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## **Digital Divide, Digital Equity, and Online Learning Engagement Among Selected College Students in Pamantasan ng Cabuyao**

**Shienna Marie L. Caparas, Antonio R. Yango**

Graduate School, University of Perpetual Help System Laguna

[shiennacaparas@gmail.com](mailto:shiennacaparas@gmail.com), [yango.antonio@uphsl.edu.ph](mailto:yango.antonio@uphsl.edu.ph)

**Abstract.** Hybrid-flexible learning, also known as HyFlex, is an instructional approach that combines flexible course structure and hybrid learning. This allows students the option to attend class sessions in person or online. The purpose of this study was to assess the Digital Divide, Digital Equity, and Online Learning Engagement Among Selected College Students in Pamantasan ng Cabuyao. This attempted to measure the respondents' level of the digital divide, digital equity, and online learning engagement, and test their significant relationship. The findings showed that the respondents' level of the digital divide is very high, the level of digital equity is high and the level of online learning engagement is also high. Hypothesis testing revealed that the level of the digital divide and digital equity are the drivers of online learning engagement. This study is regarded as a helpful resource in bridging the digital divide and promoting digital equity and online learning engagement.

**Keywords.** Hybrid Flexible, Digital Divide, Digital Equity, Online Learning Engagement, Digital Inclusion, Local University, Higher Educational Institution

### **Introduction**

Hybrid flexible learning provides more equitable access for the diverse students. This increased student engagement, improved student outcomes, and more equitable access for all students regardless of their location or abilities. However, there are also instructor considerations when it comes to teaching HyFlex classes. Higher education institutions can be of great help in this regard (Benefits and Challenges – HYFLEX CUNY, 2022).

The digital divide is the gap between demographics and regions that have access to modern ICTs, such as smartphones, tablets, laptops, and the Internet and those that don't or have restricted access (Hanna, 2022). This also creates a disparity in opportunities for education, employment, healthcare, and civic engagement (Schweitzer, 2023).

The National Digital Inclusion Alliance (NDIA) defines digital equity as a condition where everyone has equal access to technology regardless of their race or ethnicity, income level, disability status, age, or geographic location.

Mayer (2020) stated that engagement techniques may be key to making online learning productive for institutions and ensuring that students succeed. Fully asynchronous learning is one format that offers different challenges and opportunities for technological ease, time

management, community, and pacing. However, inappropriately designed online courses and delivery can negatively impact online student engagement.

With the diverse rationale of learning hindrances, disruptions, and distractions, an instructor should be aware of the reality that student engagement impacts the increase or decrease of satisfaction (Bolliger, 2022).

Anita et al. (2020) stated that the pandemic has forced all schools to shift to online learning with no or little preparation in terms of internet access, teacher capacity, and student-parent readiness. All in all, the pandemic disruption has shed light on the widening digital divide.

However, despite the numerous studies investigated, no study yet had been conducted particularly in a local university in the City of Cabuyao, Laguna that investigated the digital divide, digital equity, and online learning engagement among selected college students in the aforementioned locale.

Thus, these studies piqued the researcher to assess the digital divide, digital equity, and online learning engagement among selected college students in Pamantasan ng Cabuyao. This study was conducted at Pamantasan ng Cabuyao in the province of Laguna. The respondents were selected from the aforementioned locale.

### **Methods**

The researcher utilized the descriptive-correlational method of research with the help of a survey questionnaire as the main source of data. Through this design, this study gave emphasis on the digital divide, digital equity, and online learning engagement among selected college students in Pamantasan ng Cabuyao. The statistical method was used to give credence and reliability to the study. This is one in which information is collected without changing the environment (i.e., nothing is manipulated). It is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation. The methods involved range from the survey which describes the status quo, the correlation study which investigates the relationship between variables, to developmental studies which seek to determine changes over time (Yango et. al, 2019).

The researcher used empirical data and documentary data for the conduct of the study. Empirical data was acquired from the respondents of the study who are College Students in Pamantasan ng Cabuyao and who honestly answered the questionnaire provided in the study. The study aimed to determine the digital divide, digital equity, and online learning engagement among selected College Students in Pamantasan ng Cabuyao consisting of 7,279. The sample size was 95 college students in Pamantasan ng Cabuyao using the Raosoft sample size calculator with a 95% confidence level and a 10% margin of error. A simple random sampling technique was used in the study. The study was conducted during the Academic Year 2022-2023.

The research used a self-made questionnaire. The research questionnaire was composed of validated questionnaires, which attempted to determine the level of the digital divide, digital equity, and online learning engagement of Selected College Students in Pamantasan ng Cabuyao. The questionnaire was divided into 3 parts. The first part of the questionnaire consisted of statements about the level of the digital divide, part two dealt with the respondents' level of digital equity, and part three focused on the respondents' level of online learning engagement.

These were measured using a 4-point Likert Scale (Strongly Agree/Always-4, Agree/Often-3, Disagree/Rarely-2, Strongly Disagree/Never-1). It was encoded using the following scale: Very High (3.25-4.00), High (2.50-3.24), Low (1.75-2.49), and Very Low

(1.00-1.74). The researcher secured a letter of request asking permission from the concerned officials in Pamantasan ng Cabuyao to conduct the study. Upon the approval of the request, the questionnaires were administered by the researcher to the respondents of the survey following the safety protocols which are the use of face masks, as well as the enforcing social distancing to adhere to the health protocols set by the Inter-agency Task Force (IATF) related to the COVID - 19 pandemic through Google Forms. The researcher explained to the respondents the nature of their participation in the investigation and discussed the instructions to follow for easy and convenient ways of answering the survey forms. The respondents were assured that the information they provided to the researcher would be treated with confidentiality as part of the ethical considerations of the study. Individual consent of the respondent was obtained explaining to them that this investigation was simply an academic requirement and would be kept with utmost privacy. The accomplished questionnaires were collected right after they had been answered by the respondents and the gathered data were tallied, tabulated, analyzed, and interpreted.

The following statistical tools were used in this study: 1. Weighted mean was used to determine the level of the digital divide, digital equity, and online learning engagement among selected College Students in Pamantasan ng Cabuyao. 2. Pearson r was used to determine the significant relationship between the respondents' level of the digital divide and digital equity, the significant relationship between the respondents' level of the digital divide and online learning engagement, and the significant relationship between the respondents' level of digital equity and online learning engagement. 3. Stepwise Multiple regression analysis was used to establish the predictive ability of the assessment of each independent variable's statistical significance sequentially in a linear regression Model. Stepwise regression seeks to identify a group of independent variables that have a substantial impact on the dependent variable using a series of tests (such as the F-test and t-test).

### **Results and discussion**

Discussion of the college students' digital divide, digital equity, and online learning engagement are presented in the succeeding tables and textual presentations.

**Table 1 Composite Table of the Respondents' Level of the Digital Divide**

| <b>Indicators</b>            | <b>Weighted Mean</b> | <b>Verbal Interpretation</b> | <b>Rank</b> |
|------------------------------|----------------------|------------------------------|-------------|
| 1. Personal                  | 3.46                 | Very High                    | 2           |
| 2. Positional                | 3.56                 | Very High                    | 1           |
| 3. Motivation                | 3.35                 | Very High                    | 3           |
| <b>Overall Weighted Mean</b> | <b>3.46</b>          | <b>Very High</b>             |             |

Table 1 shows the composite table of the respondents' level of the digital divide. Indicator 2 "Positional" obtained a weighted mean of 3.56, verbally interpreted as "very high" and was ranked 1, indicator 1 "Personal" obtained a weighted mean of 3.46, verbally interpreted as "very high" and was ranked 2, and indicator 3 "motivation" obtained a weighted mean of 3.35, verbally interpreted as "very high" and was ranked 3.

To sum up, an average weighted mean of 3.46 revealed that the respondents' level of digital divide was very high. The result implies that digital tools and technologies as well as programs and services are in need to be designed and implemented in ways that are inclusive and accessible to these college students. The findings align with the International Telecommunication Union (ITU) in 2020 found that more than half of the world's population still lacked access to the Internet. This study provides evidence that the level of the digital divide is very high on a global scale, with significant disparities in access to and use of digital technologies based on factors such as geography, gender, age, and education.

**Table 2 Composite Table of the Respondents' Level of the Digital Equity**

| Indicators                   | Weighted Mean | Verbal Interpretation | Rank |
|------------------------------|---------------|-----------------------|------|
| 1. Access or participation   | 2.95          | High                  | 3    |
| 2. Support                   | 2.72          | High                  | 4    |
| 3. Lifelong learning         | 3.41          | Very High             | 1    |
| 4. Competencies              | 3.25          | Very High             | 2    |
| <b>Overall Weighted Mean</b> | <b>3.08</b>   | <b>High</b>           |      |

Table 2 shows the composite table of the respondents' level of digital equity. Indicator 3 "Lifelong learning" obtained a weighted mean of 3.41, verbally interpreted as "very high" and was ranked 1, indicator 4 "Competencies" obtained a weighted mean of 3.25, verbally interpreted as "very high" and was ranked 2, indicator 1 "Access or participation" obtained a weighted mean of 2.95, verbally interpreted as "high" and was ranked 3 and indicator 2 "support" obtained a weighted mean of 2.72, verbally interpreted as "high" and was ranked 4.

To sum up, an average weighted mean of 3.08 revealed that the respondents' level of digital equity was high. This implies that high levels of digital equity among college students can help ensure that all students have the opportunity to succeed in the digital age. By providing equal access to digital tools and resources, and supporting students in their digital learning journeys, colleges can help prepare students for success in the 21st-century economy.

The findings support the report of ADII (2019) which highlights the importance of social support in promoting digital inclusion and reducing digital inequalities. While formal programs and services can also play an important role in promoting digital equity, informal social support can be a valuable and accessible resource for individuals who may face barriers to digital inclusion. This is also supported by Ravi (2020) who states that Students with home internet have more time and flexibility compared with students without home internet access, who are dependent on a smartphone data plan, or who rely on other access points such as their school technology labs, libraries, or local businesses.

**Table 3 Composite Table of the Respondents' Level of the Online Learning Engagement**

| Indicators           | Weighted Mean | Verbal Interpretation | Rank |
|----------------------|---------------|-----------------------|------|
| 1. Rebellion         | 2.05          | Low                   | 5    |
| 2. Retreatism        | 2.57          | High                  | 4    |
| 3. Ritual compliance | 3.23          | High                  | 2    |

|                              |             |             |   |
|------------------------------|-------------|-------------|---|
| 4. Strategic compliance      | 3.61        | Very High   | 1 |
| 5. Engagement                | 3.17        | High        | 3 |
| <b>Overall Weighted Mean</b> | <b>2.93</b> | <b>High</b> |   |

Table 3 shows the composite table of the respondents' level of online learning engagement. Indicator 4 "Strategic compliance" obtained a weighted mean of 3.61, verbally interpreted as "very high" and was ranked 1, indicator 3 "Ritual compliance" obtained a weighted mean of 3.23, verbally interpreted as "high" and was ranked 2, indicator 5 "Engagement" obtained a weighted mean of 3.17, verbally interpreted as "high" and was ranked 3, indicator 2 "Retreatism" obtained a weighted mean of 2.57, verbally interpreted as "high" and was ranked 4, and indicator 1 "Rebellion" obtained a weighted mean of 2.05, verbally interpreted as "low" and was ranked 5.

To sum up, an average weighted mean of 2.93 revealed that the respondents' level of online learning engagement was high. This means that the selected college students are actively participating in the online learning process, which can lead to better academic performance and improved learning outcomes. It also indicates that they are motivated and interested in the course material, and are willing to put in the time and effort required to succeed. Additionally, high levels of online learning engagement can lead to the development of important skills such as self-directed learning, collaboration, and digital literacy, which are increasingly important in the 21st-century workforce.

The findings support the study of Liu, Gomez, and Yen in 2019. This study focused on exploring factors that influenced online learning engagement among graduate students in a teacher education program. The study found that online learning engagement was positively influenced by learner characteristics such as prior experience with online learning, self-regulation skills, and motivation. In addition, the study found that instructor characteristics such as communication skills, availability, and supportiveness were important predictors of online learning engagement.

**Table 4 Relationship between the Respondents' Level of Digital Divide and Digital Equity**

| Digital Divide | Digital Equity                               |   |  |  |
|----------------|--|---|--|--|
|                | Access or participation                      | Support                                 | Lifelong learning                            | Competencies                                 |
| Personal       | r=0.259**<br>Low correlation<br>p=0.000      | r=0.237**<br>Low correlation<br>p=0.008 | r=0.453**<br>Moderate correlation<br>p=0.000 | r=0.446**<br>Moderate correlation<br>p=0.000 |
| Positional     | r=0.253**<br>Low correlation<br>p=0.004      | r=0.178*<br>Low correlation<br>p=0.046  | r=0.458**<br>Moderate correlation<br>p=0.000 | r=0.352**<br>Low correlation<br>p=0.000      |
| Motivation     | r=0.489**<br>Moderate correlation<br>p=0.000 | r=0.292**<br>Low correlation<br>p=0.001 | r=0.483**<br>Moderate correlation<br>p=0.000 | r=0.452**<br>Moderate correlation<br>p=0.000 |

As table 4 shows the relationship between the respondents' level of digital divide and level of digital equity, the obtained p- values for personal and access or participation =0.000, personal and support =0.008, personal and lifelong learning =0.000, personal and competencies =0.000, positional and access or participation =0.004, positional and support =0.046, positional and lifelong learning =0.000, positional and competencies =0.000, motivation and access or participation =0.000, motivation and support =0.001, motivation and lifelong learning =0.000, motivation and competencies =0.000, were all less than the level of significance @ 0.01 and 0.05, therefore, a significant relationship was observed.

The findings revealed that the higher the respondents' level of the digital divide, the higher their level of digital equity. This happened due to the fact that Pamantasan ng Cabuyao offers varied intervention programs for students like load assistance, PC loans as well as a flexible learning schedule.

The findings support the study by Selwyn and Pangrazio (2018) found that there is a significant relationship between the digital divide and digital equity. The study showed that students from disadvantaged backgrounds were less likely to have access to digital technologies and were therefore less likely to be digitally literate.

Also, the digital equity impact of a laptop program for low-income students in higher education by C. Aragon, R. K. Lee, and L. Ranseen (2019) - this study examined the impact of a laptop program on the digital equity of low-income college students. The authors found that the laptop program improved students' access to technology and increased their digital skills, which helped reduce the digital divide among low-income students. Jones et al., 2018 had a systematic review of the digital equity interventions in higher education which found that interventions such as providing devices and internet access, offering training and support, and creating digital content were effective in promoting digital equity among college students.

**Table 5 Relationship between the Respondents' Level of Digital Divide and Online Learning Engagement**

| Digital Divide              | Online learning engagement                   |   |   |   |   |
|-----------------------------|--|---|---|---|---|
|                             | Rebellion                                    | Retreatism                                    | Ritual compliance                       | Strategic compliance                    | Engagement                              |
| Personal                    | r=0.130<br>Low correlation<br>p=0.147        | r=-0.017<br>Negligible correlation<br>p=0.850 | r=0.285**<br>Low correlation<br>p=0.001 | r=0.388**<br>Low correlation<br>p=0.000 | r=0.283**<br>Low correlation<br>p=0.000 |
| Positional                  | r=0.086<br>Negligible correlation<br>p=0.336 | r=0.153<br>Low correlation<br>p=0.087         | r=0.265**<br>Low correlation<br>p=0.003 | r=0.279**<br>Low correlation<br>p=0.002 | r=0.129<br>Low correlation<br>p=0.151   |
| Motivation                  | r=0.137<br>Low correlation<br>p=0.127        | r=0.093<br>Negligible correlation<br>p=0.300  | r=0.261**<br>Low correlation<br>p=0.003 | r=0.361**<br>Low correlation<br>p=0.000 | r=0.257**<br>Low correlation<br>p=0.004 |
| <b>**Significant @ 0.01</b> |  |   |   |   |   |

As table 5 shows the obtained probability value of the level of digital divide and level of online learning engagement in terms of the following subconstructs: for personal and rebellion =0.147, personal and retreatism =0.850, positional and rebellion =0.336, positional and retreatism =0.087, positional and engagement =0.151, motivation and rebellion =0.127, motivation and retreatism =0.300, were all greater than the level of significance @ 0.01, therefore, no significant relationship was observed. On the other hand, the obtained p-values for personal and ritual compliance =0.001, personal and strategic compliance =0.388, personal and engagement =0.000, positional and ritual compliance =0.003, positional and strategic compliance =0.279, motivation and ritual compliance =0.003, motivation and strategic compliance =0.000, motivation and engagement =0.004, were all less than the level of significance @ 0.01, therefore, a significant relationship was noted.

The findings revealed that the higher the respondents' level of the digital divide, the higher their level of online learning engagement along with ritual compliance, strategic compliance, and motivation and engagement. The findings support the study by Khan and Tufail (2021) found that students' digital divide, as measured by their access to technology and internet connectivity, was negatively related to their online learning engagement. Specifically, students with limited access to technology and internet connectivity reported lower levels of engagement with online learning activities.

Another study by Chai et al. (2018) found that students' digital divide, as measured by their access to technology and digital literacy skills, was negatively related to their online learning engagement. The authors suggest that providing students with access to technology and digital literacy training can help improve their engagement with online learning.

**Table 6 Relationship between the Respondents' Level of Digital Equity and Level of Online Learning Engagement**

| Digital Equity          | Online learning engagement                   |   |  |  |  |
|-------------------------|--|---|--|--|--|
|                         | Rebellion                                    | Retreatism                                    | Ritual compliance                            | Strategic compliance                         | Engagement                                   |
| Access or participation | r=0.324**<br>Low correlation<br>p=0.000      | r=-0.074<br>Negligible correlation<br>p=0.407 | r=0.490**<br>Moderate correlation<br>p=0.000 | r=0.296**<br>Low correlation<br>p=0.001      | r=0.492**<br>Moderate correlation<br>p=0.000 |
| Support                 | r=0.352**<br>Low correlation<br>p=0.000      | r=0.150<br>Low correlation<br>p=0.093         | r=0.368**<br>Low correlation<br>p=0.000      | r=0.205*<br>Low correlation<br>p=0.021       | r=0.400**<br>Moderate correlation<br>p=0.000 |
| Lifelong learning       | r=0.033<br>Negligible correlation<br>p=0.717 | r=-0.071<br>Negligible correlation<br>p=0.429 | r=0.309**<br>Low correlation<br>p=0.000      | r=0.430**<br>Moderate correlation<br>p=0.000 | r=0.371**<br>Low correlation<br>p=0.000      |
| Competencies            | r=0.216*<br>Low correlation<br>p=0.015       | r=-0.002<br>Negligible correlation<br>p=0.985 | r=0.466**<br>Moderate correlation<br>p=0.000 | r=0.483**<br>Moderate correlation<br>p=0.000 | r=0.484**<br>Moderate correlation<br>p=0.000 |

**\*\*Significant @ 0.01, \*Significant @ 0.05**

As table 6 shows the obtained probability values of 0.407 (access or participation and retreatism), 0.093 (support and retreatism), 0.717 (lifelong learning and rebellion), 0.429 (lifelong learning and retreatism) and 0.985 (competencies and retreatism) were all greater than the 0.01 and 0.05, therefore, no significant relationship was noted in respondents' level of digital equity and level of online learning engagement. On the other hand, the obtained p-values of 0.000 (access or participation and rebellion, access or participation and engagement, support and rebellion, support and ritual compliance, support and engagement, lifelong learning and engagement, lifelong learning and strategic compliance, lifelong learning and engagement, competencies and ritual compliance, competencies and strategic compliance, competencies, and engagement), 0.001 (access or participation and strategic compliance), 0.021 (support and strategic compliance), and 0.015 (competencies and rebellion) were all less than the level of significance @ 0.01 and 0.05, therefore, a significant relationship was observed. The findings revealed that the higher the respondents' level of digital equity, the higher their level of online learning engagement.

The findings support the study by Nguyen and colleagues (2018) found that college students who had greater access to digital technologies and higher levels of digital skills were more likely to engage in online learning activities. Another study by Kahlon and colleagues (2020) found that digital equity was positively related to online learning engagement among college students during the COVID-19 pandemic. Students who reported higher levels of digital equity, such as access to reliable internet and digital devices, were more likely to participate in online classes and complete assignments.

**Table 7 Multiple Regression between the Level of Digital Divide, Digital Equity taken Singly or in Combination of Level of Online Learning Engagement**

| Predictor                  | Dependent Variable                   | R <sup>2</sup> | F     | p-value | β      | t      | p-value |
|----------------------------|--------------------------------------|----------------|-------|---------|--------|--------|---------|
| Personal                   | Online learning engagement (overall) | 0.353          | 9.204 | 0.000*  | 0.024  | 0.244  | 0.808   |
| Positional                 |                                      |                |       |         | 0.134  | 1.366  | 0.175   |
| motivation                 |                                      |                |       |         | 0.016  | 0.175  | 0.861   |
| Access or participation    |                                      |                |       |         | -0.012 | -0.108 | 0.914   |
| Lifelong learning          |                                      |                |       |         | -0.387 | -3.108 | 0.002*  |
| Competencies               |                                      |                |       |         | 0.170  | 1.551  | 0.123   |
| Overall digital equity     |                                      |                |       |         | 0.593  | 2.878  | 0.005*  |
| <b>*Significant @ 0.05</b> |                                      |                |       |         |        |        |         |

As shown in Table 7, there was a multiple correlation between the respondents' level of the digital divide, digital equity, and level of online learning engagement. A value of 0.000 indicates a high level of prediction of the dependent variable (level of online learning engagement). The obtained R square of 0.353 shows that independent variables (level of the digital divide and digital equity) explain the variability of the dependent variable (level of online learning engagement). Further, the ANOVA shows that the independent variable level of the digital divide in terms of motivation, statistically significantly predicted the dependent variable

level of online learning engagement with an F-value of 9.204 and a probability value of 0.000 which is less than the 0.05 significance level.

This implies that the independent variables level of the digital divide and digital equity, are the drivers of online learning engagement, which further means that access to digital tools and resources is essential in promoting engagement in online learning. It also indicates that addressing digital divide issues and promoting digital equity can lead to higher levels of online learning engagement among college students. In other words, college students who have limited access to digital resources or who face barriers to using them may have lower levels of engagement in online learning. On the other hand, students who have equal access to digital resources and support are more likely to engage in online learning.

The findings support the study of Wang and Chen (2020) investigated the relationship between the digital divide, digital equity, and online learning engagement. The authors argue that digital equity is an important factor that can help to bridge the digital divide and promote online learning engagement. The study shows that students who have access to digital resources and support are more likely to engage in online learning activities, while students who lack access to digital resources and support are less likely to engage in online learning activities. The study suggests that improving digital equity can help to reduce the digital divide and improve online learning engagement among college students.

### **Conclusion and recommendation**

Based on the findings of the study, the study conclusions were drawn: the college student's level of the digital divide is very high. The college students' level of digital equity is very high. The respondents' level of online learning engagement was high. The higher the respondents' level of the digital divide, the higher their level of digital equity. The higher the respondents' level of the digital divide, the higher their level of online learning engagement along with ritual compliance, strategic compliance, and motivation and engagement. The higher the respondents' level of digital equity, the higher their level of online learning engagement. The independent variables level of the digital divide and digital equity are the drivers of online learning engagement.

The following recommendations are based on the findings and conclusion of this study: Pamantasan ng Cabuyao should increase the access of college students to technology by providing them with devices and internet access who cannot afford them. This can be done through initiatives such as loaner laptop/PC programs, free or low-cost Wi-Fi, and access to computer labs on campus as well as providing digital literacy training to students to help them develop the skills they need to use technology and navigate digital platforms. This can be done through programs such as digital literacy workshops, online training resources, and mentorship programs. The University should also address the socio-economic factors that can also contribute to the digital divide among college students by providing financial assistance to students, such as scholarships, grants, and work-study programs. Additionally, colleges can provide support services, such as tutoring and academic counseling, to help students succeed academically. PnC can also encourage faculty to use technology in the classroom by providing faculty with training and support for using technology in their teaching. PnC should sustain a high level of digital equity among college students. This requires an ongoing effort and investment. By continuously assessing and addressing the needs of students, investing in infrastructure and technology, providing ongoing digital literacy training and support, partnering with industry and community organizations, and fostering a culture of innovation

and experimentation. College students must continue to put forth the effort and spend money on data purchasing to maintain their high level of online learning engagement. The university should create a sense of community, use interactive and multimedia materials, provide timely and personalized feedback, incorporate active learning strategies, emphasize the relevance and practical application of course content, and continuously assess and improve the online learning experience. Addressing the digital divide and promoting digital equity requires a multifaceted approach that involves increasing access to digital tools and resources, providing digital literacy training, fostering partnerships and collaborations, addressing root causes, and monitoring and evaluating progress. The university should promote online learning engagement among college students by ensuring access to technology, creating a supportive learning environment, designing courses for online learning, providing clear expectations and guidelines, and using data to inform instruction, institutions can help students succeed in online learning. The university should sustain the high levels of digital equity and promote online learning engagement which requires a holistic and comprehensive approach that will ensure that all students have the opportunity to succeed in online learning. Future researchers may duplicate the investigation by considering other variables such as digital literacy, digital resources, and academic achievement.

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