

# INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2026, Vol. 7, No. 4, 1833 – 1845

<http://dx.doi.org/10.11594/ijmaber.07.04.28>

## Research Article

### Student Engagement and Learning Success: Evidence from Hybrid and Online Classrooms

Kimberly Christie S. Vergara<sup>1\*</sup>, Raymond Allan G. Vergara<sup>2</sup>, Loren Aina L. Trinidad<sup>3</sup>

<sup>1</sup>Department of Economics, De La Salle University – Manila, Philippines

<sup>2</sup>Department of Marketing and Advertising, De La Salle University – Manila, Philippines

<sup>3</sup>Department of Management, Holy Angel University, Philippines

#### Article history:

Submission 20 March 2026

Revised 31 March 2026

Accepted 23 April 2026

#### \*Corresponding author:

E-mail:

[Kimberly.vergara@dlsu.edu.ph](mailto:Kimberly.vergara@dlsu.edu.ph)

#### ABSTRACT

This inquiry is the second phase of a teacher-led initiative that began in 2020 to examine the relationship between student engagement and learning success in the undergraduate classroom. Whereas the initial phase examined engagement and success in the online classroom, this study extends the inquiry to explore engagement and success in the hybrid classroom. Using a convergent mixed methods approach involving 575 students from different cohorts across 6 years, this study finds that there is a significant and positive relationship between student engagement and learning success. Specifically, engagement and active participation serve as a pathway to learning success through opportunities that enable knowledge development, knowledge application, and skill development.

**Keywords:** *Active participation, Hybrid classroom, Learning success, Mixed methods, Student engagement*

#### Background

This inquiry is a continuation of a teacher-led initiative (Vergara et al., 2023) to examine the relationship between student engagement and learning success in the undergraduate classroom. It is also part of a larger initiative to investigate how to co-create transformative learning experiences in the classroom (Vergara, 2022; Vergara, 2023a; Vergara, 2023b; Vergara & Vergara, 2023a; Vergara & Vergara, 2023b). The contributions of previous studies focused on engagement and success in the online classroom. This study seeks to extend

the inquiry into student engagement and learning success in the hybrid classroom and to examine differences from the online classroom.

Student engagement is essential in learning success (Axelson & Flick, 2010; Coates, 2007; Finn & Zimmer, 2012; Fletcher, 2015; Groccia, 2018; Lin et al, 2019; Luo et al, 2023; Kuh, 2009). Literature shows that student engagement remains unclear (Balwant, 2017). While there is a diversity of definitions (Axelson & Flick, 2010; Coates, 2007; Fletcher, 2015; Groccia, 2018; Kuh, 2009) and frameworks (Balwant, 2017; Burch et al., 2015; Finn & Zimmer,

#### How to cite:

Vergara, K. C. S., Vergara, R. A. G., & Trinidad, L. A. L. (2026). Student Engagement and Learning Success: Evidence from Hybrid and Online Classrooms. *International Journal of Multidisciplinary: Applied Business and Education Research*. 7(4), 1833 – 1845. doi: 10.11594/ijmaber.07.04.28

2012; Groccia, 2018), no universal definition has yet been accepted. This study considers student engagement as the “complete immersion in instruction” (Teoh et al., 2025), encompassing what students think, feel, and do (Groccia, 2018), and is related to learning inside and outside the classroom. The study also considers that student engagement has emotional, cognitive, and behavioral dimensions (Balwant, 2017).

Understanding the difference in student engagement in online and in-person classrooms guides teachers in designing, delivering, and co-creating transformative learning experiences. This inquiry helps uncover what works and what does not in both learning modalities. As online and hybrid classrooms offer a flexible setup that traditional classrooms do not, they can provide lessons to help institutions that seek to create more inclusive learning environments.

This research seeks to answer the question: How is student engagement associated with learning success across online and hybrid

classroom environments? This overarching question seeks to understand differences in engagement and success across online and hybrid learning modalities, the relationship between engagement and success, and the predictive role of engagement. To address this question, the study seeks the following research objectives:

- RO1: To compare levels of student engagement and learning success between online and hybrid classroom environments
- RO2: To examine the relationship between student engagement and student learning success
- RO3: To determine whether student engagement significantly predicts student learning success

Constructs in this study follow Vergara et al. (2023). Table 1 provides definitions for the constructs under examination: student engagement and learning success.

Table 1. Construct Operationalization

| Construct          | Operationalization  |
|--------------------|---|
| Student engagement | As implemented in Vergara et al. (2023) and adapted from Balwant, 2017; Burch et al, 2015; and Finn & Zimmer, 2012. |
| Learning success   | As defined by student respondents   |

*Developed by author*

## Methods

This study adopts a convergent mixed methods design in which quantitative and qualitative data are collected concurrently, analyzed independently, and then integrated to provide a comprehensive understanding of the relationship between student engagement and learning success across online and hybrid classroom environments. The quantitative analysis examines measurable differences, relationships, and predictive effects between variables. As the data has been determined to be non-normally distributed, non-parametric tests are employed: Mann-Whitney U and Kruskal Wallis tests with pairwise comparisons to determine RO1, Spearman’s rho to analyze RO2, and a simple linear regression to address RO3. The qualitative analysis explores student experiences and perceptions to provide

contextual insights that complement the statistical findings. The integration of both analyses allows the study to triangulate results and develop a more nuanced interpretation of student engagement and learning success in the online and hybrid classrooms.

Results from the quantitative and qualitative strands are merged and compared. Qualitative findings provide statistical evidence of differences, relationships and predictive effects, while qualitative insights offer explanations for why these patterns occur. This integration enables the study to achieve methodological triangulation, strengthening the validity of conclusions regarding the role of student engagement in learning success within online and hybrid classrooms. Table 2 summarizes how each research objective will be addressed.

Table 2. Alignment of Research Objectives, Methods, and Hypotheses

| Research Objective   | Quantitative Strand   | Qualitative Strand   |
|--|---|--|
| <p>R01<br/>To compare levels of student engagement and learning success between online and hybrid classroom environments</p> | <p>Because the data is determined to be non-normally distributed, non-parametric statistical tests are employed:<br/>Mann-Whitney U<br/>H1: There is no significant difference in student engagement between cohorts in the online and hybrid classrooms<br/>H2: There is no significant difference in learning success between cohorts in the online and hybrid classrooms<br/><br/>Kruskal-Wallis test and pairwise comparisons<br/>H3: There is no significant difference in student engagement among students across different years<br/>H4: There is no significant difference in learning success among students across different years</p> | <p>Students' responses to open-ended survey questions are analyzed to understand how they describe their learning experiences in online and hybrid environments.</p>         |
| <p>R02<br/>To examine the relationship between student engagement and student learning success</p>                           | <p>Because the data is determined to be non-normally distributed, non-parametric statistical tests are employed:<br/>Spearman's rho<br/>H5: There is no significant relationship between student engagement and learning success among all cohorts in the online and hybrid classrooms</p>  | <p>Open-ended responses are examined to identify themes describing how students perceive the role of engagement in their learning.</p>                                       |
| <p>R03<br/>To determine whether student engagement significantly predicts student learning success</p>                       | <p>Simple Linear Regression<br/>H6: The level of student engagement predicts the level of learning success among all cohorts in the online and hybrid classrooms</p>  | <p>Students' qualitative responses are analyzed to explore how engagement behaviors, such as participation, interaction, or motivation, contribute to learning outcomes.</p> |

*Developed by author*

This study analyzed post-course assessment survey responses from 575 students who took elective events marketing/advertising

classes over six years and across two modalities. Table 3 encapsulates the profile of the survey respondents of this study.

Table 3. Respondents (n) Matrix

| Year         | Number of Students | Modality           |
|--------------|--------------------|--------------------|
| 2020         | 51                 | Total Online = 115 |
| 2021         | 32                 |                    |
| 2022         | 32                 |                    |
| 2023         | 108                | Total Hybrid = 460 |
| 2024         | 172                |                    |
| 2025         | 180                |                    |
| <b>TOTAL</b> |                    | <b>575</b>         |

Developed by author

## Results and Discussion

### *Transitioning from Online to Hybrid*

Between 2020 and 2022, classes at the university were conducted online due to the pandemic. This shift in modality facilitated the pedagogical transformation, as outlined in Vergara et al. (2023). Specifically, the course was designed to co-create the learning experience with the students, beginning with a pre-course survey to understand how students define learning success. Students were asked open-ended questions to define how they will measure success at the end of the term. Their responses were then coded and categorized. The following four statements below summarize their definitions for success. It is worth noting that these are the same statements they are asked to rate in the post-course assessment survey:

1. I learned important lessons from this course.
2. I developed important skills after asking this course.
3. I was able to apply what I learned in the activities and requirements in this course.
4. I feel that I am a better person after taking this course.

As government restrictions on mobility eased, the university soon shifted into a hybrid modality. While this shift required a few changes in how lectures and requirements were delivered, some learning approaches and strategies remain the same. Teaching strategies continue to follow the transformative

approaches outlined by Slavich and Zimbardo (2012). For example, lectures are still delivered in storytelling style and still focus on the value of guest experiences in events and marketing. Assessments remain scaffolded and continue to focus on collaboration with students grouped together for the duration of the term.

The shift to hybrid, however, entailed deciding which lessons and assessments would remain online and which would be delivered in person. To maximize engagement, the most impactful and collaborative activities are shifted in-person, particularly the most engaging storytelling lectures and the final assessment, which is a fundraising event. Instructions, particularly briefings for assessments, continue to be delivered online, through the learning management system. Classroom events that scaffold the final assessment also remain online.

### *Overall Student Engagement*

Results show that there is high overall student engagement, with means ranging from 4.48 to 4.88. SE1 (“I enjoyed taking this course”) obtained the highest mean (M = 4.88, SD = 0.378), followed by SE10 (“It was easy for me to communicate with the professor,” M = 4.86, SD = 0.425) and SE8 (“It was easy for me to participate in group assignments,” M = 4.81, SD = 0.478) received the highest scores. On the other hand, SE2 (“I enjoyed taking virtual classes”) recorded the lowest mean (M = 4.48, SD = 0.873), although scores still reflect a high level of agreement. The relatively higher standard deviation of SE2 indicates more varied

responses than those of the other indicators. Overall, the low standard deviations across most items suggest consistent responses, indi-

cating a generally uniform perception of student engagement. Table 4 summarizes the results.

Table 4. Student Engagement

| Construct  | Mean | Standard Deviation |
|--|------|--------------------|
| 5-point Likert scale (5 = strongly agree, 1 = strongly disagree)                     |      |                    |
| SE1 I enjoyed taking this course.  | 4.88 | 0.378              |
| SE2 I enjoyed taking virtual classes.  | 4.48 | 0.873              |
| SE3 I enjoyed accomplishing the individual activities required of me in this course. | 4.73 | 0.599              |
| SE3 I enjoyed accomplishing the group activities required of me in this course.      | 4.78 | 0.554              |
| SE4 It was easy for me to focus during synchronous classes.                          | 4.51 | 0.769              |
| SE5 It was easy for me to grasp the lessons discussed in class.                      | 4.78 | 0.535              |
| SE6 It was easy for me to participate in class lectures.                             | 4.67 | 0.624              |
| SE7 It was easy for me to participate in group assignments.                          | 4.81 | 0.478              |
| SE8 It was easy for me to participate in the online class e-events.                  | 4.72 | 0.562              |
| SE9 It was easy for me to communicate with the professor.                            | 4.86 | 0.425              |
| SE10 It was easy for me to communicate with the members of the group I was in.       | 4.68 | 0.669              |
| SE11 It was easy for me to communicate with other members of the class.              | 4.66 | 0.670              |

Developed by author

**Overall Learning Success**

Results also indicate relatively high learning engagement across all cohorts, with means ranging from 4.84 to 4.89. Among the items, LS2 (“I developed important skills after taking this course”) recorded the highest mean (M = 4.89, SD = 0.370), followed closely by LS1 (“I learned important lessons from this course,” M = 4.87, SD = 0.404) and LS3 (“I was able to apply what I learned in the activities and requirements in this course,” M = 4.86, SD = 0.412). LS4 (“I feel

that I am a better person after taking this course”) obtained the lowest mean (M = 4.84, SD = 0.431); however, scores still indicate a very high level of agreement. The relatively low standard deviation values (0.370–0.431) suggest that responses are consistent and exhibit minimal variability among respondents. Overall, the findings imply a strong, uniform positive perception of learning success. Table 5 summarizes the results.

Table 5. Learning Success

| Construct   | Mean | Standard Deviation |
|---|------|--------------------|
| 5-point Likert scale (5 = strongly agree, 1 = strongly disagree)                          |      |                    |
| LS1 I learned important lessons from this course.   | 4.87 | 0.404              |
| LS2 I developed important skills after taking this course.                                | 4.89 | 0.370              |
| LS3 I was able to apply what I learned in the activities and requirements in this course. | 4.86 | 0.412              |
| LS4 I feel that I am a better person after taking this course                             | 4.84 | 0.431              |

Developed by author

**R01: Student engagement and learning success are significantly different between learning modalities and across cohorts**

The results of the quantitative measures indicate significant differences in student engagement and learning success between learning modalities and across cohorts. The results of the Mann-Whitney U test reveal a statistically significant difference between the hybrid and online modalities for both student engagement and learning success. For social engagement, the test yielded  $U = 13,297$  with  $p < .001$ . Given the p-value, the null hypothesis is

rejected. This indicates a significant difference in student engagement between students in the hybrid and online modalities. Similarly, for learning success, the result showed  $U = 22,638$ ,  $p < .001$ , leading to the rejection of the null hypothesis. This signifies a significant difference in learning success between the two learning modalities. Overall, the findings suggest that the instructional modality (hybrid vs. online) significantly influences both student engagement and learning success. Table 6 summarizes the results.

Table 6. Student Engagement and Learning Success: Online vs Hybrid

|                   |                | Statistic | p     |
|-------------------|----------------|-----------|-------|
| Social Engagement | Mann-Whitney U | 13297     | <.001 |
| Learning Success  | Mann-Whitney U | 22638     | <.001 |

Developed by author

Cohorts under the hybrid modality exhibited higher levels of both student engagement and learning success compared to those under online. For student engagement, the hybrid group obtained a higher mean ( $M = 4.79$ ) and median ( $Md = 5.00$ ) compared to the online group ( $M = 4.42$ ,  $Md = 4.50$ ). Similarly, for learning success, the hybrid group showed a higher mean ( $M = 4.90$ ,  $Md = 5.00$ ) than the online group ( $M = 4.74$ ,  $Md = 5.00$ ).

Additionally, the online group demonstrated lower variability in responses, as indicated by smaller standard deviations (student engagement:  $SD = 0.335$ ; learning success:  $SD =$

$0.262$ ) compared to the hybrid group (student engagement:  $SD = 0.578$ ; learning success:  $SD = 0.543$ ), suggesting more consistent perceptions among students in the Online modality.

Overall, these findings suggest that although modalities differ significantly, the hybrid modality tends to yield higher student engagement and learning success scores compared to the online modality. This strengthens the interpretation of the Mann-Whitney U test results by clearly identifying the direction of the difference and supporting it with descriptive evidence. Table 7 summarizes the results.

Table 7. Differences in Student Engagement and Learning Success

|                   | Cohort | N   | Mean | Median | SD    | SE     |
|-------------------|--------|-----|------|--------|-------|--------|
| Social Engagement | Online | 115 | 4.42 | 4.50   | 0.578 | 0.0539 |
|                   | Hybrid | 460 | 4.79 | 5.00   | 0.335 | 0.0156 |
| Learning Success  | Online | 115 | 4.74 | 5.00   | 0.543 | 0.0506 |
|                   | Hybrid | 460 | 4.90 | 5.00   | 0.262 | 0.0122 |

The results of the Kruskal-Wallis test indicate statistically significant differences in both student engagement and learning success across year levels. For student engagement, the test yielded  $\chi^2(5) = 92.1$  with  $p < .001$ . Since the p-value is less than the 0.05 level of significance, the null hypothesis is rejected. This

indicates that student engagement significantly differs across the six year levels. Similarly, for learning success, the result showed  $\chi^2(5) = 26.3$  with  $p < .001$ . This also leads to the rejection of the null hypothesis, suggesting that learning success varies significantly among students across year levels. Overall, the findings imply

that year level plays a significant role in influencing both student engagement and learning success. Table 8 summarizes the results.

Table 8. Student Engagement and Learning Success: Across 6 Years

|                          | $\chi^2$ | df | p     |
|--------------------------|----------|----|-------|
| <b>Social Engagement</b> | 92.1     | 5  | <.001 |
| <b>Learning Success</b>  | 26.3     | 5  | <.001 |

Developed by author

Post hoc analysis was conducted to determine which specific year levels differ significantly from one another. The DSCF pairwise comparison for student engagement reveals significant differences, mainly between lower and higher year levels. 2020 significantly differs from 2022 ( $p = 0.010$ ), 2023 ( $p < .001$ ), 2024 ( $p < .001$ ), and 2025 ( $p < .001$ ). Similarly, 2021 shows significant differences when

compared with 2022 ( $p = 0.004$ ), 2023 ( $p < .001$ ), 2024 ( $p < .001$ ), and 2025 ( $p < .001$ ). Overall, the findings suggest that differences in student engagement are more evident between lower and higher year levels, while students in the upper year levels tend to have comparable levels of student engagement. Table 9 summarizes the results.

Table 9. Student Engagement Post Hoc DSCF Pairwise Comparison

|             |             | W     | P      |
|-------------|-------------|-------|--------|
| <b>2020</b> | <b>2021</b> | -1.35 | 0.933  |
| <b>2020</b> | <b>2022</b> | 4.74  | 0.010  |
| <b>2020</b> | <b>2023</b> | 9.60  | <.001* |
| <b>2020</b> | <b>2024</b> | 10.09 | <.001* |
| <b>2020</b> | <b>2025</b> | 8.22  | <.001* |
| <b>2021</b> | <b>2022</b> | 5.08  | 0.004* |
| <b>2021</b> | <b>2023</b> | 8.86  | <.001* |
| <b>2021</b> | <b>2024</b> | 9.03  | <.001* |
| <b>2021</b> | <b>2025</b> | 7.73  | <.001* |
| <b>2022</b> | <b>2023</b> | 3.59  | 0.114  |
| <b>2022</b> | <b>2024</b> | 3.23  | 0.200  |
| <b>2022</b> | <b>2025</b> | 1.60  | 0.867  |
| <b>2023</b> | <b>2024</b> | -1.08 | 0.973  |
| <b>2023</b> | <b>2025</b> | -2.52 | 0.479  |
| <b>2024</b> | <b>2025</b> | -1.70 | 0.836  |

Developed by author

The DSCF pairwise comparison results for learning success show that only selected year levels demonstrate significant differences: (1) between 2020 and 2024 ( $p = 0.002$ ), (2) between 2021 and 2023 ( $p = 0.048$ ), (3) between

2021 and 2024 ( $p = 0.001$ ), and (4) 2021 and 2025 ( $p = 0.037$ ). Overall, the findings indicate that differences in learning success are limited and occur only in specific years. Table 10 summarizes the results.

Table 10. Learning Success Post Hoc DSCF Pairwise Comparison

|             |             | W      | p     |
|-------------|-------------|--------|-------|
| <b>2020</b> | <b>2021</b> | -0.825 | 0.992 |
| <b>2020</b> | <b>2022</b> | 3.753  | 0.085 |
| <b>2020</b> | <b>2023</b> | 3.222  | 0.203 |

|             |             | <b>W</b> | <b>p</b> |
|-------------|-------------|----------|----------|
| <b>2020</b> | <b>2024</b> | 5.308    | 0.002*   |
| <b>2020</b> | <b>2025</b> | 3.684    | 0.096    |
| <b>2021</b> | <b>2022</b> | 4.051    | 0.048*   |
| <b>2021</b> | <b>2023</b> | 3.554    | 0.120    |
| <b>2021</b> | <b>2024</b> | 5.591    | 0.001*   |
| <b>2021</b> | <b>2025</b> | 4.175    | 0.037*   |
| <b>2022</b> | <b>2023</b> | -1.997   | 0.720    |
| <b>2022</b> | <b>2024</b> | -0.506   | 0.999    |
| <b>2022</b> | <b>2025</b> | -1.562   | 0.880    |
| <b>2023</b> | <b>2024</b> | 2.844    | 0.336    |
| <b>2023</b> | <b>2025</b> | 0.838    | 0.992    |
| <b>2024</b> | <b>2025</b> | -1.973   | 0.730    |

Developed by author

Responses from open-ended questions reveal that there is a difference in student engagement between online and in-person classes. In Vergara et al. (2023), students found it difficult to engage and even concentrate in online classes. When asked how the course could be improved, many students from hybrid cohorts immediately identified shifting the online classroom event online:

*“I think, if possible, it would be great if there was an option to make the classroom activation an in-person activity as well.”*

*“I think students would enjoy more if some of the classroom events were done in-person than online.”*

However, students see value in attending classes online. Students from hybrid cohorts share that online assessments can be challenging but provide essential learning opportunities:

*“The online class events were fulfilling and eventful, providing an opportunity to apply the concepts taught by our professor to reality, while also bringing beautiful ideas to life.”*

*“I enjoyed the online classroom event because it brought out my competitive side while allowing me to learn at the same time.”*

While quantitative results show that there are some differences in learning success across some cohorts, there is some convergence on how students describe their success,

particularly in how they learned skills and applied what they have learned through assessments:

*“The final (online) project required real-life decisions that our group had to make and they were crucial to the project execution. Thus, it made me develop better decision-making knowing how crucial one yes or no may impact the rest of a strategy or plan.”*

*“The final (in-person) fundraising event was the most challenging the lessons learned here I saw could be applied to events I’d like to execute in the future.”*

The results imply that transformative learning strategies work across online and in-person learning modalities, leading to overall student engagement and learning success. It is worth noting that high levels of student engagement lead to students wanting more interactions and activities, with many students expressing a desire for more in-person discussions and activities. This implies that in-person learning environments enhance student engagement, as evidenced by students’ preference for in-person discussions and activities. This is not to say, however, that there is significantly less learning success in online learning modalities, as students from online cohorts acknowledge that they experienced learning success. This inquiry shows that there is potential for engagement and success in online lessons and assessments, as they still provide students with opportunities to develop skills or apply concepts learned in class.

**R02: Significant and positive relationship between student engagement and student learning success**

The results of Spearman’s rank-order correlation show a statistically significant and positive relationship between student engagement and learning success. The correlation

coefficient of 0.528 indicates a moderate positive relationship between the two variables. Overall, the findings suggest that as students become more engaged, their learning success tends to increase. Table 11 summarizes the results.

Table 11. Relationship between Student Engagement and Learning Success

|                    | Spearman’s rho | p      |
|--------------------|----------------|--------|
| Student engagement | .528           | < .001 |

Developed by author

In the same survey, students were asked to describe engagement by identifying lessons and activities that they found enjoyable and challenging. Responses varied, with most identifying those that left the most impression on them based on their outcomes. Some mentioned the lectures that allowed them to understand the principles of event marketing:

*“The storytelling lectures on how an event was executed, using the stages of event management as an outline, were very engaging and easy to understand.”*

*“The lesson on the Disney guest experience delivered the most significant insight for me. It highlighted how powerful experiences are intentionally designed to connect with people on multiple levels—emotional, cognitive, and more. It made me realize that in today’s experience economy, details truly make the difference.”*

Others mentioned the activities that delivered the most significant lessons throughout the course:

*“The final fundraising event allowed me to apply lessons I learned in class while also giving us the opportunity to help people in need.”*

*“We had real-world exposure! We were able to apply a lot of the marketing*

*and advertising concepts we learned in the classroom.”*

Both quantitative and qualitative analyses confirm that there is a relationship between student engagement and learning success. Student responses suggest learning success emerges from actively engaging in lessons and activities that enable them to learn something new, apply what they learned, and develop relevant skills. Notably, students define learning success in terms of knowledge development, knowledge application, and skills development. Taken together, these findings indicate that student engagement does not directly guarantee success. Rather, it creates the necessary conditions and opportunities for meaningful learning. Student engagement serves as the pathway through which students translate participation and collaboration into successful learning outcomes.

**R03: Student engagement significantly predicts student learning success**

The results of the linear regression analysis indicate that student engagement significantly predicts learning success. The R-square indicates that 48.3% of the variance in learning success can be explained by student engagement. The regression coefficient of .565 indicates a significant positive effect. Table 12 summarizes the results.

Table 12. Student Engagement as a Predictor of Learning Success

| Model              | Coefficient | SE     | t    | p     | R-square |
|--------------------|-------------|--------|------|-------|----------|
| 1 (Constant)       | 2.203       | 0.1155 | 19.1 | <.001 | .483     |
| Student Engagement | 0.565       | 0.0244 | 23.2 | <.001 |          |

Developed by author

In addressing the assumptions of linear regression, diagnostic checks were conducted. Collinearity statistics indicate no multicollinearity concerns, as evidenced by a VIF of 1.00

and tolerance of 1.00 for Social Engagement, reflecting complete independence of the predictor variable. Table 13 summarizes the results.

Table 13. Collinearity

|                           | VIF  | Tolerance |
|---------------------------|------|-----------|
| <b>Student Engagement</b> | 1.00 | 1.00      |

The inspection of residual plots further suggests that the assumption of linearity is reasonably satisfied, as the residuals generally follow a random pattern around zero across fitted values. However, slight patterns in the residual spread can be observed, suggesting minor heteroscedasticity (non-constant variance). Additionally, the clustering of residuals is evident, which may be attributed to the discrete (Likert-scale) nature of the data, and may also contribute to slight deviations from normality.

Despite these observations, the large sample size (N = 575) supports the robustness of linear regression estimates even under mild violations of normality and homoscedasticity assumptions. To further ensure the reliability of the findings, a robust regression approach using heteroscedasticity-consistent (HC3) standard errors was considered. The results remained consistent in terms of statistical significance and direction of the relationship, confirming that the effect of student engagement on learning success is stable. Figures 1-3 show the residual plots.

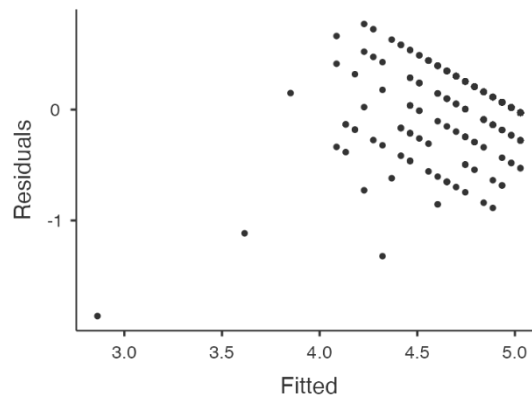


Figure 1. Residual Plot: Fitted

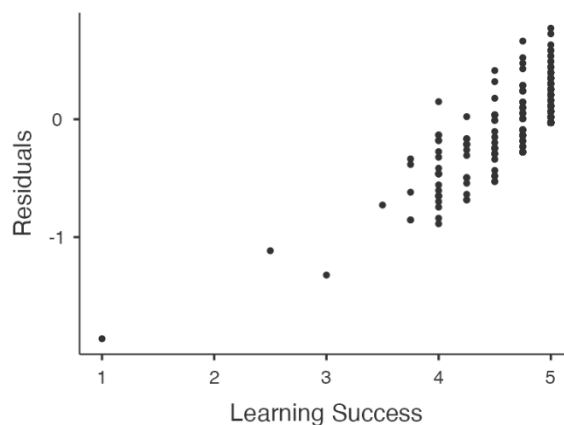


Figure 2. Residual Plot: Learning Success

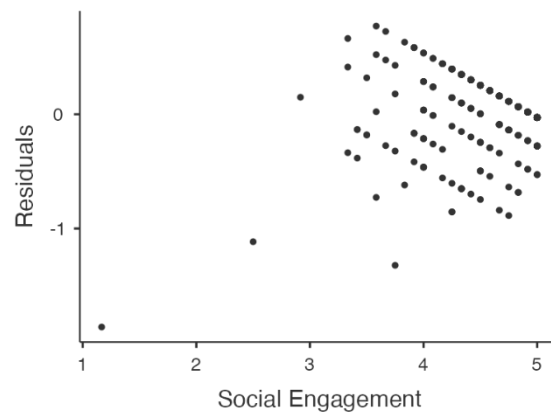


Figure 3. Residual Plot: Student Engagement

Overall, these findings confirm that Social Engagement is a significant and strong predictor of Learning Success, and the inclusion of diagnostic and robustness checks strengthens the validity of the regression results.

The quantitative results affirm the relationship between student engagement and learning success, specifically that engagement may lead to success. Survey responses also provide context for the predictability of success through engagement. Students were asked to assess their course performance and explain why they think they succeeded. With very few exceptions, almost all responded that they succeeded in the course. They continue to explain that the reason for their success lies in their effort: in actively listening during lectures and in collaborating on group projects. Here are some responses that demonstrate this:

*"I think I performed well, most especially with the group working together. Everybody deserved the joy of success from setting up both the classroom and online event. The success really showed not only after but during the event as well because everybody was enjoying it."*

*"Yes, because without even looking at the grade, I was able to develop my skills in socializing, hosting, and event planning in this course. This gave me the hint that I can really do events on my own and I can use this skills in the future."*

*"I believe I succeeded in this course because I was able to meet the learning outcomes, actively participate in class*

*activities, and complete all the requirements, including the major projects. I also applied the skills I learned in a practical setting, especially during our event planning activity, which demonstrated my growth and understanding of the course content."*

The responses affirm that, through active participation in experiential lessons, students achieve their self-defined learning outcomes: learn something new, apply what they have learned, and develop essential skills. This implies that while student engagement is not the only predictor of learning success, the results of this study show that it is a significant one.

For teachers, the results of this six-year inquiry imply that facilitating learning success in the classroom means designing and co-creating a course where students actively participate and engage with the lessons. This also means establishing a shared learning vision to allow students to take ownership of their learning. Scaffolded assessments provide opportunities for students to model and master experiences. Furthermore, scaffolding ensures that assessments become increasingly challenging and encouraging throughout the term. These steps are essential in facilitating engagement as they follow Slavich and Zimbardo's (2012) transformative teaching approach.

## Conclusion

This inquiry is the second phase of a teacher-led initiative that began in 2020 to examine the relationship between student

engagement and learning success in the undergraduate classroom. Using a convergent mixed methods approach, this inquiry affirms the findings from the initial phase of the study (Vergara et al., 2023). It also provides a more nuanced understanding of how student engagement and learning success are related. While student engagement alone cannot predict nor cause learning success, the results still show that student engagement is essential to learning success. Specifically, engagement and active participation serve as a pathway to learning success through opportunities that enable knowledge development, knowledge application, and skill development.

The results also show that online and in-person classes provide different engagement opportunities. Students prefer in-person class participation because they feel more engaged and can actively collaborate with others in the same space. However, online classes provide flexible and inclusive learning environments. Results suggest that the engagement in online classes also provide meaningful learning opportunities, including skills development.

## References

- Argyriou, P., Benamar, K., & Nikolajeva, M. (2022). What to blend? Exploring the relationship between student engagement and academic achievement via a blended learning approach. *Psychology Learning & Teaching, 21*(2), 126-137.
- Axelson, R. D., & Flick, A. (2010). Defining student engagement. *Change: The magazine of higher learning, 43*(1), 38-43. <https://doi.org/10.1080/00091383.2011.533096>
- Balwant, P. T. (2018). The meaning of student engagement and disengagement in the classroom context: Lessons from organisational behaviour. *Journal of further and higher education, 42*(3), 389-401. <https://doi.org/10.1080/0309877X.2017.1281887>
- Burch, G. F., Heller, N. A., Burch, J. J., Freed, R., & Steed, S. A. (2015). Student engagement: Developing a conceptual framework and survey instrument. *Journal of Education for Business, 90*(4), 224-229. <https://doi.org/10.1080/08832323.2015.1019821>
- Coates, H. (2007). A model of online and general campus-based student engagement. *Assessment & Evaluation in Higher Education, 32*(2), 121-141. <https://doi.org/10.1080/02602930600801878>
- Fletcher, A. (2015). Defining student engagement: A literature review. *Sound out: Promoting Meaningful Student Involvement, Student Voice and Student Engagement*. <https://soundout.org/2015/03/29/defining-student-engagement-a-literature-review/>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research, 18*(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Groccia, J. E. (2018). What is student engagement? *New directions for teaching and learning, 2018*(154), 11-20. <https://doi.org/10.1002/tl.20287>
- Gudoniene, D., Staneviciene, E., Huet, I., Dickel, J., Dieng, D., Degroote, J., ... & Casanova, D. (2025). Hybrid teaching and learning in higher education: A systematic literature review. *Sustainability, 17*(2), 756.
- Kuh, G. D. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New directions for institutional research, 141*, 5-20. <https://doi.org/10.1002/ir.283>
- Lin, L. C., Hung, I. C., Kinshuk, & Chen, N. S. (2019). The impact of student engagement on learning outcomes in a cyber-flipped course. *Educational Technology Research and Development, 67*, 1573-1591. <https://doi.org/10.1007/s11423-019-09698-9>
- Luo, Qin, Lunchao Chen, Dongfang Yu, and Ke Zhang. "The Mediating Role of Learning Engagement Between Self-Efficacy and Academic Achievement Among Chinese College Students." *Psychology Research and Behavior Management* (2023): 1533-1543. <https://doi.org/10.2147/PRBM.S401145>

- Raes, A. (2022). Exploring student and teacher experiences in hybrid learning environments: does presence matter?. *Postdigital Science and Education*, 4(1), 138-159.
- Slavich, G. M., & Zimbardo, P. G. (2012). Transformational teaching: Theoretical underpinnings, basic principles, and core methods. *Educational psychology review*, 24, 569-608.  
<https://doi.org/10.1007/s10648-012-9199-6>
- Teoh, S. H., Boon Zik Hong, J., Md Shamsudin, N., Singh, P., & Hartono, R. (2025). Students' engagement in a hybrid classroom: a comparison between face-to-face and virtual environments. *Cogent Education*, 12(1), 2451497.
- Vergara, R.A.G. (2022). Delivering A Transformational Learning Experience Online. *International Journal of Multidisciplinary: Applied Business and Education Research*, 3(12), 2726-2737.  
<https://doi.org/10.11594/ijma-ber.03.12.24>
- Vergara, R.A.G. (2023a). Transformative learning in the online classroom: A marketing educator's autoethnographic account. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(7), 2444-2451.  
<https://doi.org/10.11594/ijma-ber.04.07.24>
- Vergara, R.A.G. (2023b). The value of experiential lessons in event marketing education. *Philippine Academy of Management E-Journal*, 6(2), 66-75.
- Vergara, K. C., Santos, J. E., Blasa-Cheng, A., Balatbat, M., & Vergara, R. A. (2023). Engagement and learning success: Evidence from three years of transformational teaching strategies in online event marketing education. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(11), 4101-4112.  
<https://doi.org/10.11594/ijma-ber.04.11.27>
- Vergara, R.A.G., & Vergara, K.C.S (2023a). Learning Co-Creation and Self-Determination: Lessons from Teaching Event Marketing. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(7), 2566-2573.  
<https://doi.org/10.11594/ijma-ber.04.07.33>
- Vergara, R.A.G., & Vergara, K.C.S. (2023b). Storytelling in the Classroom: Why it Matters in Event Marketing Education. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(8), 2847-2852.  
<https://doi.org/10.11594/ijma-ber.04.08.22>