grasp the answers of the complexity of series proceedings in research problem statements (Adopted from Cresswell, 2009; Cresswell 2012; Sugiyono, 2017; Sukmadinata, 2013; Williams, 2007). This design utilized a purposive sampling technique. The populations were 1. 698 students, 74 lecturers, and 60 administrators, and the samples were 9 tardy students from four classes, 3 selected lecturers, and 3 selected administrators. The research instruments were involvement observation checklists, in-depth interview sheets, and additional questionnaires. Attendance lists were used as involvement observation checklists to track the students' tardiness proportion. The in-depth interview sheet using open-ended questions comprised 54 items for students, 35 items for lecturers, and 29 items for administrators while the questionnaire constituted 4 items. The data were gathered through five procedures such as teaching, involvement observation checklists, in-depth interviews, additional questionnaires, and focus group discussions. The involvement observation checklist records from students during the teaching and learning process were collected, classified, and judged to grab excessive tardiness to be interviewed. The in-depth interviews along with

questionnaires were carried out to 9 tardy students, 3 lecturers, and 3 administrators. It was also supported by focus group discussions from both tardy students and punctual students, (Adopted from Mishra, 2017). The personal in-depth interviews and focus group discussion data were recorded, put into the transcript, and reduced by matrix tables, and then they were described descriptively. Questionnaires were used to support the in-depth interview data, and the questionnaires consisted of varying strategies from previous research and the researchers' recommended strategies to cope with students' tardiness occurrences. The questionnaire data were classified, grouped, and described descriptively. All data were validated through typology and triangulation techniques.

## **Findings and Discussion**

### ***Findings***

#### **1. Students' tardiness inhibitions**

Based on the student focus discussion, the students concluded,

“We were tardy because sometimes, some of us worked. We were late to wake up. It also caused by the long-distance from house or boarding house to campus. Furthermore, it was because of the rain on the way. Moreover, we did not have vehicles. We asked for a ride to our friends. Our friends were late to pick up us or the picked-up students had not taken a bath. Besides, we had another activity that had the same schedule with our lecture. In addition, we were asked to clean and cook at home first, and then we went to campus. Next, we were too relaxed. It was also a lazy factor. And then, sometimes, our vehicle was used by our parents. We also postponed the time. In addition, our motorcycle's gases ran out on the way. The last, we were arrested by the police.”

#### **2. The impacts of tardiness**

The students in the focus group discussion concluded, “We were not consistent. We were also lazy. Besides, we were not disciplined. Moreover, if we finished our study at STIE, and we worked in the company, the tardiness habit would be repeated in the workplace. Furthermore, the students who got used to be tardy to attend the class were sometimes late to pray 5 times a day. In addition, we lost the lesson. We also did not appreciate the time.”

#### **3. 1 minute lateness**

Selvi, Widya, Ince, Ikhsan, Mega, Asni, Indri, Ramli, Ridwan, and Suryansyah stated that they did not agree with lecturers' rules that if the students were late 1 minute, they could not enter the class to attend the lectures, and they were categorized “absent” one meeting for that day.

However, Jumriah, Taslim, Jamaludin, Rahmat, and Muchtar said that they agreed with lecturers' rules that if the students were late 1 minute, they could not enter the class to attend the lectures, and they were categorized “absent” one meeting for that day.

4. 15 minutes lateness

Suryansyah said that he did not agree with the lecturers' rule that the tardy students could not enter the class, and they were categorized "absent" one meeting if they were late for more than 15 minutes, and the tardiness policy was maximally 15 minutes due to the sudden and unavoidable lateness such as flat tire, accident in the street, serious disease or dangerously bad natural disasters, but it was not applied for unreasonable reasons like oversleeping, taking a bath late, eating, waiting for transport, rain, or other reasons.

Selvi, Widya, Ince, Ikhsan, Jumriah, Mega, Asni, Taslim Indri, Ramli, Ridwan, Jamaludin, Rahmat, and Muchtar stated that they agreed that with the lecturers' rule that the tardy students could not enter the class, and they were categorized "absent" one meeting if they were late for more than 15 minutes, and the tardiness policy was maximally 15 minutes due to the sudden and unavoidable lateness such as flat tire, accident in the street, serious disease or dangerously bad natural disasters, but it was not applied for unreasonable reasons like oversleeping, taking a bath late, eating, waiting for transport, rain, or other reasons.

**Discussion**

Based on the tardy students' interview, lecturers' interview, administrators' interview and focus group discussion, the researchers concluded that there were different varieties of causal inhibitions that affected the students to be tardy attending class during the lectures, for example, household activities, long-traveled distance from house or boarding house to campus, some vehicle troubles, rain, lateness of waking up time, less time management, prayer time, printing an assignment, waiting for information about the lecturers' coming at home, bad role model of the lecturers, the same working schedule, less care to the study, less lecturers' strictness, students' negative mindset, no campus' regulation, less discipline level, laziness, avoiding individual classroom presentation or assignment in the whiteboard, staying up late, troubles on the way such as running out of gas, flat tire, or getting arrest by the police, and other activities.

The high proportion tardiness of the students arose negative impacts for themselves, the teaching lecturers and other punctual students. First and the foremost, tardiness brought on bad impacts to the tardy students such as not figuring out or not mastering the lessons, getting confusion, missing or not catching up the lessons as well as crucial information, having many questions, not connecting to what they said with the ongoing lesson, not being disciplined or having bad attitude, getting punishment during the class, affecting negatively to their mark, and getting absenteeism, not catering for the syllabus and the lesson plan target completely, and ending the lessons late. The tardy students also shared negative impacts to the lecturers who taught during the class such as disturbing the lecturers' concentration, interrupting or forgetting their ongoing explanation, being fed up due to the disturbance such as the students' coming, knocking on the door and impolite greetings or expressions, repeating the explanation, and wasting the time. In addition, tardiness gave great negative effects to other students who came in time or on time such as being annoyed or being uncomfortable, losing

their concentration, feeling saturated owing to the repetition of lecturers' explanations to the latecomers, and evoking the punctual students to imitate their tardiness.

The data illustrate that there are 10 informants who do not agree with lecturers' rules that if the students are late even only one minute, they are not allowed attending the class and there are 5 informants who agree with that rule. The rule shares positive advantages and negative advantages if there is not a certain policy for unavoidable lateness. This strategy can be enforced to stop students' tardiness habit to attend the class at the students of STIE Muhammadiyah Mamuju, other institutions or other universities as long as the students, educators, and administrators are ready by considering the positive effects and negative effects or at least all the lecturers and administrators are ready. However, by looking at the comments, most of the informants did not agree although some agreed. It meant that all informants represented that some students, lecturers, administrators were not ready with that rule and some were ready. Thus, this rule is eligible to be implemented at the students of STIE Muhammadiyah Mamuju as long as there is a lateness policy for the students and lecturers who experience unpredictable and unavoidable problems. Not consequences posed the individuals to come late, addressing high misdemeanor and stubbornness (Betaineh, 2014; Dafiaghor, 2011; Maile & Olowoyo, 2017).

The data show noticeably that there is only 1 informant who does not go along with the lecturers' rule that maximally 15 minutes lateness to be given to the tardy students as long as the students undergo unpredictable and unavoidable reasons. On the other hand, there are 14 informants who agree with that rule. Based on the previous data about the problems which caused the students to be tardy, the researchers added that the lateness policy should also be tolerated for the working students because some students in regular classes were working enforced by cost limit, and most of the students in non-regular classes were workers. Furthermore, in the big city, the congestion sometimes occurs due to crowded vehicles, road limits, demonstrations or other unavoidable causes in the road so that if the students are tardy, it also should be considered whether they are eligible to be given a tardiness policy or not. The tolerated excuse of lateness range encompassed compelling obstacles beyond the student's power, (Chujor & Kennedy, 2014). The rule above shares strengths and drawbacks. Thus, the researchers summarized that this rule is eligible to be applied at STIE Muhammadiyah Mamuju.

### **Conclusion**

Based on the data in findings and discussion, the researchers concluded that there were different varieties of causal inhibitions that affected the students of STIE Muhammadiyah Mamuju to be tardy to attend the class during the lectures. The tardiness trend of the students plagued desperately negative impacts for themselves, the teaching lecturers, and other punctual students. Lateness behavior bothered the adjacent people, other students and an instructor from the flow of teaching and learning process in the classroom, (Betaineh, 2014).

It is eligible not to allow the tardy students who go through chronic lateness and avoidable lateness even only one-minute lateness attending the class as long as there is a lateness policy maximally 15 minutes for unavoidable lateness. The most exceptional practice to decrease the lateness range was consistent penalties, (Moore, 2010). However, the latecomers must confirm to the lecturers or even administrators through calling by phone, sending a message, chatting in WhatsApp or other connected ways in other social media before the class. Besides, they must provide proof which is acceptable that they face unavoidable problems. In addition, the classroom doors must be locked so that the tardy students who do not have confirmation before cannot enter the class freely. The lecturers just open the door for tardy students who confirm before the class and have a statement letter from the administrators in the tardy room. Furthermore, the administrators in charge and the securities should control the classroom during the implementation of this rule in order to protect the students who want to disobey the rule, do violence, or even break the classroom doors. The last, the rule should be proposed by the vice head I as the academic affairs to the head of STIE Muhammadiyah Mamuju inasmuch as she has responsibility for the academic affairs, and then the head of STIE Muhammadiyah Mamuju approves and legalizes it as an institutional rule to be adhered rigidly by all administrators, lecturers, and students. For the lecturers, when they run into lateness because of the unavoidable problems, essential meetings at campus or other urgent campus activities, they must confirm to administrators who are in the tardy room, so that they can replace the lecturers during their lateness occurrence or the administrators can attend the class to give information or an assignment from the lecturers to their students. The lecturers also can send or store materials to the administrators which will be given to the students. Of course, the lecturers also should confirm to the students that they will be late, and the administrators will come to their class to replace them for a moment during their late-coming.

The result implication is that the practical strategies are implicitly recommended to be imposed rigidly by educators and administrators in order to combat students' tardiness habit to attend the class as well as to provide better outcomes both in formal educations and informal educations.

The researchers strongly advise that all lecturers and administrators of STIE Muhammadiyah Mamuju should ban the tardy students who go through chronic lateness and avoidable lateness to attend the class, and they just give a lateness policy for a maximum of 15 minutes for unavoidable lateness. The momentous strategies above also can be put into effect to other formal educations such as schools and universities and informal educations such as course institutions in order to establish time discipline. The possible future exploration is to research whether the effectivity of application of strategies above can utterly combat the students' tardiness habit both in formal educations and informal educations or not. The current limitations of this study is that there are not students' reactions or attitudes towards the implementations of the strategies or rules above because those are still suggestions derived from these research evidences to be implemented institutionally although there were some lectures put them into practice in person, they still need piloting in the future.

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**JOB SATISFACTION AND INTERPERSONAL RELATION:  
A DETERMINANT OF JOB PERFORMANCE OF ACADEMIC STAFF  
OF COLLEGES OF EDUCATION IN LAGOS STATE, NIGERIA**

**Modupe Bosede Lewis<sup>1</sup>, Busuyi Francis Olowo<sup>2\*</sup>  
and Comfort Abosedo Okotoni<sup>3</sup>**

<sup>123</sup>Obafemi Awolowo University, Ile-Ife, Nigeria

bosedelewiss@gmail.com; olowo4404@gmail.com; tayookotoni@yahoo.com

correspondence: olowo4404@gmail.com

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**Abstract**

This study investigated the influence of job satisfaction and interpersonal relations on job performance of academic staff of colleges of education in Lagos State. A quantitative approach with survey design was used for the study. Population for the study comprised 516 academic staff and 6042 students of all the colleges of education in Lagos State. Sample for the study comprised 51 lecturers and 604 students. The sample was selected using multistage sampling procedure. Two research instruments were used for the study. Data were analysed using percentage and ANOVA statistics at 0.05 level of significance. The results showed that there was a high level of job satisfaction among the academic staff of the colleges of education in Lagos State (58%). The results also showed that there was a moderate level of interpersonal relations between the academic staff and the students (69.7%) and there was a moderate level of interpersonal relations between the staff and management of the institutions (48%). The study further showed that job satisfaction ( $F=3.026$ ,  $df=20, 29$ ,  $P > 0.05$ ) and interpersonal relations ( $F=3.026$ ,  $df = 20, 29$ ,  $P > 0.05$ ) had a positive significant influence on job performance of academic staff. The study concluded that job satisfaction and interpersonal relations positively influenced job performance of academic staff of colleges of education in Lagos State.

**Keywords:** job satisfaction, interpersonal relation, job performance, academic staff

**Introduction**

Performance is crucial for measurement of organisational successes and outcomes. Job performance assesses if a person performs work well. It can also be regarded as job activities that are expected from employee to be done and how satisfaction of execution of such job. Whereas, job performance can be simply regarded as overall value expected from the employee action and behaviour at a specific period of time of carrying out certain duty of work. Job performance can also be explained as the method (attitude, knowledge and skills) in which

employees adopted to perform their work which in turn influenced the total outcome in effort to accomplish the overall goals. According to Campbell (1990), as cited by Werang (2014) job performance is a way to a stipulated goal or set of established goals of an organisation. Job performance is an ambiguous concept in the place of work which makes scholars, managers and employees to have different perception of it meaning, yet job performance determine the success of organisation. Many organisation take proactive actions to assess the work of their employee on periodic basis to know capacity of job done and to provide necessary suggestion for improvement of production. Campbell (1990) as cited by Werang (2014) also made suggestion component that determine performance. Some of those determinants identified include: Job satisfaction and interpersonal relations.

Amburgey (2005) regarded job satisfaction as most important element of success for organisation. Bushra Bushra, Ahmad, and Asvir (2011) opined that job satisfaction is a level where an employee is pleased, satisfied and happy with his or her job. Belias and Athanasios (2014) buttressed that it is pleasant and a positive feeling that an employee had benefited from his or her career's performance. In the view of Raja, Keis, Mazidah, and Azlina (2014) job satisfaction is more necessary and for the employees well-being which further reflect the actions individual towards their work. Bloomfield (2014) agreed that job satisfaction is how the workers feel about their job which is majorly based on numerous factors such as extrinsic and intrinsic but depend on the view of the individual worker. Job satisfaction is very crucial as it is mostly influenced by the capabilities of the person towards completing a task and the way the organisation values its employees. Due to the recognition of job satisfaction in the field of organizational and occupational psychology, many practitioners and researchers have contributed their own view on the meaning of job satisfaction. From the above definition, it can be deduced that job satisfaction is the extent at which employees like (satisfied) or dislike (dissatisfied) their jobs. It is also means that emotional pleasurable state of achieving values and success as a result of appraisal employee's job activities. Interaction and cordial relationship of employees and management is also essential to achieve goals.

Interpersonal relations have to do with developing and maintaining effective relationship among workers, having cordial relationship with other people in respect of their background in different situations: allow politeness, courtesy understanding, empathy, tact and concern. The prevalent wide spread trend of organizational staff attitude constitute the organizational climate of an organisation. That is, the organisational people's behaviour constitutes the social climate of an organisation. The climate of higher or tertiary institutions may be based on pattern of organizational life, expectations, and values that support employees' feelings, emotionally, physically and socially. Thus, Kassel (2007) noted that the psychological and physical aspect of the climate of tertiary educational institutions provide the preconditions necessary for both academic and non-academic excellent job performance. Consequently, the feelings and attitudes of academic staff about their institution can either be expressed positively or negatively.

Every country looks up to its higher institutions through the functions of traditional method research, teaching, and community service to train the manpower as well as disseminating of necessary knowledge required in the individuals, society as well as all other sectors. Ultimate goals of the colleges of education in Lagos State are to develop acceptable conducive environment where research and community activities and teaching and learning activities would be taken place among students, staff, as well as public for the overall benefit of the teaching profession, thereby raising highly qualified teachers that are functional, for the benefit of the society at large. The colleges of education in Lagos State have emerged an organization over the years and they are regarded as the spring boards for production of high level manpower in the domain of Education. Fadekemi and Isaac (2011) College is classify and populated by three major sections which are the students , the bureaucrats (administrators) as well as academics (lecturers, tutors/instructors) and. The three sections are generally known as college community. Each of these sub populations has its own dynamics that defines relationships within its structure and perceive interactions with others.

The ultimate goal of any organisation is for its staff to have high rate of effective performance. Job performance has to be goal relevant. Meanwhile, performance is not included activities where efforts are expended towards achievement of peripheral goals. Job performance should be multidimensional and differentiated from mere outcomes. The qualities of educational process and its products are unquestionably influenced by teachers' job performance. The entire edifice of education is shaky if the performances of teachers are ineffective and weak. Therefore, effective and strong job performances of academics are necessary for educational development and improvement in the colleges. The definition of what constitutes best performance of academics staff is of course much more complicated than a simplistic listing of goals. Job satisfaction and effective performance of employee within an organization is of vital concern for organizational management if targeted to achieve ultimate objectives and goals.

The achievement of colleges of education heavily depends on its academic staff through the execution of its programmes. Particularly, satisfied staff can be highly effective in their work and projects. The employees' job satisfaction as well as organizational culture has not received significant attention in studies of higher institutions. When staff members are less committed to their job, dissatisfied and tend to look for other mean of job opportunities. This might lead to high rates of staff turnover which cannot create good, reliable and high effective performance. A lot of the students that turned out from the Colleges ended up having low professional skills. This may be due to the fact that academic staff might have performed below expectation in the Colleges of Education in spite of the objectives of such institutions. Although many researchers have identified the correlation between job satisfaction and job performance but very few had related job performance to job satisfaction and interpersonal relations. This has created gap to fill. Therefore, the focus and indeed intent of this study concerns the relationships among job satisfaction, interpersonal relation and performance of academic staff of the Colleges of Education in Lagos State.

It is on this background that this study tends to identify the variables which are related to job performance of academic members and the extent to which each of the factors/variables relate with the existing levels of job performance of the academic staff of the Colleges of Education in Lagos State. Three research questions were formulated. First, what is the level of job satisfaction that exists among the academic staff of the Colleges of Education in Lagos State? Second, what is the level of interpersonal relations that exists between the academic staff and the students? Third, what is the level of interpersonal relations that exists between the staff and the management of the Colleges of Education in Lagos State? The research hypotheses are as follows. Ho<sub>1</sub>: There is no significant influence of job satisfaction on the job performance of the academic staff of the Colleges of Education in Lagos State. Ho<sub>2</sub>: There is no significant influence of interpersonal relations on the job performance of academic staff of Colleges of Education in Lagos State.

### ***Concept of Job Performance***

Performance can be regarded as almost any behaviour which is directed toward task or goal accomplishment. Good performance among employees in an organization has many implications such as high motivation among employees, outstanding ability, good organizational climate and infrastructure, excellent leadership that can sustain rapport and productivity and good relationship among staff. Abdul, Noran, & Rosna, (2002) defined performance as almost any behaviour, which is directed toward task or goal accomplishment. Therefore, job performance is regarded as activities of work related which expected from an employee to be performed and how good the activities are executed. For an employee carry out their job to expectation, their satisfaction should be seen as priority by the employer.

### ***Concept of Job Satisfaction***

Locke and Lathan (2012) regarded job satisfaction as a positive emotional state of which resulted from appraisal of employee's job skills and experience. Job satisfaction referred to as result from an worker's perception on how worker's welfare are been concerned and been cater for by the job provider. Hulin (2011) referred job satisfaction as what gives a worker a sense of success and achievement which is generally viewed to be directly linked to their well-being and productivity.

Job satisfaction to Agu (2014) was a state of well-being and happiness which is as an outcome of need and fulfillment derived from employee's job. This indicates that job satisfaction is the good feeling that an employee gets when he/she enjoys the job doing. Wells (2011) stated that the relevance of job satisfaction is important for the growth of educational programs around the world. It is probably ranked alongside with skills, professional knowledge, competency, strategies and facilities that veritably determine educational performance and success. Meanwhile, Alaku (2010) encouraged researches on job satisfaction particularly among Nigeria teachers (lecturers). Alaku (2010) believed that the findings from such researches would provide evidences that institution,

organisations and government would use in their policy formulation which may improve teachers' performances toward the achievement of educational success and goals. Meanwhile, getting the employee to be satisfied with their job, the interpersonal relation within the institution should be cordial.

### ***Concept of Interpersonal Relation***

Interpersonal relationship is a crucial aspect in every institution. It is also one of the prominent components in human relationship. Cavazos (2013) defined Interpersonal relationship as an interaction that exists between two or more people with major aim of fulfilling one or more emotional and physical or needs. Cavazos also highlighted components of interpersonal skills which are non-verbal communication, verbal communication, decision making, assertiveness, listening skills and negotiation. From above definition, it could be deduced that employer should be able to provide and create environment that will allow for open interaction among employees and joint decision making between employers and employees

Previous studies have established the relationships among job satisfaction, interpersonal relation and job performance. Tyagi (2010) investigated the effect of interpersonal relationship on attitude of teacher educators. The study aimed to identify the significant interaction between interpersonal relation and teachers attitude to work. The results of the study showed that there was positive correlation between interpersonal skills and teachers' attitude. The finding further indicated that there was significant correlation between interpersonal behaviour and attitudes of teachers. Fashiku (2016) carried out a research to determine the correlation between leaders' communication style and lecturers' job performance in Kwara State College of Education. Two hundred academic staff and three hundred students were selected from State owned Colleges of Education using proportionate simple random sampling technique. Four hypotheses were formulated with two validated instruments. The result of the study indicated that there was significant relationship between leaders' democratic communication pattern and lecturers' job performance. Leaders' autocratic and laissez faire communication pattern did not significantly relate to lecturers' performance. The study recommended that leaders should adopt more of democratic pattern of communication for the purpose of the attaining the stated objectives and aims of the institutions.

In related study investigated by Solaja, Faremi and Adesina (2015) was purposely examined the relationship between leadership communication style and organisational productivity. The results of their study indicated positive correlation between leadership communication style and organizational productivity. Specifically, precise, friendly, open and attentive communication style all have positive correlation with organisational productivity and job Performance. On the other hand, dominant and contentious communication style has negative relationship with organizational productivity. Based on the findings, the researchers recommended that managers should adopt acceptable leadership communication styles to disseminate vital information so as to improve job commitment of employees which may lead to increase of the organisation

products. Veronica and Dorothea (2015) carried out a related empirical study. The study aimed to find out the relations of job satisfaction, organizational commitment and turnover at a manufacturing company in Yogyakarta and Surakarta. The results showed that correlation between job satisfaction, organizational commitment, and turnover intention was very complex. Though, the study inferred that job dissatisfaction had indirect effect on the turn over intention through organisational commitment. In addition, the study proved that job satisfaction was positively correlated the organisational commitment. The study recommended that managers should do all within their capacity to create an atmosphere that guarantees employee job satisfaction in other for them to feel committed to the organization and this will enhance job performance.

Murat, Ali and Baran (2012) conducted an investigation of correlation between job insecurity, job related stress with job satisfaction among employees of UND, International transporter' Association of Turkey. The result of the study revealed that job insecurity as well as job related stress had direct effect on job satisfaction. The researchers made recommendation that manager should pay more attention so as to make employees feel more secure about their work. Rizwan, Muhammed and Ghaffar (2012) made an empirical study on job satisfaction. The study majorly aimed to find out the crucial problems that employees faced while performing their duties in an organisation and ways of making employees to be more loyal to the organisation in terms of job performance at territory of Punjab in Pakistan. The findings of the study revealed that there was a strong positive correlation between employee's job satisfaction and job performance.

Muhammad, Rahmat, and Malik (2013) carried out their empirical review on the marital status, gender, and job satisfaction. The study aimed to identify the stages of job satisfaction of employees in Bangladesh and also to know whether job satisfaction stages differ among employees in terms of their gender and marital status. The result of the study revealed Bangladesh workers were moderately satisfied. The study suggested that moderate level of job satisfaction among the workers might be attributed to the socio economic conditions of the nation. All these studies are important and relevant to this study because they showed; there are very strong link among job satisfaction, interpersonal relation and job performance. A worker that is satisfied with his/her work will most likely to be more committed to the job. Also, when there is a positive interpersonal relationship between subordinates and super ordinates, among subordinates themselves, it is likely to result in high job commitment. And job commitment of workers will most likely improve job performance and job productivity which will resulted to achievement of organisational goals (Ajadi & Alade-Yussuf, 2016; Ogunbamila & Fayankinnu, 2014; Ajala, 2012)

### **Literature Review**

Social Exchange Theory was a theory that was propounded by George Casper Homans as at year 1958. The Theory subjected to Give and Take approach which forms the basis of most of the relationships. Though, the approach may vary as per the intensity of the relationship. This theory suggested that people usually

engage in such relationship that are mostly rewarding, that is both in tangible and intangible values. The Theory is mostly fits for larger interactive gathering. The Theory is majorly based on the clue that relationships is purposely for what to offer as well as what to receive in return. This means that individual seeks out exchange of pleasantry in form of exchanging information with others. The significance of this theory is that, human beings are innately social and are shaped by their experiences with others. There are multiple perspectives to understanding this inherent motivation to interact with others. This theory is used to explain the interpersonal relations that exist between persons within an organization and also the type of relationship that exist between the management and the staff.

### Method

This study majorly adopted quantitative approach with survey design. Targeted population for the study comprised the academic staff and students from all Colleges of Education in Lagos State which are: one Federal College of education, two State Colleges of education and six private Colleges of education. The sample for the study comprised 10% of the academic staff and students from one Federal- owned college of education, one state- owned college of education and one private -owned college of education within Lagos State. The sample was selected using multistage sampling procedure. The Federal college of education was selected using purposive sampling technique; reason being the only Federal government owned college of education within the State. One State owned college of education and one private owned college of education were selected using simple random sampling technique for each of the State and Private colleges of education. Five, seven and nine departments were randomly selected from the Federal college of education, State college of education and private college of education respectively being one third of the total number of Departments in each College of Education. Proportional sampling technique was used to select 10% of the staff and students from each of the selected colleges of education.

Table 1. Population and Sample Summary of Colleges of Education in Lagos State

S/N	Respondents	Academic Staff		Students		Total	
		Population	Sampled (10%)	Population	Sampled (10%)	Population	Sampled (10%)
1	Federal College of Education, Akoka	254	25	3012	301	3266	326
2	Adeniran Ogunsanya College of Education	204	20	2504	250	2708	270
3	St Augustine of Education	58	6	526	53	584	59
<b>Total Used</b>		<b>516</b>	<b>51</b>	<b>6042</b>	<b>604</b>	<b>6,558</b>	<b>655</b>

Two research instruments were used in this study; they were self-designed questionnaires for the academic staff and students. The instruments were titled ‘Determinants of Job Performance Questionnaire (DJPQ) for academic staff’ and ‘Students’ Rating on Job Performance Questionnaire’ for students (SRJPQ). The first research instrument DJPQ was divided into 3 sections. Section A collected information on the socio-demographic characteristics of the academic staff. Section B contained questions raised on the general information on job satisfaction and interpersonal relations while Section C contained information on the rate at which the determinants (Job Satisfaction and interpersonal relations) influence academic staff’s job performance. The second instrument SRJPQ had two sections. Section A provided information on the socio -demographic characteristics of the students. Section B sought information from students about the level of academic staff job performance in aspect of interpersonal relations. The research instruments were validated by the experts in field of Educational Management, Obafemi Awolowo Univwesity, Ile-Ife. The observations and corrections made were used in preparing the final instrument to be used for the study. This was to ensure face and content validity. The reliability of the instruments was done through a test re-test measure of reliability. Pilot tests were conducted on samples of 10 respondents (academic staffs) and 60 students selected from another college of education within Lagos State for the study within an interval of two weeks so as to meet the suitability and ensure consistency of the instruments. The two sets of scores were correlated using Pearson’s Product Moment Correlation and reliability coefficient of 0.75 was obtained. This was considered high enough for reliability. The researchers administered the instruments to the respondents and retrieved immediately on completion. Out of the 655 questionnaires administered 600 were retrieved from both the academic staff and the students which is about 92% of the total number of respondents. Data was collected and analyzed using percentages to answers research questions raised while the hypotheses formulated were tested using ANOVA statistics at the 0.05 level of significance

**Findings and Discussion**

**Research Question 1:** What is the level of job satisfaction among the academic staff of the Colleges of Education in Lagos State?

Table 2. Level of Job Satisfaction among the Academic Staff of the Colleges of Education in Lagos State

Level of Job Satisfaction that exists among the Academic Staff		Frequency	Percentage (%)
(Scores ≤39)	Low	4	8
( Scores from 41-59)	Moderate	17	34
(Scores >60)	High	29	58
	Total	50	100

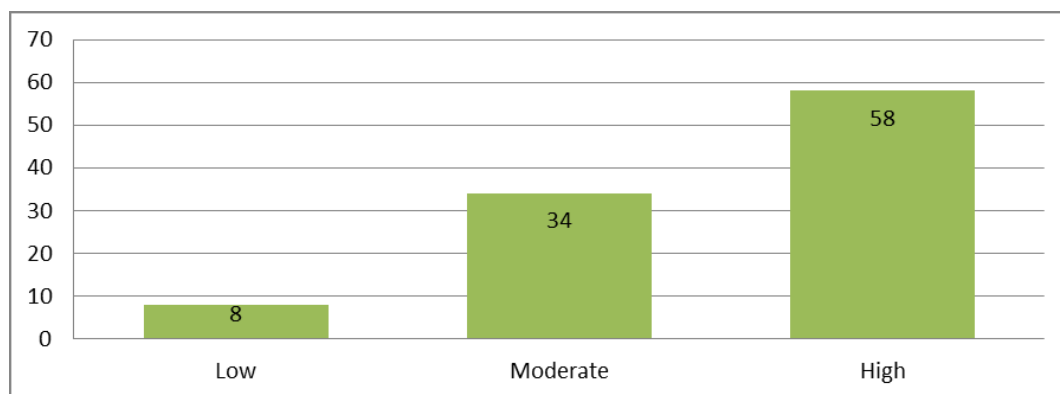


Figure 1. Bar Chart Showing Level of Job Satisfaction among the Academic Staff

Table 2 shows the level of job satisfaction that exists among the academic staff of the colleges of education in Lagos State. It can be deduced that the level of job satisfaction that exists among the academic staff of the colleges of education in Lagos State had 8% which was regarded as low. Also, the result further observed that 34% of the academic staff in colleges of education in Lagos State had moderate level of job satisfaction that exists among them while 58% of the academic staff in colleges of education in Lagos State had a high level of job satisfaction that exists among them. This result therefore suggested that job satisfaction that exists among academic staff in colleges of education in Lagos State was high level.

**Research Question 2:** What is the level of interpersonal relations that exist between the academic staff and the students?

Table 3. Levels of Interpersonal Relations that exist between the Academic Staff and the Students

Level of Interpersonal Relations that exists between the Students and Academic Staff		Frequency	Percentage (%)
(Scores $\leq 39$ )	Low	52	8.7
(Scores from 40-59)	Moderate	418	69.7
(Scores $>60$ )	High	130	21.6
Total		600	100

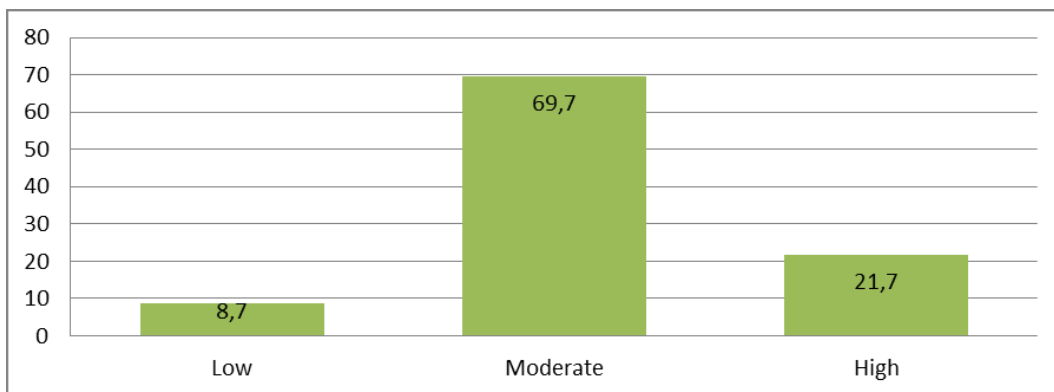


Figure 2. Bar Chart Showing Levels of Interpersonal Relations that exist between the Academic Staff and the Students

The results in Table 3 show the levels of interpersonal relations that existed between the academic staff and the students of the colleges of education in Lagos State. The result in the table showed that 8.7% of the respondents rated the level of interpersonal relations that existed between the academic staff and student low. Also, 69.7% respondents rated level of interpersonal relations that exist between the academic staff and the students moderate while 21.6% of the respondents rated level of interpersonal relations that exist between the academic staff and the students high. The majority rated the level of interpersonal relations that exist between the academic staff and the students moderate. Therefore, the level of interpersonal relations that exist between the academic staff and the students of the colleges of education in Lagos State was moderate.

**Research Question 3:** What is the level of interpersonal relations existing between the staff and the management of institutions?

Table 4. Level of Interpersonal Relations existing between the Staff and the Management of Institutions

Level of Interpersonal Relations that exists among the Staff and between the Management		Frequency	Percentage (%)
(Scores $\leq 39$ )	Low	8	16
(Scores From 40-59)	Moderate	24	48
(Scores $>60$ )	High	18	36
Total		50	100

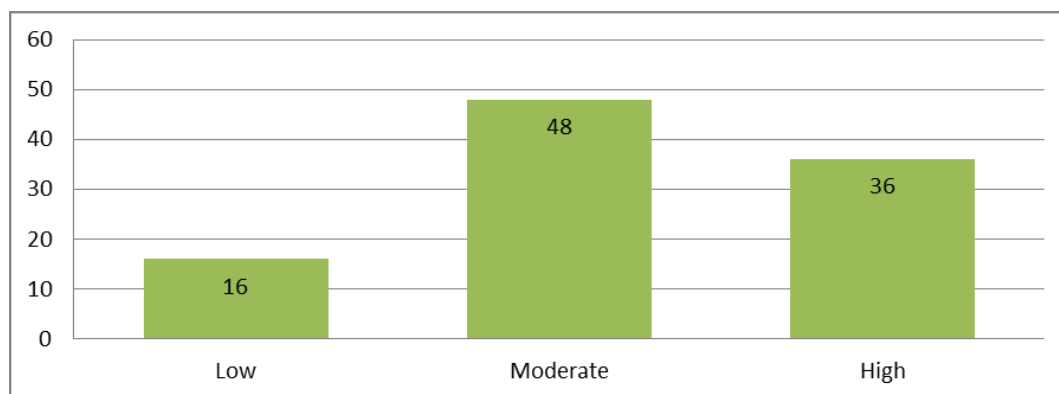


Figure 3. Bar Chart Showing Level of Interpersonal Relations existing between the Staff and the Management of Institutions

Table 4 shows that 16% of the respondents rated the level of interpersonal relations existing between the staff and the management of institutions low. Moreover, 48% of the respondents rated the level of interpersonal relations existing between the staff and the management of institutions moderate. Furthermore, 36% of the respondents rated the level of interpersonal relations existing between the staff and the management of institutions high. The findings indicated that majority of the respondents rated the level of interpersonal relations existing between the staff and the management of institutions moderate. It was concluded that the level of interpersonal relations existing between the staff and the management of institutions in the colleges of education in Lagos State was moderate.

**Hypothesis One:** There is no significant influence of job satisfaction on job performance of academic staff in the colleges of education in Lagos State

Table 5. Influence of Job Satisfaction on Job Performance of Academic Staff

ANOVA						
	Sum of Squares	Df	Mean Square	F	Sig.	
Between Groups	6513.169	20	325.658	3.026	.003	
Within Groups	3120.831	29	107.615			
Total	9634.000	49				

From Table 5, it can be seen that the hypothesis which predicted that there is no significant influence of job satisfaction on job performance of academic staff was not supported. The hypothesis was therefore rejected for  $F(20, 29) = 3.026$ ,  $P > 0.05$ . The calculated F was less than the alpha value,  $0.003 < 0.05$ . Therefore,

there is significant influence of job satisfaction on job performance of academic staff in the colleges of education in Lagos State.

**Hypothesis Two:** There is no significant influence of interpersonal relations on job performance of academic staff in the colleges of education in Lagos State

Table 6. Influence of Interpersonal Relations on Job Performance of Academic Staff

ANOVA						
	Sum of Squares	Df	Mean Square	F	Sig.	
Between Groups	6302.717	21	300.129	2.523	.012	
Within Groups	3331.283	28	118.974			
Total	9634.000	49				

Table 6 shows that there is significant influence of interpersonal relations on job performance of academic staff. The hypothesis stated in this study that there is no significant influence of interpersonal relations on job performance of academic staff was rejected (F=3.026, Df=20, 29, P>0.05). This was rejected because the calculated F was less than the alpha value (0.012<0.05). The study concluded that there is a significant influence of interpersonal relations on job performance of academic staff in the colleges of education in Lagos State

The results of the analysis of data on the level of job satisfaction among the academic staff of the colleges of education in Lagos State showed that the level of job satisfaction among academic staff in colleges of education in Lagos State was high. This implies that in the study area, the academic staff were always encouraged to come up with new innovation and better ways of doing things, their work is giving them a feeling of personal accomplishment and there were tools and resources for them to do their job well. Moreover, the institution did excellent job of keeping employees informed about matters affecting them and management of the College visibly demonstrated a commitment to quality to the staff. Therefore, there was high level of job satisfaction among the academic staff of the colleges of education in Lagos State.

The results on the level of interpersonal relations that existed between the academic staff and the students indicated that the level of interpersonal relations that exist between the academic staff and the students of the colleges of education in Lagos State was moderate. This denotes that in the study area, the academic staff moderately paid attention to students' problems and more concerned about students' welfares. They also keep look out for books and experiences that might contribute to students' personal growth. Therefore, there was a moderate level of interpersonal relations that exist between the academic staff and the students of

the colleges of education in Lagos State. It was also ascertained in the study that there was interpersonal relations was existing between the staff and the management of institutions as the findings confirmed that the level of interpersonal relations that existing between the staff and the management of the institutions in the colleges of education in Lagos State was moderate.

Above findings agreed with Tyagi (2012) who reviewed that teachers with positive interpersonal skills had a positive attitude to work and might be resulted to better outcome in terms of administrative responsibilities and quality teaching. It also corroborates with the position of Mckinney, et al. (2004) who submitted that communication was essential for effective team performance. The results also in line with submission of (Carlijn Van de Linde2016; Tyagi 2010; Rizwan & Ghaffar, 2012; Solaja, Faremi, & Adesina 2015; Fashiku 2016), all submitted that job satisfaction and interpersonal relations affects job performance of academic staff. However, this study negated an aspect of Muhammad, Rahmat, and Malik (2013) who reported that moderate level of job satisfaction among employee may be attributed to socio economic condition of the Nation. The difference may be unconnected to the population of the two studies. In other words, factors that enhance job satisfaction in one country might be different from that of another country.

The results further showed that there was a significant influence of job satisfaction on job performance of academic staff in the colleges of education in Lagos State. This implies that the satisfaction that academic staff ascertained from their job has positively influenced their job performance in their various colleges of education in Lagos State. The findings equally indicated that that there was evidence that there is significant influence of interpersonal relations on job performance of academic staff. This implies that relationship between the staff-management and staff-students had positive contributions to their job performance. This results corroborated the positions of Igalens (2001) who mentioned the key factors that were useful for the satisfaction of the employees such as reward and recognition, workplace environment, and teamwork and training and development which were all factors contributed to job satisfaction and they also influence workers' behaviour toward work performance in an organisation. The findings of the study were equally in line with the study of Semercioz, 2010), who reported that job satisfaction and organizational commitment had a positive significant relationship but negative significant relationship with turnover intention.

### **Conclusion**

The study concluded that academic staff job satisfaction and interpersonal relations play a very important role in their job performance and also affects to a reasonable extent the level of academic performance of the students. The management therefore, must ensure that they put measures in place to facilitate high job satisfaction for the academics staff of the Colleges of Education in Lagos State. They should also ensure there is a good interpersonal relation among the staff, between the staff and the students and most importantly between the management and staff of the Colleges of Education in Lagos State.

The study recommended ways for improvement job performance of the academic staff of the Colleges of Education in Lagos State. The management of the Colleges of Education in Lagos State must do an excellent job of keeping the employees informed and involved about matters affecting them. They should ensure that tools, resources and facilities are made available to the staff and students for them to do the job well. Also, the management of institutions must demonstrate a commitment to quality. The stakeholders involved should organise on regular basis seminars, workshops and symposiums for the academic staff on how they can improve on their knowledge delivery to the students and also improve on their overall job performance. Government and management as a matter of urgency must ensure that all allowances and remunerations are paid to the academic staff as at when due. And the government also should ensure never to make promises they cannot fulfil to the academic staff as this will always bring down their morale and eventually affect their job performance.

All stakeholders involved must be proactive in addressing the fall in academic staff commitment in Colleges of Education in Lagos State. This is imperative because the achievement of educational goals in any institution will be impossible without committed academic staff. Every strategy that can lead to increase in the level of academic staff commitment should be adopted in all the Colleges of Education in Lagos State. The strategies could include; regular promotions prompt payment of salaries and other emoluments, providing adequate resources in institutions among others.

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## **THE USE OF QUIZZZ DAN KAHOOT! IN THE TRAINING FOR MILLENNIAL GENERATION**

**Agus Suharsono**

Financial Education and Training Agency, Ministry of Finance, Yogyakarta

correspondence: [gusharpramudito@gmail.com](mailto:gusharpramudito@gmail.com)

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### **Abstract**

Digital transformation marked with internet and information technology use has entered into government apparatus learning, particularly the new employees constituting millennial generation inherent to gadget. Kahoot! and Quizizz are online quiz application that can be the choice to make the learning attractive and joyful. This research employed a quasi-experimental method only on the studied group, and the data was collected using questionnaire, observation, and documentation. Data was analyzed using logico-inductive method encompassing three stages: coding, describing main characteristics and interpreting data. The result of research showed that Quizizz is more preferable to Kahoot! to the participants because in Quizizz question and answer appear on cell phone/laptop screen of individual participants so that they should not see the screen before the class just like that in Kahoot!; the answer in Kahoot! constitutes symbols while in Quizizz the real answer constitutes word, number, or figure; after the quiz has been completed, the questions answered can be checked in order to find out the ones answered incorrectly and mastered poorly by the participants.

**Keywords:** Kahoot!, Quizizz, millennial, civil servant

### **Introduction**

Technocratic design in National Medium-Term Development Plan published by Indonesian National Development Planning Agency during 2020-2024 mentions that digital transformation in this world has varying forms: Japan-Society 5.0, Europe-Industrial Revolution 4.0, China-Made in China 2025, America-Industrial Internet, and in Asia-Smart Cities. Digital Transformation will impact on innovation, acceleration, evidential, productivity, inclusivity, collaboration, and accountability in all development sectors (BAPPENAS, 2019). Digital transformation still makes many parties, including government apparatus, feeling anxious, but some of them have had enjoyed digital transformation in which technology is not considered as the threat facilitating human activity (Puspitasari D. , 2019). Industrial Revolution 4.0 has the characteristics of digitalization, optimization, and production customization, automation and adaptation, human machine interaction, value added services and businesses, automatic data exchange, and communication, and integrating internet technology

use. There have been 51 state universities (colleges) in Indonesia readily holding non-face-to-face lecturing, in dealing with information and communication technology disruptive era toward cyber university that has been applied widely in developed countries (Iswan & Herwina, 2018).

Society 5.0 can be defined as “intelligent society” referring to the innovation in science and technology aiming to balance social problem in physical space and cyberspace integrated (Salgues, 2018). Japan with Society 5.0 wants to balance economic advance and social problem solving through a system highly integrating cyber space and physical space with human beings as the center. Society 5.0 connects educational service from basic level to college, and will reach small villages in Sub-Saharan area (Prima, 2019). Society 5.0 is an idea of implementing technology in industrial revolution 4.0 also considering the humanities aspects by giving an opportunity of solving social problem that should be manifested into collective research with contribution from varying sectors (Faruqi, 2019).

The development of information technology increases the use of web to access varying types of information and material. The utilization in education field results in great advance in the learning process to both learner and instructor, despite the need for further research on its effectiveness (Livingstone, 2015). We should deal with the change of time anxiously or worriedly, take action immediately corresponding to our own ability. We enjoy the change by thinking critically and creatively, thereby we can participate in this progress (Ferreira & Serpa, 2018). The role of information technology should be synchronized with the preexisting educational ecosystem, to support the learning process more efficiently, not substituting the role of teacher, school, universities, and parents, because education concerns not only learning but also character building (Retnawati, 2019). Education in industry era 4.0 is expected to consider the following aspects: intellectuality development, social intelligence, novel and adaptive thinking, cross-cultural competency, computing thinking, new media literacy, trans-disciplinary, design thinking, cognitive content management and virtual collaboration (Sitepu, Rangkuti, & Fachrizal, 2020).

Civil Servants today are the generation born in 1981-2003 (Puspitasari S. S., 2018) or are under 37 years during this article writing. In late 2017, there are 4,374,349 civil servants in Indonesia, and 1,512,932 or 35% of them are under 37 years (BPS, 2017). It means that the composition of millennial generation-Civil Servants increases over times, thereby its education and training method should be compatible to them and utilize information and communication technology. There are 4,870 Civil Servants in Ministry of Finance, according to Ministry of Finance’s Secretary General, consisting of: 2,997 graduates of D1 program of PKN; 1,873 graduates of D3 program, 2,880 civil servants recruited publicly consisting of: 2,146 from D3 program, 733 from S1, and 1 from S2 programs (Hadiyanto, 2017). Both Industrial Revolution 4.0 and Society 5.0 inevitably will impact Indonesia, and will affect education and training for millennial generation-Civil Servants, by utilizing information and communication technology.

The revival of millennial generation will also generate new challenge to management practice in organization, particularly to the practice of human

resource management (Putra, 2016), including the learning. The older generation calls millennial generation the Generation.com (Trokska, 2016). There is a significant difference of characteristics between millennial generation and other generations, particularly in information and technology mastery (Trokska, 2016). An independent millennial-generation learner, just like the previous generation, need more structure, guidance, and feedback. Millennial generation likes working collaboratively more, does not like lecturing, communicates less effectively, needs information as needed, and needs technology (Berge, 2008). Millennial generation is inherent to digital gadget, thereby can be utilized in the learning (Wibawanto, 2019).

The development of information and communication technology brings out a great change in education field helping the learning process innovation, improving performance, and managing the process effectively and efficiently (Wanda, 2017). Clayton M. Christensen introduces disruption theory replacing Schumpeter's destruction theory in 1997. Disruption moves along with the emergence and the development of information technology applications disrupting industry, rejuvenating, and deconstructing the old approach with new method in marketing, bureaucracy, mindset, and government. Disruption in education field includes: 1) on demand education service and skill, including lecturing and test; 2) open source education service and skill; 3) mobile and responsive education application; 4) curriculum that is more personal and tailor made; 5) borderless content service; 6) collaborative education platform; and 7) online course and material for free (Kasali, 2019). Education field is also affected by information and communication technology and brings out a great change in education realm functioning to help the learning process innovation and to improve the performance by preparing, using, and managing an effective and efficient process (Wanda, 2017).

For that reason, a learning method utilizing information and internet technology development should be developed. The learning method affects the students' learning motivation, so that their choice should make the students contented and vigorous (Mujiman, 2007). There is no single learning method better than others because the learning method is dependent on the objective to be achieved, the characteristics of students, and the society values (Arends, 2013). The participants' understanding can be improved using learning media that can improve interaction between instructors and between participants (Mashoedah, 2015). Compared with offline learning, the online learning improves significantly today (Damien Mac Namara, 2017). The instructor should explore what makes the learners attending the learning joyfully and education gamification evidently makes the learning attractive and motivating the learner to focus on attending the learning (Abu-Dawood, 2017).

One of learning method developments utilizing information and internet technology is the automatic online quiz application that can be used to measure the improvement of the training participants' understanding, including: QMP; TodaysMeet; Padlet; Mentimeter; Kahoot!; Quizizz; ThatQuiz; GoConqr; ClassMarker; Edmodo; Scorative, or Google-Flubaroo (Jamro, 2017). The learning for millennial generation using quizizz evidently improves the learning

competency attractively and collaboratively corresponding to the learner-centered learning (Balasubramanian, 2017). Quizizz is a joyful, formative, multiplayer, free assessment instrument functioning on the computer, tablet, and smartphone. Each of participants or student groups needs one set, but it is unnecessary for them to make account in quizizz, because they can join by entering game code only (quizizz, 2019). Quizizz can transfer many assignments, repeat, and entertain, and accommodate many participants (Eser Çeker, 2017). Quizizz question and answer appear on computer or cellular phone screen of each participant; thus it tends to be individual but can give answer analysis. The use of quizizz makes the learners active and concentrating on the learning material (Suo Yan Mei, 2018). For formative evaluation, quizizz informs and identifies both incorrect and correct answer for each of learners and thereby is more effective because the material needing correction can be found out (Huisman, 2018).

The official page of Kahoot! Use for the learning makes the learning joyful, attractive, and impacting on all learners. We can make our quiz or use million preexisting quiz and can conduct formative assessment all at once (Kahoot, 2020). The use of Kahoot! is easy, applicative, effective, joyful, and can improve the learning, but a better internet connection is required (Budiati, 2017). The use of Kahoot!, which is multiplayer in nature, enables the child to collaborate and to compete interactively, thereby can be the facility of social interaction (Rofiyarti1 & Sari, 2017). The use of Kahoot! creates a joyful, attractive learning potentially improving the academic performance (Iwamoto, Hargis, Taitano, & Vuong, 2017).

Some studies conducted in some countries showed that the learners welcome positively the use of Kahoot! and Quizizz in the learning. In Malaysia, it enables the class to attract the learning because it is done online in which question and answer appear on the screen before the class (Ishak, Nor, & Ahmad, 2017). Kahoot! is a feasible and practical formative assessment making the learning joyful and motivating the learner. However, Kahoot! is not the best means of simplifying the complex lesson (course) as perceived by medical students (Ismail & Mohammad, 2017). In South Korea, the use of Kahoot! is amazing because it can be used for game-based learning constituting a good learning method that can integrate the competitive game encouraging the learner to discuss teaching material online joyfully in the class (Dellos, 2015). Compared with traditional learning the use of Kahoot! improves the learners' understanding, motivates and involves them in Indiana, United States of America (Bawa, 2017). In Norway, the use of Kahoot! in the lecturer about software reengineering in four parallel classes can substitute the use of slide and traditional teaching instrument shows that Kahoot! can improve concentration, participation, enjoyment, and motivation. In addition, because the value can be recognized online, it will contribute to improving the dynamic of classroom (Wang & Lieberoth, 2016). In Poland, there is strong evidence showing the relationship between the games playing using Kahoot! and the improved learning motivation (Zarzycka-Piskorz, 2016). In Thailand the learners argued that Kahoot! and Quizizz support the learning and improve concentration, participation, enjoyment, and motivation. In addition, these applications help the learners realize the knowledge level, facilitate the

perception of concept, improve learning process, and feel that the answer is assessed by instructor. The instructor checks the learners’ answer easily as it is available automatically and online (Chaiyo & Nokham, 2017).

**Method**

This study was a full experimental education research comparing the group studied and the control that can disrupt the learning. Therefore, the appropriate research method is the quasi-experimental one in the group studied (Creswell, 2015). The primary data of qualitative research, according to Lofland & Lofland, constitutes words and action, and the rest is additional data such as document (Moleong, 2015). The research instrument was the author himself (Sugiyono, 2015), but to obtain data as much as possible and to facilitate the data collection, other instruments were used: questionnaire, observation, and documentation. The data collected was analyzed using logico-inductive method, the process of thinking using logic to understand pattern and tendency in the data in three stages: coding, describing main characteristic, and interpreting data (Mertler, 2011). The result of research is presented descriptively. The research was conducted in Technical Training Class for 2nd Generation Integrated Service Center Officer in Fiscal Year of 2018 in Yogyakarta Financial Training and Education Agency consisting of 30 students belonging to millennial category, but only 28 filled in the questionnaire, conducted in 5 (five) workdays. Quizizz was used in the course of Stipulation, Work Procedure, and Document Completeness of Integrated Service Center, while Kahoot! was used in the course of Communication and Appearance of Integrated Service Center Office on different days.

**Findings and Discussion**

The participants’ answer to the question “You prefer the learning using quizizz or Kahoot!!” is presented in Table 1.

Table 1 Participants’ Preference of Using Quizizz or Kahoot!

No	Information	Number	%
1	Quizizz	27	96%
2	Kahoot!!	1	4%
	Total	28	100%

From Table 1, it can be seen that 27 (twenty seven) or 96% participants prefer using Quizizz, while 1 or 4% participant prefer using Kahoot!. The Strength of Quizizz compared with Kahoot!, according to participants, is shown in Table 2.

Table 2 the Strength of Quizizz compared with Kahoot!

No	Answer	Number	%
1	Question and answer appear on cellular phone/laptop screen so that participants unnecessarily watch the screen before the class	20	71.4%
2	Equally joyful	3	10.7%
3	Kahoot! answer is symbol, while Quizizz answer is real in the form of words, numbers, and figures	1	3.6%
4	When the quiz has been completed, the questions answered can be checked	1	3.6%
5	The questions mastered poorly by the participants can be recognized	1	3.6%
6	Time calculation is more reasonable	1	3.6%
7	Not logged out easily	1	3.6%
<b>Total</b>		<b>28</b>	<b>100.0%</b>

From Table 2, it can be seen that the most possible reason of why the participants prefer using Quizizz is because question and answer appear on cellular phone/laptop screen of each participants, so that it is unnecessary for them to look at the screen before the class; this reason is given by 20 participants (71.4%). Meanwhile, in Kahoot! question and answer appear on the screen before the class, so that some participants see the screen difficultly as their position is far away from or diagonal to the screen direction. Three (3) or 10.7% participants stated that using Quizizz or Kahoot! are equally joyful. Another strength suggested by one participant respectively is that Kahoot! answer is symbol while Quizizz answer is real in the form of words, numbers, or figures; when the quiz has been completed, the questions answered can be checked so that the question answered incorrectly and mastered poorly by the participants can be recognized. Technically, some participants answering the question cannot log out easily when entering the answer option. Meanwhile the answer stating that in the Quizizz the time calculation of working is more reasonable is actually less relevant because in both Kahoot! and Quizizz, time to answer the question can be set or adjusted. However, this argument can be input in preparing the Quizizz, so that the time can be adjusted with the question’s difficulty level. The comparison between Kahoot! and Quizizz appearances is illustrated in Figure 1.

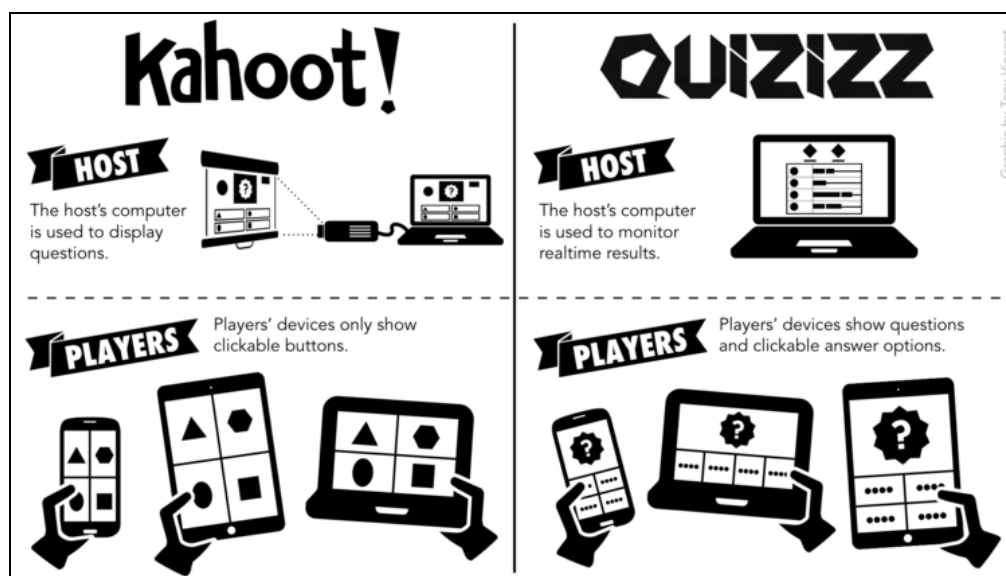


Figure 1 The Comparison between Kahoot! and Quizizz appearances

Source: <https://medium.com>

To find out further the comparison between Kahoot! and Quizizz, a question is posed to the participation about the weakness of Quizizz compared with Kahoot!, and the answer is presented in Table 3.

Table 3 he weakness of Quizizz compared with Kahoot!

No	Answer	Number	%
1	None	21	75.0%
2	Almost equal	3	10.7%
3	Time taken to answer the question is different between one participant and another	2	7.1%
4	The movement of question needs some steps	1	3.6%
5	Too fast time	1	3.6%
	<b>Total</b>	<b>28</b>	<b>100.0%</b>

From Table 1, it can be seen that 21 (twenty one) or 75% participants state that there is no weakness of Quizizz compared with Kahoot!, 3 (three) or 10.7% state that the two are nearly the same. Two (2) or 7.1% participants argue that the time taken to answer the question is different between one participant and another. Quizizz makes the time taken to answer the question appearing on cellular phone/Laptop screen different between one participant and another, because when the question appearing is the same, the order will not be the same. Participants answering the question more quickly will complete the quiz more quickly but they should wait for other participants who have not completed it yet, but the time cannot be beyond the time limit set in each of questions. For example, some questions are set to be answered within twenty second; therefore, if there is a participant answering it within ten second, the next question will appear on the

cellular phone or laptop screen randomly and differently from the participant beside. It likely becomes the weakness of Quizizz the participants answering quickly should wait for other participants completing the quiz. However, it can also be the strength of Quizizz because the speed of answering the question will increase the score obtained. In Kahoot!, because the questions appear simultaneously on the screen before the class, and the answer on the cellular phone/laptop screen, so that the quiz will be complete at the same time, but it can also be Kahoot!’s weakness because some participants are likely affected with the answer of participant adjacent.

Although some participants prefer Quizizz to Kahoot! need input for the improvement as shown in Table 4.

Table 4 Proposal of Improvement in the use of Quizizz

No	Answer	Number	%
1	Joyful activity distraction should be added	7	25%
2	In addition to using quizizz, there is a group discussion	5	18%
3	Good	5	18%
4	Material explained, then quiz is conducted using quizizz	4	14%
5	Answer option in quizizz consists of more than two choices	3	11%
6	Using quizizz and repeated	1	4%
7	Outdoor learning	1	4%
8	Not answering	2	7%
	<b>Total</b>	<b>28</b>	<b>100%</b>

From Table 4, it can be found that 7 or 25% participants propose the use of Quizizz plus joyful distraction activity; the alternative activity the participants want is group discussion or outdoor learning. This input can be taken into account in using Quizizz in order not to use too many questions to make the participants not bored; group discussion can be an alternative, but the question made should trigger the discussion. The use of Quizizz outdoor is possible as long as there is an internet network because Quizizz should not be used in one room and it even can be attended by participants outside the city as long as they are informed with the game code. The participants recommend the material to be explained first, and then quiz can be an alternative, if blended learning or pre-post test is not used to measure the improvement of participants’ competency. The recommendation that the multiple-choice answer should be provided can be implemented, recalling that the higher the objective of learning, the more complex is the choice of answer. However, if the objective of learning is to enable the participants to find out or to understand the choice of answer, it can be simpler. Meanwhile the recommendation that Quizizz should be used repeatedly should be adjusted with the objective of use and the time available.

## Conclusion

Digital transformation characterized with the utilization of internet and information technology has penetrated into the government apparatus learning, particularly the new servants (employees) constituting the millennial generation inherent to gadget. Kahoot! and Quizizz is an online quiz application that can be a choice to make the learning attractive and joyful. The result of research showed that Quizizz is more preferable to Kahoot! to the participants because in Quizizz question and answer appear on cell phone/laptop screen of individual participants so that they should not see the screen before the class just like that in Kahoot!; the answer in Kahoot! constitutes symbol while in Quizizz the real answer constitutes word, number, or figure; after the quiz has been completed, the questions answered can be checked in order to find out the ones answered incorrectly and mastered poorly by the participants.

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## **OER AWARENESS AND USAGE AMONG OPEN AND DISTANCE LEARNING STUDENTS IN SOUTH-WESTERN NIGERIA**

**Sunday Abidemi Itasanmi**

University of Ibadan, Nigeria

correspondence: itasunny2000@gmail.com

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### **Abstract**

This study assessed Open Educational Resources (OER) awareness level and usage among Open and Distance Learning (ODL) students in South-western Nigeria. A descriptive research design was adopted for the study. Three ODL institutions (University of Ibadan Distance Learning Centre, National Open University of Nigeria, Ibadan Study centre and University of Lagos Distance Learning Institute) were purposively selected. A structured questionnaire titled "OER awareness and usage Questionnaire" with Cronbach alpha coefficient of .954 was used as data collection instrument. Data collected were analysed using frequency count, simple percentages, mean, standard deviation and Pearson Product Moment Correlation. Results of the study revealed that OER awareness among ODL students was on the average while OER usage was high. Lack of orientation on the availability and use of OER and insufficient ICT facilities in the school to access OER materials, amongst others were challenges ODL students faced using OER. It was, therefore, recommended that there should be conscious efforts by ODL institutions to devise means to increase the level of OER awareness among students and sensitise them on the inherent benefits in OER usage.

**Keywords:** Open Educational Resources, awareness, usage, open and distance learning, South-western Nigeria

### **Introduction**

Globally, education is a fundamental human right and a key to social, economic and other developments. The significance of education to national development cannot be overemphasised as it plays an important role in technological development and scientific orientation of any nation. It is a notable fact that no country can develop beyond the educational attainment of its citizenry. In the realisation of this fact, the Nigerian government has been making a concerted effort at harnessing the potentials inherent in education for optimal social and economic development. While much has been done in terms of educational provision generally, much remains to be done in terms of access, infrastructure and most especially, quality of the educational system (Otonko, 2012).

Nigeria is one of the most populous nations in Sub-Saharan Africa with a population of over 200 million and over 200 ethnic groups occupying a landmass of 910,770 square kilometres (Worldometers, 2017). Providing quality education to this teeming population within a fast dwindling of the nation's financial resources poses a serious challenge. Also, due to the astronomical increase in population and the low carrying capacity of the existing formal education system, there is an increase in demand for education, most especially higher education. The conventional regular educational system has become inadequate in meeting the demand of the people. The low capacity of these regular universities to accommodate the enormous number of prospective students, non-consideration of the working-class set of people and those geographically disadvantaged are some of their notable limitations. Moreover, some issues have been raised against the conventional university system such as being costly to establish and maintain, not elastic and pliant enough. All these provide the impetus for agitation for equal opportunity to university education through open distance education (Biao, 2012).

Open and distance learning essentially means an instructional strategy that uses different approaches to learning. It is different from the traditional face-to-face model of learning. Worthy of note is the emphasis on learning landscape where the instructor and the students are separated physically using a multiplicity of technologies. This type of learning tends to be more cost-effective, and time, location, pace and space independent (Jegade, 2016). Open distance learning provides learning opportunities to many people across regions of the world irrespective of geographical location. Consequently, this gives room for learners to engage in learning activities in a place, time, and space that fit their circumstance and requirements. Open distance education emphasises opening up learning opportunities by disabling challenges resulting from geographical location, job responsibilities and inflexibility in course structures associated with conventional education which often limit people's participation in educational opportunities (Biao, 2012). The concept of open and distance learning echoes either total or great part of learning process that takes place in an environment where the learner is not in the vicinity of the teacher with the sole aim of bringing a higher dimension of flexibility and openness in the areas of access, course structure or general curriculum (Ghosh, Nath, Agarwal & Nath, 2012).

However the acceptance of open distance learning as a way of providing massive access to university education, increasing learning flexibility and making university education more affordable for all, it has its peculiar challenges. These challenges include; the absence of national ODL policies outlining ODL pathways, scepticism about the quality of open distance learning products and aspersion on the relevance of open distance learning programmes. Also, lack of personnel with adequate knowledge in the principles, idea and methods of ODL and low level of ICT utilisation within the domain of open distance learning are factors identified to be confronting ODL system (Biao, 2012). Equally, learners on the open and distance learning programmes have been seen to face many challenges ranging from situational problems - job and home responsibilities, institutional related -poor infrastructure and others, as well as dispositional challenges - age, learning style, marital status (Ibrahim and Silong, n.d.).

Musingafi, Mapuranga, Chiwanza and Zebron (2015) identified insufficient time for study, hitches in ICT access and use, ineffectual feedback mechanisms and inadequate study materials as the challenges ODL students face in their course of study.

Interestingly, the advent and continuous improvement in communication technologies and the constant drive by stakeholders in the open and distance learning domain of university education have reduced some of the challenges learners face under the ODL instructional delivery. This has increased the accessibility to educational resources, thus improving learning and providing an abundance of such resources to learners in a notable manner. This way, they can learn at their own pace, space and convenience, thereby enhancing their learning experience. Technological development, particularly the internet, combined with the availability of more computer applications and tools have made a paradigm shift possible from a scarcity of learning resources to its abundance. Resources such as full course materials, textbooks, course modules, videos, application software and related tools, amongst other materials and techniques used in supporting access to information are generally known as educational resources. Educational resources are in two forms- conventional and open educational resources. The distinguishing factor between the two is that while the conventional educational resources have restricted access and limited coverage, OER is open, easily accessible to people across the world, and available to be used, reused, and adapted without any permission from the owner.

In the contemporary world, the emergence of OER has significantly become popular as it has become a subject of keen interest among scholars, practitioners and educational institutions and this has led to the exploration of the concept and the inherent potentials towards improving the level of education around the world. A notable educational movement recognised in this 21st century is OER (Shear, Means & Lundh, 2015). The concept of OER is defined in several ways but what remains essential in all the definitions is the fact that the resources are available at no cost or barest minimum to users. For instance, UNESCO (2002, as quoted in Willy, 2007) defines Open Educational Resources as:

“Technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes”. They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teachers’ guides” (Willy, 2007, p. 3).

Hewlett Foundation (2016) sees Open Educational Resources as "teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions". Similarly, Reed Library (n.d) defined Open Educational Resources

(OER) as "teaching, learning, and research resources that reside in the public domain or have been released under an intellectual property license that permits repurposing by others". Butcher (2015) described OERs as "any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials designed for use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or licence fees". In whatever way OER is defined, its importance to teaching and learning process in the 21st century cannot be overemphasised as it provides the opportunity for students to have access to course materials with no attached cost. Also, it allows lecturers to create learning materials that are specifically designed for their classes, and this strengthens their base of knowledge. Also, with the opportunity to draw from a wide variety of materials from different sources, the student is provided with affordable materials that enhance their learning and give the lecturers content for classes (Canvas. n.d.). According to Wiley (n.d.), OER provides learners with free and long-lasting access to "engage in the '5R' activities - retain, reuse, revise, and remix and to redistribute" educational resources.

Specifically, Open Educational Resources have been created not solely to strengthen Open and Distance Learning through the establishment of a knowledge pool for developing useful courseware, but also to empower and build institutions' capacity to participate effectively in creating the open courseware. According to Jena (n.d), Open Educational Resources have the potentials to facilitate Open and Distance Education by serving as a source of learning content, initiating an e-learning platform, promoting learning content licensed under the creative commons, establishing a forum for professionals, creating a form of consortium for courseware development and enhancing the professional growth of ODL institutions. Through the creation of free learning contents like modules, learning objects, courseware, journals in collaborative support of the virtual community having a common interest, the physical distance between the lecturer and students of ODL would be drastically reduced. Also, OER facilitates all components of e-learning be it online learning, students assessment process, admission and other administrative issues. Again, since Open Educational Resources are freely made available, and their use as well as adaptation encouraged under the creative commons license, this allows the materials to be reused in open courseware and other educational product. This, therefore, strengthens the ODL system most notably in developing countries of the world. Furthermore, with the support of online communities, the ODL system gets enabled through Open Educational Resources created to establish forums of professional discussion not only within the boundary of a country but beyond. Finally, since ODL institutions are established to meet the educational needs of disadvantaged groups, OER enables the enhancement of personal knowledge of both the learners and lecturers through effective planning and active support of information communication technology (Jena, n.d).

Several studies have been carried out to examine OER awareness, impact, usage, and adoption among different categories of learners in different parts of the world (Akomolafe & Adegun, 2014; Li & Huang, 2015; Onaifo, 2016; Cooney,

2017; Ikahihifo, Spring, Rosecrans & Watson, 2017; Gambo and Aliyu 2017; Petiska, 2018; Haas, Ebner & Schon, 2018; Grimaldi, Mallick, Waters & Baraniuk, 2019; Pounds & Bostock, 2019; Arunkumar and Kannan, 2020). Specifically, in Nigeria, Akomolafe et al. (2014), examined the utilisation of open educational resources among undergraduates in Nigerian's universities while Onaifo (2016), investigated the use of OER among University of Lagos' students. Similarly, Gambo et al. (2017) assessed the use of open educational resources and printed educational materials among students of federal college of education Katsina, Nigeria. There is, however, a dearth of empirical studies on OER awareness and usage among open and distance learning students in Nigeria and this is the gap the current study intended to fill by examining the level of OER awareness and usage among open and distance learning students in South-western Nigeria. There are three research questions in this research. First, what is OER awareness level among ODL students in South-western Nigeria? Second, what is OER usage level among ODL students in South-western Nigeria? Third, what are the challenges faced by ODL students using OER?

**Method**

This study adopted a descriptive research design, with a population which consisted of students learning under the open and distance learning programmes domiciled in South-western Nigerian universities. Three ODL institutions (University of Ibadan Distance Learning Centre, the National Open University of Nigeria, Ibadan Study centre and University of Lagos Distance Learning Institute) were purposively selected based on having their interactive session during the period this study was conducted. A sample of 1000 ODL students were selected using a simple random sampling technique. A structured questionnaire titled "OER Awareness and Usage Questionnaire" was validated by ODL experts and pilot-tested among the University of Ibadan regular students and .954 Cronbach's Alpha coefficient was obtained for the questionnaire. One thousand (1000) copies of the questionnaire were distributed to students across the institutions under study, but only 523 were filled correctly and only these were analysed (UI DLC – 198, UNILAG DLI – 138 and NOUN- 187). Data collected were analysed using frequency count, simple percentages, mean, standard deviation and Pearson Product Moment Correlation. The OER awareness and usage level were determined using the following criteria; weighted average  $\leq 2$ = Low,  $>2 \leq 3$ = average and  $>3$ = high.

**Findings and Discussion**

*Findings*

**RQ 1:** What is OER awareness level among ODL students in South-western Nigeria?

Table 1: OER Awareness Level among ODL students

Items	Very Aware (%)	Aware (%)	Unaware (%)	Very Unaware (%)	Mean	SD
1 Are you aware	166	222	112	23	3.02	.84

Items	Very Aware (%)	Aware (%)	Unaware (%)	Very Unaware (%)	Mean	SD
2 of the term OER	31.7	42.4	21.4	4.4		2
Are you aware that OER are free to use	117 (22.4)	246 (47.0)	133 (25.4)	27 (5.2)	2.87	.81 7
3 Do you know that many OER are created by instructors from respected and well-known schools across the world	106 (20.3)	229 (43.8)	169 (32.3)	19 (3.6)	2.81	.79 7
4 OER are on YouTube	90 (17.2)	186 (35.6)	219 (41.8)	28 (5.4)	2.65	.82 5
5 There are so many OER available to support learning	139 (26.6)	239 (45.7)	121 (23.1)	24 (4.6)	2.94	.82 4
6 Some OER are produced locally	73 (14.0)	209 (40.0)	216 (41.3)	25 (4.8)	2.63	.78 0
7 I can find OER in the library	96 (18.4)	207 (39.6)	194 (37.1)	26 (5.0)	2.71	.82 0
8 I can find OER using my mobile phone	143 (27.3)	249 (47.6)	110 (21.0)	21 (4.0)	2.98	.80 3
9 I can access OER from anywhere	142 (27.2)	224 (42.8)	139 (26.6)	18 (3.4)	2.94	.82 0
10 OER are easy to find online	137 (26.2)	242 (46.3)	123 (23.5)	21 (4.0)	2.95	.81 0
11 OER are available in video and audio format	127 (24.3)	219 (41.9)	152 (29.1)	25 (4.8)	2.86	.84 0
12 Finding OER to use is made easier by my school	113 (21.6)	238 (45.5)	146 (27.9)	26 (5.0)	2.84	818
13 OER can be accessed through social network platforms	123 (23.5)	245 (46.8)	137 (26.2)	18 (3.4)	2.90	.79 2
<b>Weighted average= 2.85</b>						

Table 1 above revealed the open education resources awareness level of open and distance learning students in South-western, Nigeria. It can be deduced from the table that ODL students' awareness of OER is at the average based on the weighted average of the mean score. It was revealed that 42.4% of the respondents are aware of the term OER and majority of them attested to the fact that OER is unrestricted to use thereby reducing the cost of learning (47%). It was also revealed that majority of the respondents are aware that OER is created by instructors from respected and well-known schools across the world (43.8%); OER are available everywhere, and it can be accessed using a mobile phone (47.6%). They are aware that it can be found online (46.3%) including the social network platforms (46.8%) and are available in both audio and video format (41.9%). However, it was revealed that a larger percentage of the respondents are unaware that OER is on YouTube (41.8%) and that some of the OER are locally produced (41.3%).

**RQ 2:** What is OER usage level among ODL students in South-western Nigeria?

Table 2. Level of OER Usage among ODL Students

S/N	Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	SD
1	I would describe using open educational resources to support my learning as interesting	147 (28.1)	343 (65.6)	20 (3.8)	13 (2.5)	3.19	.618
2	I feel more engaged with learning using OER.	170 (32.5)	310 (59.3)	29 (5.5)	14 (2.7)	3.22	.665
3	My learning experience has been greatly improved upon using OER	168 (32.1)	297 (56.8)	45 (8.6)	13 (2.5)	3.19	.688
4	I see OER as not being good compared to purchased textbooks	100 (19.1)	182 (34.8)	220 (42.1)	21 (4.0)	2.69	.823
5	I use open educational resources to do my assignments	119 (22.8)	294 (56.2)	88 (16.8)	22 (4.2)	2.98	.751
6	OER enhances my comprehension	119 (22.8)	293 (56.0)	91 (17.4)	20 (3.8)	2.98	.745

S/N	Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	SD
	of what is taught in my formal classes						
7	I learn better from using OER	102 (19.5)	290 (55.4)	110 (21.0)	21 (4.0)	2.90	.74
8	OER enables me to learn at my own pace	152 (29.1)	294 (56.2)	60 (11.5)	17 (3.3)	3.11	.72
9	OER help me prepare for classes	131 (25.0)	307 (58.7)	67 (12.8)	18 (3.4)	3.05	.71
10	OER enables me to prepare for tests and exams	155 (29.6)	283 (54.1)	65 (12.4)	20 (3.8)	3.10	.75
11	I use OER to gain current information in my area of study	157 (30.0)	291 (55.6)	58 (11.1)	17 (3.3)	3.12	.72
12	I use OER to update my knowledge on a particular topic or area of research	153 (29.3)	299 (57.2)	53 (10.1)	18 (3.4)	3.12	.71
13	I use OER for personal study	148 (28.3)	288 (55.1)	65 (12.4)	22 (4.2)	3.07	.75
14	I see others using OER to aid their learning	150 (28.7)	291 (55.6)	65 (12.4)	17 (3.3)	3.10	.73
15	I use OER to Supplement my study materials	154 (29.4)	295 (56.4)	52 (9.9)	22 (4.2)	3.11	.74
<b>Weighted Average= 3.062</b>							

Table 2 showed that Open educational resources usage among open and distance learning students in South-western Nigeria is high, as reflected in the weighted average of the mean score. ODL students agreed with the fact that using open educational resources makes their learning interesting (65.6%), make them feel more engaged (59.3%) and directly improve the quality of their learning experience (56.8%). They further stated that they use open educational resources to do their assignments (56.2%); use it to complement what they learn in their formal classes (56%) and overall, learn better from using OER (55.4%). It was also revealed that they agreed that OER enables them to learn at their own pace (56.2%), help them prepare for classes (58.7%), enable them to prepare for tests and examinations (54.1%) as well as use OER to gain current information in their

area of study (55.6%). It was also reported that they use OER to update their knowledge on a particular area of research (57.2%), use OER for personal study (55.1%) and as a supplement to their study materials (56.4%). However, they disagreed with the statement that Using Open educational resources are not as good as purchased textbooks (42.1%).

**RQ 3:** What are the challenges ODL students face using OER?

Table 3. Challenges ODL students face using OER

S/ N	Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	Rank
1	Insufficient ICT facilities in the school to access OER materials	168 (32.1)	230 (44.0)	100 (19.1)	25 (4.8)	3.03	2 <sup>nd</sup>
2	Lack of orientation on the availability and use of OER to support learning	175 (33.5)	227 (43.4)	97 (18.5)	24 (4.6)	3.06	1 <sup>st</sup>
3	Difficulty in locating relevant OER materials	135 (25.8)	218 (41.7)	135 (25.8)	35 (6.7)	2.87	6 <sup>th</sup>
4	Erratic Power supply	155 (29.6)	222 (42.4)	112 (21.4)	34 (6.5)	2.95	4 <sup>th</sup>
5	Poor internet access	182 (34.8)	207 (39.6)	98 (18.7)	36 (6.9)	3.02	3 <sup>rd</sup>
6	Inadequate/Lack of ICT skills to search for needed OER materials	139 (26.6)	227 (43.4)	122 (23.3)	35 (6.7)	2.90	5 <sup>th</sup>
7	The problem of finding suitable resources in my subject area	119 (22.8)	216 (41.3)	148 (28.3)	40 (7.6)	2.79	7 <sup>th</sup>
8	Overload of information	119 (22.8)	187 (35.3)	166 (31.7)	51 (9.8)	2.72	8 <sup>th</sup>

S/ N	Items	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	Rank
9	on the Internet My school library does not have such access for student	107 (20.5)	159 (30.4)	196 (37.5)	61 (11.7)	2.60	9 <sup>th</sup>

Table 3 showed that based on the ranking of the mean score, lack of orientation on the availability and use of OER to support learning is the major challenge ODL students faced using OER, followed by insufficient ICT facilities in the school to access OER materials. Others are poor internet access, erratic power supply, inadequate/lack of ICT skills, difficulty in locating relevant OER materials, the problem of finding suitable resources, an overload of information on the internet and the institutions' library restricted access for student as they ranked 3rd, 4th, 5th, 6th, 7th, eighth and ninth respectively.

**Hypothesis**

**H01:** There is no significant relationship between OER Awareness and Usage among ODL students in South-western Nigeria

Table 4: Pearson Product Moment Correlation showing the relationship between OER Awareness and Usage among ODL students in South-western Nigeria

Variables	Mean	Std. Dev.	N	r	P =Value	Remark
OER Awareness	37.08	7.732				
OER Usage	45.93	7.180	523	.398**	.000	Sig

**Discussion**

The study revealed that open and distance learning students in south-western Nigeria have an average level of OER awareness. This could be attributed to the fact that the term is just gaining popularity among scholars and students in Nigeria generally and what constitutes OER is not well understood by both faculty members and students as most universities in the country are just fashioning out a policy on OER creation and use. While most Open and distance learning students interact with different materials online or in the library freely to support their learning, their level of awareness of the material within the OER framework is on

the average. This finding lends credence to the submission made by Babson Survey Research Group (as cited in Mckenzie, 2017) that generally, OER awareness is still very low, but there is a steady increase in the level of OER awareness as people are choosing open educational resources over textbooks. It was further stated that OER is new, and any invention is bound to face a difficult battle as change does not occur overnight. It was, therefore, suggested that to help users to find and evaluate OER content, librarians have a significant role to play. The result of this study, thus further confirms the earlier work of Kumar and Raja (2019) who found in their study that OER awareness level among higher education students is moderate.

For the level of OER usage among open and distance learning students in South-western Nigeria, the result of the study revealed that OER usage among students is high. The students stated that using open educational resources makes their learning interesting; gets them more engaged and directly improves the quality of their learning experience. They indicated that OER is used in doing their assignments, and highly used to complement what they learn in class. Generally, they attested to the fact that OER enable them to learn at their own pace and convenience. It also helps them prepare for classes, and mainly serves as supplementary materials to their course modules. They rated open educational resources having equal or higher relevance due to its free and easily accessible nature. This finding is evident from the opportunity OER afford learners with regards to access to a wide array of learning materials that can be used to complement course modules given to them at no extra cost, most especially distance learners who hardly have direct interaction with lecturers and are confined to course modules given to them. This lends credence to the recognised value of OER as providing an opportunity for self-tailored learning, improved learning experience and proper use of resources which promote even-handedness in learning as learners can learn anytime and anywhere using any technological device. OER expose students to different educational resources that are in line with their learning style, thus helping them become active participants in the educational process through collaboration in virtual learning communities and more importantly, OER reduces the cost of accessing learning materials which makes its usage very high (Kurelovic, 2015).

On the challenges open and distance learning students face using OER, the result of the study showed that lack of orientation on the availability and use of OER to support learning and insufficient ICT facilities in the school to access OER materials ranked first and 2nd as significant challenges ODL student face using OER. Other challenges identified include poor internet access, erratic power supply, and lack of ICT skills to search for needed OER materials amongst others. This result corroborates the findings of Akomolafe et al. (2014), who in their study titled "utilisation of open educational resources and quality assurance in universities in Nigeria" found out that ignorance of OER online facilities, poor internet network, erratic electricity and unfamiliarity with OER websites are significant challenges of using OER among undergraduate students in South-western Nigeria. Also, Gambo and Aliyu (2017) reported in their study that delay in internet connectivity, power outage and difficulties in locating relevant

materials in browsing OER are challenges students in colleges of education in Nigeria face using OER. Similarly, Mwinyimbegu (2018) found out that lack of awareness on OER existence, lack of policy guiding OER use, inadequate bandwidth and the fact that lecturers do not recommend OER are the major challenges hindering OER promotion and usage among Tanzanian librarians.

On the relationship between OER awareness and usage among ODL students in South-western Nigeria, the result of the study indicated that there is an existence of a significant positive relationship between OER awareness and usage among ODL students. The implication of this is that as the level of OER awareness increases, likewise, the level of OER usage will increase among the open and distance learning students. It, therefore, means that the higher the level of knowledge and understanding of OER, the higher the chances of Distance learning students' use of OER.

### **Conclusion**

This study has tried to fill the research gap on the OER awareness and usage among open and distance learning students in South-western Nigeria. The results of the study revealed that OER awareness among ODL students is at an average level, but OER usage is somewhat high. The results further showed that lack of orientation on the availability and use of OER to support learning and insufficient ICT facilities in the school to access OER materials amongst others are the challenges ODL students face using OER. It was further established in the study that there exists a significant relationship between OER awareness and usage among the students. Conclusively, OER presents an ample opportunity for distance learning students to have access to different materials made available by different experts across the world to complement their course modules but the higher their level of OER awareness, the higher the level of OER usage.

Based on the results of the study, the following recommendations were made;

1. There should be conscious efforts by ODL institutions to device means to increase the level of OER awareness among students and sensitise them on the inherent benefits in OER usage.
2. Adequate orientation on OER availability in the institutions and ways to access them should be given to open and distance learning students, so as to increase their level of understanding about it.
3. Required ICT facilities for easy access to OER materials, including reliable internet, should be provided by ODL institutions to increase the level of OER usage among the students.
4. Further studies on OER awareness and usage in Nigeria should endeavour to have more sample size across the geopolitical zones for better generalisation for the country.

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