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Students' Expectations in Mastering Learning Competencies in A Digital Environment

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ABSTRACT

This study is primarily focused on the BS Criminology students' expectations in mastering learning competencies in a digital environment. This study utilized the descriptive method of research and the primary data was gathered through self-constructed questionnaires in Google form and informal interview. The respondents of the study were the BS Criminology students which were divided into 3 different year levels; 2nd year, 3rd year and 4th year levels with a total population of 230. The researchers chose them as the respondents believing that they had the idea on what digital environment is and they were the most appropriate person to answer the questions regarding the subject matter. The respondents of the study were chosen using stratified random sampling. The data used in this study were based on the prepared self-constructed questionnaire. Statistical tool used were frequency percentage, weighted mean, independent T-test, and one-way analysis of variance (ANOVA).

Based on the given findings most of the respondents were female. Majority of them were second year BS Criminology students. With family income of Php20,000-Php30,000 under socio-economic status. In terms of parents or guardian's highest educational attainment both father and mother were high school graduates. Further, majority of the respondents belong to the nuclear family. With cell phones as the most frequently used learning devices. Majority of the respondents agreed on the items regarding their expectations in mastering learning competencies in a digital environment in terms of students' preparedness, effectiveness of e-learning, suitability of devices used, interactive class sessions, teacher preparation, employed strategies of students, provided online study materials, and learning activities. There is a significant difference in the respondents' expectations in mastering learning competencies in a digital environment in terms of parent or guardian's highest educational attainment. There is no significant difference on the respondents' expectations in mastering learning competencies in a digital environment in terms of students' preparedness, effectiveness of e-learning, suitability of devices used, interactive class sessions, teacher preparation, employed strategies of students, provided online study materials, and learning activities when grouped according to their profile variables as to sex, year level, socio-economic status, parent or guardian's highest educational attainment in relation to father and mother, type of family and learning devices most frequently used.

Keywords: learning competencies, digital learning environment, criminology students



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1. INTRODUCTION

The culture of a student's life inside the university demonstrates a vast condition in which it is expected that the learners communicate and apply the mission, vision and goal of the school. Hence, it is expected for students to be prepared in the mastery of learning competencies in different courses that particularly points to specific knowledge needed to fulfill for a better outcome. These competencies are aspirational for the students' development since this refers to the mastery of establishing the knowledge, attitudes, values, skills and behaviour. These will also contribute to students' social engagement, integrative learning, self-efficiency, academic management and likewise value-based leadership.

This study determines what learning competencies are and its relation to the digital environment. This likewise in-depth the mastery of acknowledging the presence of knowing these competencies applying it to the virtual place which is the face of new normal. In addition to this, this study is serve as the navigation for the students to make them productive learners in using the digital environment aligned with their expected learning proficiency. Finally, this study is conducted to be beneficial to the lecturers, program, university and of course to the students.

More so, this study was pursued for the researchers to generate information that can serve as basis in formulating better means of mastering learning competencies in the digital environment. It is hoped that through this study, the teacher is empowered to devise a program or activities for students to meet their expectations in mastering learning competencies in the digital environment. In addition to this, this study serves as navigation for students to make them productive in using the digital environment.

2. OBJECTIVES

The study aims to determine the expectations of students in mastering learning competencies in the digital environment. Specifically, this aims to identify the profile of the respondents in terms of sex, year level, socio-economic status, parent/guardian highest educational attainment, type of family, and learning device most frequently used. Moreover, the respondents' expectations in mastering competencies in a digital environment be described in relation to students' preparedness, effectiveness of e-learning, suitability of devices used, interactive class sessions, teacher preparation, employed strategies of students, provide online study materials and learning activities. Lastly, the activity may be proposed to BS Criminology students to improve learning competencies in the digital environment.

METHODOLOGY

Research Design

The main purpose of this study is to determine the students' expectations in mastering learning competencies in the digital environment. To attain this purpose, the descriptive method of research is used.

As defined by Sevilla (2011), the descriptive method is designed for the investigator to gather information about present existing conditions. A design that provides a picture of a situation as it naturally happens. It may be used to justify current study, make judgement and develop theories (Burns and Groove, 2003).



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The main data gathering instrument was the questionnaire. It purports to present facts concerning the expectation in mastering learning competencies of BS Criminology students in a digital environment. This method is considered as the most appropriate because, according to Mc Combes (2020) it can answer what, where, when, and how questions, but not why questions. A descriptive research design can use a wide variety of research methods to investigate one or more variables.

Respondents of the Study

The respondents of this study are the 2nd Year to 4th Year BS Criminology of Batangas State University Main Campus I enrolled in the School Year 2021-2022. The study determined the profile variables of the respondents in terms of sex, year level, socio-economic status, parent or guardian educational attainment, type of family, and learning device most frequently used. The respondent chosen as they had the idea on what digital environment is and they are the most appropriate person to answer the questions regarding the subject matter. The respondent of the study were chosen using stratified random sampling. There are 93 selected students from 2nd Year, 79 from 3rd Year, and 58 from 4th Year with a total number of 230 respondents.

Data Gathering Instrument

In connection with the descriptive method, the researchers used a self-constructed questionnaire as the major tool in gathering the necessary data.

Self-Constructed Questionnaire. This was used to gather data on the students' expectation in mastering learning competencies in the digital environment. The questionnaire is composed of two (2) parts. The initial part of the questionnaire has items which determine the profile variables of the respondents in terms of their sex, year level, social economic status, parent/guardian highest educational attainment, type of family and learning device most frequently used. The second part of the instrument contains items about the expectations in mastering competencies in a digital environment described in relation to: students' preparedness, effectiveness of e- learning, suitability of devices used, interactive class sessions, teacher preparation, employed strategies of students, provided online study material, and learning activities.

The following scale presented below are used to obtain the objectives of the study. The four-point scale is used where four (4) is considered as the highest and one (1) as the lowest. The appropriate range, together with the corresponding verbal interpretations are taken into consideration to interpret the data obtained.

Scale	Range	Verbal Interpretation
4	3.5-4.0	Strongly Agree
3	2.5-3.49	Agree
2	1.5-2.49	Disagree
1	1.0-1.49	Strongly Disagree

Data Gathering Procedures



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To obtain essential data for the study, different libraries were visited like Batangas State University Pablo Borbon Main I library to browse some books, journals, and other related studies. Foreign and local reference materials were also browsed and considered.

The internet was also used in gathering information related to the topic of the study. First-hand information and secondary data are searched in varied sources.

In constructing the data gathering instrument of the study, the researchers initially conduct a preliminary survey, which is followed by browsing of various reference materials and online sources to collect data that may serve as the contents of the researcher-made instrument. These relevant data are presented to the research instructor and research adviser for them to be guided in constructing the initial draft of the questionnaire. Upon the accomplishment of the first draft of the instrument, it was presented once again to their research instructor and research adviser for comments and suggestions. After incorporating all the suggestions provided to them, the researchers seek the advice of their research adviser to subject the instrument into content validation from a group of experts from the BS Criminology Program chosen by their research instructor.

With the approval of the research instructor and research adviser, the data gathering instrument was subjected to content validation from a panel of experts. These experts provided significant comments and suggestions that further enhance the contents of the instrument. After satisfying the recommendations of the experts, their approvals were sought, and the instrument was subjected to a dry run to test its reliability. In this process, the researchers chose Twenty (20) students from Second Year to Fourth Year of BS Criminology from BatState-U Pablo Borbon as respondents for the dry-run. The data obtained were tallied and submitted to the statistician for reliability test. The result found a 0.94840 reliability coefficient indicating that the instrument was clear, and comprehensive, to be used in the actual gathering of data for the study. This also means that the said instrument is accepted for administration to the actual respondents.

In the administration of the self-constructed questionnaire, the researchers initially asked permission, through a formal letter, from the Dean of the College of Arts and Sciences (CAS). The formal request of the researchers was granted. The distributed the questionnaires to their chosen respondents. The researchers provide assistance to the respondent in answering the prepared data gathering instrument. The researchers also made use of the Likert type of scaling with verbal interpretations of Strongly Agree, Agree, Disagree, and Strongly Disagree. The questionnaire went through a series of validation processes from the study's statistician, panelists and the research adviser. After validation the researchers conducted the actual data gathering process.

In the administration of the validated data gathering instrument, the researchers personally distributed the questionnaires to the respondents. They explain beforehand the purposes and objectives of their study. The directions to effectively answer the instrument were emphasized and the respondents were assured that they were guided thoroughly to successfully accomplish the received questionnaire. They were informed that all of their responses were treated with utmost confidentiality, and such were for academic purposes only.

It took the respondents approximately 10-20 minutes to answer the questionnaires. The researchers tried to explain the questionnaire to the respondents who were unable to understand some of the items. Then, the questionnaires were retrieved and tallied. The researchers gave the consolidation of the survey



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to the statistician for the interpretation of the result. Finally, the results were tabulated, treated statistically, interpreted and the findings and conclusion were drawn.

Statistical Treatment of the Data

The responses of the respondents were treated with the use of the following statistical tools:

Frequency Percentage. This was used in order to present the percentage distributions of the respondents in relation to their demographic profile of the respondents with respect to sex, year level, socio-economic status, parent/guardian highest educational attainment, type of family and learning device most frequently used.

Weighted Mean. This was utilized to determine the typical respondents chosen from a four-point scale, particularly the respondents' expectations in mastering competencies in a digital environment.

Independent t-Test. This was used to determine the significant difference in the respondents' expectations in mastering learning competencies when grouped according to their sex.

One-way Analysis of Variance (ANOVA). This was used to determine the significant difference in the respondents' expectations in mastering learning competencies when grouped according to their sex, year level, socio-economic status, parent/guardian highest educational attainment, type of family and learning device most frequently used.

RESULT AND DISCUSSION

1. Profile of the Respondents

- **1.1 Sex.** Majority of the respondents were females with the frequency of 151 or 65.7 percent while 79 or 34.3 percent are males.
- **1.2 Year level.** There were 40.4 or 93 of the respondents are 2^{nd} year students followed by 3^{rd} year students with 34.3 percent or 79 respondents. It is followed by 4^{th} year student with the percentage of 25.2 with the total of 58 respondents.
- **1.3 Socio-economic status.** There were 89.6 percent or 206 of the respondents had the family income of Php20,000-Php30,000; 6.1 percent or 14 of the respondents earned Php30,000-Php40,000. Then 2.6 percent or 6 of the respondents earned Php50,000 and above. 1.7 percent or 4 of them earned Php40,000-Php50,000. Lastly, none of the respondents answered Php10,000-Php20,000 and Php10,000 and below as their family income.
- **1.4 Parent/guardian highest educational attainment.** There were 31.7 percent or 73 of the fathers of the respondents were high school graduate. The next in rank are 17.4 percent or 40 and they were high school level and college level. Then 13.5 percent or 31 of the fathers are college graduate. It is followed by elementary level which constituted 11.7 percent or 27. Next in rank is elementary graduate which constituted the remaining 6.5 percent or 15 fathers of the respondents. Last in rank is were 1.7 percent of the respondents are taking vocational courses.

On the other hand, there were 88 or 38.3 percent of the mother of the respondents were high school graduate. The next in rank is 39 or 17.0 percent were college graduate. Then 36 or 15.7 percent of the



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mother of the respondents is high school level. It is followed by college level which constituted 32 or 13.9 percent. Next in rank is elementary level which constituted the remaining 17 or 7.4. Then it is followed by elementary graduates which has 15 or 6.5 percent. Last in rank is the vocational were respondents comprised 3 or 1.3 percent.

There were 75 0r 32.6 percent answers N/A. The second to the highest in rank were 57 or 24.8 percent of their guardians are high school graduates. Then followed by college graduates which constituted 36 or 15.7 percent. Next is the high school level with 21 or 9.1 percent. Then college level which constituted 18 or 7.8 percent. It can be gleaned in the table that elementary graduates have 7 or 3.0 percent. The least in rank is the vocational comprising of 4 or 1.7 percent.

- **1.5 Type of family.** There were 148 or 77.4 percent respondents belonging to the nuclear family. The next is 32 or 13.9 percent which constituted the extended family. It is followed by 18 or 7.9 percent which belong to the conjugal family. Last is 2 or .9 percent are in a matrifocal family.
- **1.6 Learning device most frequently used.** There were 206 or 89.6 percent who answered that the cell phone as a learning device most frequently used. Then 22 or 9.6 percent constituted a laptop. It is followed by 2 or .9 percent of the respondents using a desktop. Lastly, none of respondents considered tablet as a learning device most frequently used.

2. Descriptions of Expectations of BS Criminology Students in Mastering Competencies in a Digital Environment

- **2.1 Students' preparedness.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to students' preparedness verbally agree, with a composite mean of 3.12. The weighted mean of 3.24 is under the statement "I can encounter challenges in remembering previous lessons" and received the highest point.
- **2.2 Effectiveness of e-learning.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to effectiveness of e-learning verbally agree, with a composite mean of 3.19. Garnering the highest point of 3.43 student agreed under the statement "I can use google classroom, google meet, calendar, google drive, etc. in accessing unlimited materials needed to prepare for course requirements and received the highest point.
- **2.3 Suitability of devices used.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to suitability of devices used verbally agree, with a composite mean of 3.30. Likewise, it is noticeable that item no. 1 got the highest weighted mean with 3.41 in which they think that it is more appropriate to use a laptop computer during google meet sessions and in accomplishing major activities and tasks.
- **2.4 Interactive class sessions.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to interactive class sessions verbally agree, with a composite mean of 3.26. The highest weighted mean of 3.37 which respondent teachers allows suggestions and let them express their insights to the lessons.
- **2.5 Teacher preparation.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to teacher preparation verbally agree, with a composite mean of 3.33. The weighted mean of 3.40 is under the statement "Provide more upload instructional material" and received the highest point.



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- **2.6 Employed strategies of students.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to employed strategies of students verbally agree, with a composite mean of 3.18. Most of the respondents can apply the skills that learn from the lessons in real life situations with 3.27 weighted mean and agreeable.
- **2.7 Provided online study materials.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to provided online study materials verbally agree, with a composite mean of 3.32. Specifically, more options of platforms to use (e-mail, google classroom, google drive, etc.) pertain to the highest mean with 3.40 and verbally interpreted as agree.
- **2.8 Learning activities.** The respondents on the items with regards to their expectation in mastering competencies in a digital environment in relation to learning activities verbally agree, with a composite mean of 3.31. The highest weighted mean is item no. 3 which garnered 3.39 that indicates google drive folders are easy platform where one can attach files and create documents.

3. Difference on the Respondents' Expectations in Mastering Learning Competencies when Grouped According to Profile Variables.

- **3.1 Difference as to sex.** The finding presents the probability value (p-value) yields from each respondents' learning competencies such as student preparedness (0.654), effectiveness of e-learning (0.214), suitability of device used (0.684), interactive class sessions (0.839), teacher preparation (0.369), employed strategies of students (0.217), provided online study materials (0.989) and learning activities (0.431) was found higher than 0.05 level of significance. Based on the result, the listed learning competencies have a verbal interpretation of not significant in terms of identifying the significant difference between the sex of the respondents and their expectation in a digital environment. The above results imply that there is no significant difference between male and female respondents in their learning competencies.
- 3.2 Difference as to year level. As shown in results, only one null hypothesis should be accepted namely: provided online study materials (0.041) as their probability value (p-value) gained higher than the 0.05 level of significance. On the other hand, the remaining listed learning competencies accumulated a lower level of p-value thus, null hypothesis were rejected in the following: students' preparedness (0.223), effectiveness of e-learning (0.244), suitability of device used (0.823), interactive class session (0.998), teacher preparation (0.104), employed strategies of students (0.272), and learning activities (0.060). This only implied that there is a significant difference in how the respondents rated their learning competencies when they are put into groups based on their year level. The findings presented above suggest that there is a significant relationship between the students' year level and the provided online study materials.
- **3.3 Difference as to socio-economic status**. As presented in the results, no significant differences were found in the learning competencies of the respondents to their socio-economic status as the following probability value (p-value) from each learning competencies of the students shows a higher value than the 0.05 level of significance. The respective points gathered for each learning competencies were: students' preparedness (0.212), effectiveness of e-learning (0.601), suitability of device used (0.964), interactive class session (0.304), teacher preparation (0.475), employed strategies of students (0.608), provided online



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study materials (0.138) and learning activities (0.200). The above results imply that no significant differences were associated with the socio-economic status and learning competencies.

3.4 Difference as to parent/guardian highest educational attainment (father). As shown in the results, no significant differences were found in the learning competencies of the respondents to their parent/guardian highest educational attainment in terms of father as the following probability value (p-value) from each learning competencies of the students shows a higher value than the 0.05 level of significance. The respective points gathered for each learning competencies were: students' preparedness (0.702), effectiveness of e-learning (0.417), suitability of device used (0.901), interactive class session (0.156), teacher preparation (0.505), employed strategies of students (0.125), provided online study materials (0.337) and learning activities (0.110). The above results imply that no significant difference has been seen between the profile of the respondents in terms of their parent/guardian highest educational attainment in terms of father and learning competencies.

As presented in the results, no significant differences were found in the learning competencies of the respondents to their parent/guardian highest educational attainment in terms of mother as the following probability value (p-value) from each learning competencies of the students shows a higher value than the 0.05 level of significance. The respective points gathered for each learning competencies were: students' preparedness (0.083), effectiveness of e-learning (0.510), suitability of device used (0.681), interactive class session (0.247), teacher preparation (0.309), employed strategies of students (0.549), provided online study materials (0.666) and learning activities (0.597). The above results imply that no significant difference has been seen between the profile of the respondents in terms of their parent/guardian highest educational attainment in terms of mother and learning competencies. The above results imply that no significant difference has been seen between the profile of the respondents in terms of their parent/guardian highest educational attainment in terms of mother and learning competencies.

As shown in results, six null hypotheses should be accepted namely: student preparedness (0.034), suitability of device used (0.038), interactive class sessions (0.012), teacher preparation (0.047), employed strategies of students (0.039), and provided online study materials (0.028) as their probability value (p-value) gained higher than the 0.05 level of significance. On the other hand, the remaining listed learning competencies accumulated a lower level of p-value thus, null hypothesis were rejected in the following: effectiveness of e-learning (0.527) and learning activities (0.265). The findings presented above suggest that there is a significant relationship between the parent/guardian highest educational attainment in terms of guardian and the students' preparedness, suitability of device used, interactive class sessions, teacher preparation, employed strategies of students, and provided online study material.

3.5 Difference as to type of family. As presented in the results, no significant differences were found in the digital skills of the respondents to their type of community as the following probability value (p-value) from each digital skill of the students shows a higher value than the 0.05 level of significance. The respective points gathered for each learning competencies were: students' preparedness (0.606), effectiveness of e-learning (0.937), suitability of device used (0.340), interactive class session (0.509), teacher preparation (0.618), employed strategies of students (0.318), provided online study materials (0.889) and learning activities (0.768). The above results imply that no significant differences were associated with the type of family and learning competencies.

3.6 Difference as to learning device most frequently used. As shown in the results, no significant differences were found in the digital skills of the respondents to their type of community as the following probability value (p-value) from each digital skill of the students shows a higher value than the 0.05 level



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of significance. The respective points gathered for each learning competencies were: students' preparedness (0.272), effectiveness of e-learning (0.139), suitability of device used (0.353), interactive class session (0.204), teacher preparation (0.801), employed strategies of students (0.369), provided online study materials (0.558) and learning activities (0.568). The above results imply that no significant differences were associated with the learning device most frequently used and learning competencies.

4. Proposed Activity of BS Criminology Students to Improve Learning Competencies in the Digital Environment.

The researchers proposed activity in the form of a webinar to enrich the understanding of criminology students in mastering learning competencies in the digital environment. It is expected that through the webinar the students will further enhance and improve their learning competencies in the digital environment.

Conclusions

Based on the given findings, the following conclusions are drawn.

- 1. Most of the respondents were females, majority of them are 2nd year BS Criminology students having a family income of Php20,000-Php30,000 under socio-economic status, highest educational attainment of respondents' father and mother are high school graduate, while in guardian is N/A, nuclear family and cell phone is the mostly frequently used device
- 2. Most of the BS Criminology students agreed on the expectations in mastering learning competencies in the digital environment in students' preparedness, effectiveness of e-learning, suitability of device used, interactive class sessions, teacher preparation, employed strategies of students, provided online study materials, and learning activities.
- 3. There is significant difference on the respondent's expectations in mastering learning competencies in the digital environment when grouped according to guardian highest educational attainment.
- 4. Researcher proposed a webinar as the activity to enrich the understanding of BS Criminology students in mastering learning competencies in the digital environment.

Recommendations

The following recommendations are based on the findings and conclusions generated from the study:

- 1. Proposed activity must be used to enrich the understanding of BS Criminology students in mastering learning competencies through digital environment.
- 2. The BS Criminology students should be given attention to catch up with others in mastering their learning competencies in the digital environment.
- 3. Devise a program that will help the BS Criminology student to enhance their learning competencies in the digital environment.



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- 4. Accomplishment of the proposed variety of action plans is recommended to directly benefit the respondents, teachers and the program including improving the learning competencies in the digital environment.
 - 5. Similar research may be conducted to verify and expand the results of this study.

REFERENCES

A. JOURNALS

- 1. Astuti M., et al., (2021). Competency of Digital Technology: The Maturity Levels of Teachers and Students in Vocational Education in Indonesia. Journal of Education Technology. Retrieved from: https://ejournal.undiksha.ac.id/index.php/JET/article/view/35108?fbclid=IwAR0NBX_jm_TGAIki3i YNIIEUP63X7GlzKSJS 5mgecC233zJfiuefmHEMoY
- 2. Cabero, J., & Palacios, A. (2020). Marco Europeo de Competencia Digital Docente. Retrieved from: https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-021-00312-8
- 3. Casanova et al., (2022). Expectations, Experiences, and Satisfaction of the Graduate Students with Distance Online Learning Environment in OMSC Graduate School during the COVID-19 Pandemic. Journal of Practical Studies in Education, v3 n1 p14-22 2022. Retrieved from: https://eric.ed.gov/?q=study%20about%20students%20expectation%20in%20masterning%20learning%20competencies%20in%20the%20digital%20environment%20in%20the%20philippines&id=EJ1 330169&fbclid=IwAR2kXVLoojXXcHWl7zF1VWhh5sU29_qH1P6u1dWlz0El1kdndqeHAzmmzr
- 4. Duc Hoa Pho et al., (2021). The use of learning station method according to competency development for elementary students in Vietnam. Retrieved from: https://www.tandfonline.com/doi/full/10.1080/2331186X.2020.1870799
- 5. Finger, G. (2015). Creativity, visualization, collaboration and communication. In M. Henderson & G. Romeo (Eds.), Teaching and digital technologies: Big issues and critical questions (pp. 89–103). Cambridge University Press. Retrieved from: https://link.springer.com/article/10.1007/s11423-021-09967-6
- 6. Ganal N., & Guiab, M., (2015). Problems and Difficulties Encountered by Students towards Mastering Learning Competencies in Mathematics. Journal of Arts and Science of Commerce. Retrieved from:
 - https://www.academia.edu/16269152/PROBLEMS_AND_DIFFICULTIES_ENCOUNTERED_BY _STUDENTS_TOWARDS_MASTERING_LEARNING_COMPETENCIES_IN_MATHEMATICS ?fbclid=IwAR2z5HJFmwbA3AOI0H26tm1wT0VDmtTjDprD7Mvs27A8RhkbP0LuFvZJvUo
- 7. Goldhamer, M., et al., (2020). Can covid catalyze an educational transformation? competency-based advancement in a crisis. New England Journal of Medicine, 383(11), 1003-1005. Retrieved from: https://www.researchgate.net/publication/350713970_Competency_Based-Learning_and_Quality_Education_in_the_New_Normal_Modality_of_Teaching
- 8. Heidari E. et al., (2021). The role of digital informal learning in the relationship between students' digital competence and academic engagement during the COVID-19 pandemic. Journal of computer assisted learning. Retrieved from: https://onlinelibrary.wiley.com/doi/full/10.1111/jcal.12553
- 9. Hye Jeong Kim et al., (2019). The roles of academic engagement and digital readiness in students' achievements in university e-learning environments. International Journal of Educational



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Technology in Higher Education. Retrieved from:https://educationaltechnologyjournal.springeropen.com/articles/10.1186/s41239-019-0152 3?fbclid=IwAR1tTSQXGQhBSXngCn3mxOzwRAsTYspeXqF10KFZOGoy28WhjLvUH5t9t-I

- 10. Kasiyah et al., (2018). Assessing students' e-learning competencies in online learning environment. 2017 International Conference on Advanced Computer Science and Information Systems (ICACSIS). Retrieved from: https://ieeexplore.ieee.org/document/8355079?fbclid=IwAR0eeuhymX57u98Kx4S0Z-ep8Lg0cIfCy1PbFYbaZA0tJQgiGitk8eNDAQc
- 11. Kim Anh & Yen Phoung, (2018). Teaching with developing learners' competencies orientation and problems in managing the process of teaching literature in Vietnam. Retrieved from: http://pubs.sciepub.com/education/6/7/5/index.html
- 12. King M., (2018). How the Digital Age is Affecting Students. Retrieved from: https://www.edutopia.org/article/how-digital-age-affecting-students/
- 13. Konopelko D., (2021). 3 Ways to set students up for success in the Digital Age. Retrieved from:https://edtechmagazine.com/k12/article/2021/03/3-ways-set-students-success-digital-age
- 14. Lapitan Jr. L. et al., (2021). An effective blended online teaching and learning strategy during the COVID-19 pandemic. Published online 2021 Jan 30. doi: 10.1016/j.ece.2021.01.012.Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7847201/?fbclid=IwAR3Y0niWm5Rh5csIJeCVGz h0Y4ulOweROuuI7FYbeYppfK7mhc-_hxNIAic
- 15. Letina, A., (2020). Development of Students' Learning to Learn Competence in Primary Science. Retrieved from: file:///C:/Users/Maria/Downloads/education-10-00325.pdf
- Lloria, S. et al., (2021). Effectiveness of a Collaborative Platform for the Mastery of Competencies in the Distance Learning Modality during COVID-19. Retrieved from: https://www.mdpi.com/2071-1050/13/11/5854
- 17. Magnano et al., (2020). The Effect of Non-Intellective Competencies and Academic Performance on School Satisfaction. Education Science. Retrieved from: https://files.eric.ed.gov/fulltext/EJ1272158.pdf
- 18. Martzoukou k. et al., (2020). A study of higher education students' self-perceived digital competences for learning and everyday life online participation. Journal of Documentation, Vol. 76 No. 6, pp. 1413-1458. Retrieved from: https://www.emerald.com/insight/content/doi/10.1108/JD-03-2020-0041/full/html?fbclid=IwAR0qRvPvo2VxcUDHzWYtQL2D0WXK30rWPi582DIcQmAfUW-ZBTL_oWl3dso
- 19. Panoy J. et al., (2022). Perceived Proficiency with Technology and Online Learning Expectations of Students in the Graduate Program of One State University in the Philippines. International Journal of Information and Education Technology 2022, 12(7) 615-624. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4123678&fbclid=IwAR1XP5N-5hVZnohus0WCAjiXGGGkl9_GXTTp46ftbkn7-ZyprPYi5MzOTLc
- 20. Syauqi et al., (2020). Students' Perceptions toward Vocational Education on Online Learning during the COVID-19 Pandemic. International Journal of Evaluation and Research in Education, v9 n4 p881-886 Dec 2020. Retrieved from: https://eric.ed.gov/?id=EJ1274581
- 21. Shonfeld M., et al., (2021). Learning in digital environments: a model for cross- cultural alignment. Retrieved from: https://link.springer.com/article/10.1007/s11423-021-09967-6



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B. ELECTRONICS SOURCES

- 1. Abouchacra, Z., (2021). Learning: Competencies, Objectives, or Outcome. Retrieved from: https://www.d2l.com/blog/learning-competencies-objectives-outcomes/
- 2. Alberta Education (2016). What are competencies. Retrieved from: https://education.alberta.ca/competencies/student-competencies/
- 3. Alberta Education (2016). Students Learning Through Competencies. Retrieved from: https://arpdcresources.ca/consortia/learning-through-competencies/
- Amerstorfer C. (2021). Student Perceptions of Academic Engagement and Student-Teacher Relationships in Problem-Based Learning. Retrieved from: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.713057/full
- 5. Ballot Pedia (2014). Learning Competencies. Retrieved from: https://ballotpedia.org/Learning_competencies?fbclid=IwAR0om-55V_TlXhTqYSTjwmhCTJGWjLNo7_tVgXybvyxLt7Q_sRi0KGA1mQE
- 6. Barnes et al., (2010). Academic Preparedness Reimagined. Retrieved from: https://medium.com/age-of-awareness/academic-preparedness-reimagined-1d1fe19e15a2#:~:text=Academic%20preparedness%2C%20or%20interchangeably%20referred,201 3%3B%20Conley%2C%202010).
- 7. Cena C. (2020). What is Technology. Retrieved from: https://study.com/academy/lesson/what-is-technology-definition-types.html
- 8. Common Sense Media, (2020). What is Communication. Retrieved from: https://www.commonsensemedia.org/articles/what-is communication#:~:text=Communication%20is%20the%20act%20of,writing%2C%20and%20listening%20or%20reading.
- 9. Chalk (2022). How to increase student engagement with technology. Retrieved from: https://www.chalk.com/resources/increasing-student-engagement-technology/
- 10. Chassiakos et al., (2020). Digital Environment. Retrieved from: https://www.sciencedirect.com/topics/psychology/digital-environment
- 11. Cruz A., (2021). How Education is Evolving in the Digital Age. Retrieved from: https://bukas.ph/blog/how-education-is-evolving-in-digital-age/
- 12. Dexway Communication (2020). 5 Reasons why online learning is more effective. Retrieved from: https://www.dexway.com/5-reasons-why-online-learning-is-more-effective/
- 13. Education Reform (2014). Competency-based learning.
- 14. Retrieved from: https://www.edglossary.org/competency-based learning/
- 15. Etraverse (2021). Role of Digital Learning in school and education system. Retrieved from: https://etraverse.com/blog/role-of-digital-learning-in-schools-and-education-system/
- 16. Frömming, U. U., Köhn, S., Fox, S., & Terry, M. (2017). Digital Environments and the Future of Ethnography: An Introduction. In U. U. Frömming, S. Köhn, S. Fox, & M. Terry (Eds.), Digital Environments: Ethnographic Perspectives Across Global Online and Offline Spaces (pp. 13–22). Transcript Verlag. http://www.jstor.org/stable/j.ctv1xxxxw.4
- 17. Gervais, J., (2016). Competency-based Education: https://onlinelibrary.wiley.com/doi/10.1002/cbe2.1011#:~:text=CBE%20is%20defined%20as%20an, required%20for%20the%20degree%20sought.



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- 18. Gillis, A. (2022). Digital Natives. Retrieved from: https://www.techtarget.com/whatis/definition/digital-native
- 19. Gonzales, C., (2020). DepEd: Guidelines for streamlined K to 12 curriculum now available online. Retrieved from: https://newsinfo.inquirer.net/1291914/deped-guidelines-for-streamlined-k-to-12-curriculum-now-available-online
- 20. Hurix, (2021). Top 6 Challenges in Implementing Competency-based curriculum. Retrieved from: https://www.hurix.com/challenges-in-implementing-competency-based-curriculum/
- 21. IGI Global (2023). What is Digital Devices. Retrieved from:https://www.igi-global.com/dictionary/digital-distractions-note-taking-and-student-learning/93764#:~:text=An%20electronic%20device%20that%20can,Flexibility%20in%20Remote%20Learning%20Environments
- 22. IGI Global (2023). What is Online Learning Resources. Retrieved from:https://www.igi-global.com/dictionary/online-learning-resources/21014#:~:text=Any%20resource%20available%20on%20the,links%20to%20other%20Web%20sites.
- 23. Indeed educational team (2022). What is preparation in Teaching and Why is it Important?. Retrieved from:https://www.indeed.com/career-advice/career-development/preparation-inteaching#:~:text=While%20preparation%20for%20teaching%20can,and%20competency%20as%20a%20teacher.
- 24. Loyola University in Chicago. Learning Competencies. Retrieved from: https://www.luc.edu/celts/resources/forcommunitypartners/learningcompetencies/
- 25. Llego, M.A., (2020). Most Essential Learning Competencies (MELCS) Guidelines. Retrieved from: https://www.teacherph.com/melcs-guidelines/
- 26. McClure, Nancy (2022). Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course. Retrieved from: https://www.ideaedu.org/idea-notes-on-learning/developing-specific-skills-competencies-and-points-of-view-needed-by-professionals-in-the-field-most-closely-related-to-this-course/
- 27. New Learning Online (2023). Learning Activity. Retrieved from:https://newlearningonline.com/learning-by-design/glossary/learning-activity#:~:text=Learning%20activities%2C%20as%20the%20name,create%20the%20conditions%2 Ofor%20learning.
- 28. Schumaker & Deshler (1992). What is a Learning Strategy?. Retrieved from:https://cambriancollege.ca/glenn-crombie-centre/learning-strategy/
- 29. The Manthan School (2021). What is An Interactive Classroom?- The Manthan School Greater Noida West. Retrieved from: https://www.themanthanschool.co.in/blog/what-is-an-interactive-classroom/#:~:text=An%20interactive%20classroom%20is%20an,to%20traditional%20rote%20lear ning%20methods.
- 30. True Education (2020). What is E-learning. Retrieved from: https://www.trueeducationpartnerships.com/schools/what-is-e-learning/
- 31. University of Tasmania (2022). Example of learning activities. Retrieved from: https://www.teaching-learning.utas.edu.au/learning-activities-and-delivery-modes/planning-learning-activities/examples-of-learning-activities



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- 32. Western Governors University (2020). 5 Things teachers can do to improve online teaching. Retrieved from: https://www.wgu.edu/blog/5-things-teachers-improve-online-teaching2008.html
- 33. Wikipedia (2020). Digital Environment. Retrieved from: https://en.wikipedia.org/wiki/Digital_environments?fbclid=IwAR0oYA2NlhSeYFzyBGCaMFN5i3u NZnyyC7Jf3cz3sBdawC1XH4YPnG00-

 $R0\#: \sim : text = A\%~20 digital\%~20 environment\%~20 is\%~20 an, implemented\%~20 for\%~20 a\%~20 global\%~20 community$

C. DOCUMENT

Republic Act. No. 6506 "An Act Creating the Board of Examiners for Criminologist in the Philippines and for other Purposes"

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