**Teaching Competence and Online Student Engagement of The Bachelor of Elementary Education Students**

**Abstract**

The primary purpose of the study was to determine the significant influence of the teaching competence of the faculty on the online student engagement of the Bachelor of Elementary Education students. This study utilized a non-experimental quantitative design using a predictive correlation technique. The main instruments used were adapted and slightly modified questionnaires downloaded from various authors to gather the intended data. These were administered to randomly selected BEEd students from the first to fourth year levels as respondents to the study. The collected data were statistically analyzed with a weighted mean, standard deviation, Pearson Product-Moment Correlation, and Linear Regression Analysis. The results revealed that the level of teaching competence of the faculty was very high, while online student engagement was high. Additionally, it was shown that there was a significant relationship between the teaching competence of the faculty and online student engagement. The study revealed that the teaching competence of the faculty significantly influenced the online student engagement of the BEEd students. Finally, the study recommended that administrators initiate teacher training workshops to maintain the very high level of teaching competence among the CTE faculty. These workshops should also equip instructors with the necessary skills to improve online student engagement among BEEd students.

**Keywords:** *teaching competence, student engagement, online learning, Teacher Training*

**Introduction**

This study investigated the central concept relating to online student engagement experiences; students' enthusiasm, commitment, and attitudes toward learning all benefit from student engagement in an online environment. The importance of online learning has increased with the effects brought by the COVID-19 pandemic. Online students, in particular, have been observed to suffer from feelings of isolation and disconnection (Dixson, 2015). Students find it more challenging to engage in an online learning environment than in traditional face-to-face classes (Salas-Pilco et al., 2022). Learners may find it difficult to maintain engagement in online learning settings for various reasons, including technological, parental, individual, instructional, and interactional factors (Martin & Bolliger, 2018). Moreover, for teachers who are used to face-to-face classroom teaching, increasing student engagement in an online environment brings different challenges (Kurt et al., 2021). As such, specific attention to how student engagement affects the positive value of their learning is critical and worth the time and endeavor to improve learning outcomes.

Student engagement is one of the principles of effective online instruction. The efficacy of online learning implementation in terms of active learning, instant feedback, high expectations, varied skills, and the learning process was highly influenced by the amount of student engagement in distant online education and the teachers' teaching competency (Clarin & Baluyos, 2021). Additionally, to create more possibilities for students to maximize their participation, the teacher, the school, and parents should work together closely (Delfino, 2019). Teachers’ competency will positively affect students’ academic development and skills and help teachers improve their teaching techniques. The attainment of these goals has a greater possibility if teachers make use of practical teaching competencies. Teachers are responsible for the quality of education and student success, reflected in how they accomplish their jobs (Omar et al., 2018). As a result, a more detailed understanding of the specific features of good online teaching that may lead to excellent online student learning is still required (Burke et al., 2021).

The researchers believed that it is valuable to address the concerns about the teaching competency of the faculty since these competencies have a direct impact on students’ engagement in online learning. The view of student engagement turned out to be a bit difficult to understand for educators and scholars (Bond & Bedenlier, 2019). According to research on engagement, building interventions and engagement utilizing a variety of ways can enrich the learning environment (Erdoğdu & Çakıroğlu, 2021). However, there is a pressing need to improve student engagement in online education to overcome the physical constraints in face-to-face learning (Ahmed et al., 2020). With this, an urgency to study the teaching competence of teachers and online student engagement will give a more meaningful online engagement and teaching-learning process in these trying times.

Specifically, this study aimed to determine the level of teaching competence of the faculty in terms of knowledge, teaching skills, assessment and evaluation, and professional values and behavior. It also sought to assess the level of online student engagement in terms of skills, emotion, participation, and performance. In addition, the study examined the relationship between teaching competence and online student engagement and determined the extent to which teaching competence influences online student engagement. Teaching in blended and online learning environments necessitates a different pedagogical approach than teaching in traditional classrooms (Gurley, 2018). Thus, the findings of the study serve as the basis for proposing teacher training workshops aimed at equipping faculty with effective teaching skills to enhance student engagement in online learning environments.

**Null Hypotheses**

Ho1: There is no significant relationship between the teaching competence of the faculty and the online student engagement of the Bachelor of Elementary Education students of Saint Francis Xavier College.

Ho2: There is no significant influence of the teaching competence of the faculty on the online student engagement of the Bachelor of Elementary Education students of Saint Francis Xavier College.

**Theoretical/Conceptual Framework**

This study is anchored on the Theory of Student Involvement by Alexander Astin (1984). This theory outlines how desirable outcomes for higher education institutions are regarded in terms of how students grow and develop as a result of co-curricular involvement. Basic involvement assumptions make up this theory. According to Astin (1984), involvement requires an investment of both physical and psychosocial energy. Secondly, involvement is ongoing, and the level of effort varies from student to student. Thirdly, there are both qualitative and quantitative involvement factors. Next, a student's development or what they earn from involvement is closely correlated with how often they are involved (in both aspects of quality and quantity). Finally, there is a correlation between student involvement and academic performance. In other words, the more students participate in academic activities and campus events and connect with teachers, the more skills and confidence they gain to complete their education (Meyer, 2014).

**Teacher Training Workshops**

**Teaching Competence**

* Knowledge
* Teaching Skills
* Assessment and Evaluation
* Professional Value and Behavior

**Online Student Engagement**

* Skills
* Emotion
* Participation
* Performance

***Figure 1. Conceptual Framework***

**Methodology**

This study utilized a non-experimental quantitative design using a predictive correlation technique. This technique was useful in this study because it helped to test the relationship between teaching competence and student engagement in learning in an online environment. This study utilized this design to see if changes in teaching competence are related to changes in online student engagement. It was conducted at Saint Francis Xavier College, San Francisco, Agusan del Sur, during the academic year 2021–2022.

The respondents consisted of 216 BEEd students, from first to fourth year. The respondents were selected through stratified sampling to identify the number of respondents from each year level and simple random sampling through lottery method to identify individual respondents from each year level. Only officially enrolled students were included in the study.

To gather the necessary data, two main instruments were used: the teaching competence was adapted from the study of Abdulghani (2011), which has four (4) indicators with sixty-seven (67) items rated, on a 5-point Likert scale. On the other hand, the online student engagement was adapted from the study of Dixson (2015), which has four (4) indicators with nineteen (19) items, rated on a 5-point Likert scale.

The data gathering procedure involved obtaining approval from the Executive Vice President for Operations of SFXC and the college dean. Informed consent was secured from the respondents prior to the distribution of the survey instruments. After collecting the responses, the data were encoded and analyzed.

Descriptive statistics, such as mean and standard deviation, were used to determine the levels of teaching competency and online student engagement. Pearson’s correlation coefficient was employed to identify the relationships between the two variables, and linear regression analysis was conducted to determine the extent to which teaching competency influences online student engagement.

Ethical considerations were strictly observed throughout the research process. Confidentiality of responses was ensured, and participation was voluntary, with respondents free to withdraw at any point without penalty.

**Results**

**Table 1.** *Level of Teaching Competency of the Faculty*

|  |  |  |  |
| --- | --- | --- | --- |
| **Teaching Competence** | **Standard Deviation** | **Mean** | **Verbal Description** |
| Knowledge | 0.545 | 4.27 | Very High |
| Teaching Skills | 0.606 | 4.39 | Very High |
| Assessment and Evaluation | 0.539 | 4.32 | Very High |
| Professional Value & Behavior | 0.538 | 4.39 | Very High |
| **Overall Mean** | 0.480 | 4.38 | Very High |

Table 1 displays the teaching competence of the faculty. Teachers’ teaching competence was described in their knowledge, teaching skills, assessment and evaluation, and professional value and behavior. From the table, the data revealed that the knowledge has a standard deviation of 0.545, which is less than 1, and it simply means that the responses of the students were homogeneous. That is, the responses are concentrated near the mean. This holds true for all indicators, including the overall standard deviation of teaching competence, because they are all smaller than one, implying homogeneity.

The table also shows the mean scores for the four indicators: knowledge (4.27), teaching skills (4.39), assessment and evaluation (4.32), and professional values and behavior (4.39). All indicators are described as very high. In this regard, the teaching competence of the faculty in these indicators is observed at all times. With an overall mean of 4.38, this indicates that the level of the faculty's teaching competence is very high and is observed at all times.

**Table 2****.** *Level of Online Student Engagement*

|  |  |  |  |
| --- | --- | --- | --- |
| **Online Student Engagement** | **Standard Deviation** | **Mean** | **Verbal Description** |
| Skills | 0.596 | 4.21 | Very High |
| Emotion | 0.623 | 4.27 | Very High |
| Participation | 0.714 | 4.09 | High |
| Performance | 0.699 | 4.27 | Very High |
| **Overall Mean** | **0.566** | **4.19** | **High** |

Table 2 shows the online student engagement of the BEEd students. Students’ engagement in an online environment was described in their skills, emotions, participation, and performance. From the table, the results revealed that the skills have a standard deviation of 0.596, which is less than 1, and this simply means that the responses of the students were homogeneous. In other words, the results are concentrated near the mean. Because all of the measures are smaller than one, including the overall standard deviation of online student engagement, this implies homogeneity.

The mean of the four indicators is also shown in the table. Skills have a mean of 4.21, emotion has a mean of 4.27, and performance has a mean of 4.27, all described as very high. This means that the online student engagement in these indicators is manifested at all times. Meanwhile, participation has the lowest mean value of 4.09, which is described as high. In this regard, online student engagement on this indicator is often manifested. Since the overall mean, which is 4.19, falls within the range of 3.40-4.19, this means that online student engagement is often manifested.

**Table 3.** *Test of Relationship*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Teaching Competence** | **Online Student Engagement** | **r-value** | **p-value** | **Decision on Ho** |
| Knowledge | Skills | 0.53 | 0.000 | Rejected |
| Emotion | 0.42 | 0.000 | Rejected |
| Participation | 0.43 | 0.000 | Rejected |
| Performance | 0.35 | 0.000 | Rejected |
| Teaching Skills | Skills | 0.45 | 0.000 | Rejected |
| Emotion | 0.41 | 0.000 | Rejected |
| Participation | 0.42 | 0.000 | Rejected |
| Performance | 0.32 | 0.000 | Rejected |
| Assessment and Evaluation | Skills | 0.61 | 0.000 | Rejected |
| Emotion | 0.55 | 0.000 | Rejected |
| Participation | 0.54 | 0.000 | Rejected |
| Performance | 0.42 | 0.000 | Rejected |
| Professional Value & Behavior | Skills | 0.55 | 0.000 | Rejected |
| Emotion | 0.45 | 0.000 | Rejected |
| Participation | 0.45 | 0.000 | Rejected |
| Performance | 0.36 | 0.000 | Rejected |
| **Overall Mean** | Skills | 0.61 | 0.000 | Rejected |
| Emotion | 0.53 | 0.000 | Rejected |
| Participation | 0.53 | 0.000 | Rejected |
| Performance | 0.41 | 0.000 | Rejected |
| **Overall Mean** | **0.62** | **0.000** | **Rejected** |

The test for the significance of the relationship between the teaching competence of the faculty and online student engagement is presented in Table 3. Since the data were normally distributed and the data were on an interval scale, the Pearson Product-Moment Coefficient of Correlation was employed to see whether there was a significant relationship between the two variables.

The table displayed that all of the results of the correlation tests between indicators of teaching competence and indicators of online student engagement revealed positive r-values with probability values less than 0.05 Alpha level. Skills, emotion, participation, and performance all have the same p-value of 0.000, indicating a significant correlation between indicators of teaching competence and the indicators of online student engagement. The results imply that any increase or decrease in the faculty’s teaching competence across knowledge, teaching skills, assessment and evaluation, and professional values and behavior, leads to a corresponding increase or decrease in online student engagement, including skills, emotion, participation, and performance.

Meanwhile, the overall mean of the data revealed a positive r-value of 0.62 and a p-value of 0.000. Since the p-value of online student engagement is less than the 0.05 alpha level, the null hypothesis stated earlier is rejected. The r-value of 0.62 also means that there is a significant and moderate correlation between teaching competence and online student engagement. The data imply that for every increase or decrease in the level of teaching competence of the faculty, there is a corresponding increase or decrease in online student engagement. This also implies that as the teaching competence of the faculty improves, online student engagement tends to improve.

**Table 4.** *Test of the Influence*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Teaching Competence** | **R2-value** | **F-Value** | **p-value** | **Decision on Ho** |
| Knowledge | 26.00% | 56.52 | 0.000 | Rejected |
| Teaching Skills | 22.50% | 46.52 | 0.000 | Rejected |
| Assessment and Evaluation | 39.60% | 105.34 | 0.000 | Rejected |
| Professional Value | 29.00% | 65.62 | 0.000 | Rejected |
| **Overall Influence** | **38.10%** | **99.29** | **0.000** | **Rejected** |

The significance of the influence of the teaching competence of the faculty on online student engagement is presented in Table 4. A powerful parametric test for determining the influence of the independent variable on the dependent variable is linear regression analysis. Since it is a parametric test, the data must be interval or ratio, and it must also be normal.

The fourth statement of the problem examined the influence of the faculty's teaching competence on online student engagement. It can be seen from the table that knowledge, teaching skills, assessment and evaluation, and professional value and behavior all had p-values less than 0.05, indicating that the null hypothesis stated earlier was rejected. This indicates that the aforementioned indicators have a significant influence on online student engagement because their p-values are all 0.000. Among the four indicators, assessment and evaluation have the most significant influence on online student engagement, with 39.60 percent (%).

The data revealed that the total influence or combined effect of the four indicators on online student engagement has an R-squared value of 38.10 percent (%), which is known as the coefficient of determination. This means that other factors not mentioned in the study account for 61.90 percent (%) of the total, and these elements are referred to as the coefficient of alienation. Also, it can be seen from the table that the overall influence of teaching competence has a p-value of 0.000. This implies that the teaching competence of the faculty significantly influenced the online student engagement of the BEEd students.

**PROPOSED INTERVENTION SCHEME**

**Rationale:**

With the results of the study as the basis for an intervention scheme, the researchers comprehensively examined the specific indicators of the main variables. The final result showed that the teaching competence of the faculty significantly influenced the online student engagement of the BEEd students. It is, therefore, in order that the intervention schemes be focused on the indicators of teaching competence and indicators of online student engagement. Because the higher their levels, the greater the faculty's teaching competence in engaging students in online learning.

A careful examination of the indicators of teaching competence revealed that all of them have a very high level, which means they observed at all times. This indicates that the teachers are competent in engaging students in online learning. Among all the indicators of online student engagement, participation was the only one rated at a high level, indicating that it is often but not consistently, demonstrated. This suggests a need to improve participation to reach a very high level of engagement.

It is in the above context that the intervention scheme was proposed, which gives emphasis to the indicators of teaching competence. However, to give more credence to the proposed intervention on the indicators of teaching competence, the researchers will supplement training with topics on online student engagement, particularly participation, which garnered a high level rating only, hence the need to raise it to a very high level.

**General Objectives:**

At the end of the teacher training workshops, the teachers are expected to:

1. Acquire relevant knowledge in these areas to maintain a very high level.
2. Develop new teaching skills that will be used in engaging the students to participate actively in online sessions; and
3. Demonstrate a willingness to engage in activities stipulated in the proposed intervention.

**Table 5.** *Table for the Proposed Intervention Scheme*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Priority Areas** | **Objectives** | **Proposed Strategies** | **Time Frame** | **Key Results** | **Budget** |
| Knowledge | To maintain a very high level of the teachers’ knowledge in transferring relevant information to the students. | Teacher training workshop for the CTE faculty.  Separate training for teachers with different fields of expertise. | 1-day teacher training workshop during summer or beginning of the academic year. | Acquainted with relevant knowledge before the classes start. | The budget will depend on the number of participants in the training. |
| Teaching Skills | To acquire new teaching skills used in implementing different instructions or techniques in the online learning environment. | Teacher training workshop for the CTE faculty. | 1-day teacher training workshop during summer or beginning of the academic year. | Acquired new teaching skills used in implementing different instructions or techniques. | The budget will depend on the number of participants in the training. |
| **Priority Areas** | **Objectives** | **Proposed Strategies** | **Time Frame** | **Key Results** | **Budget** |
| Assessment and Evaluation | To equip the faculty with new tools used in assessing the students’ performance and determining how well they successfully met the target of learning. | Teacher training workshop for the CTE faculty. | 1-day teacher training workshop during summer or beginning of the academic year. | Acquired new tools used in assessing the students’ performance. | The budget will depend on the number of participants in the training. |
| Professional Value and Behavior | To possess the appropriate profession's principles, norms, and interests as a role model for the students and colleagues. | Teacher training workshop for the CTE faculty. | 1-day teacher training workshop during summer or beginning of the academic year. | Informed about the appropriate principles, norms, and interests in the profession. | The budget will depend on the number of participants in the training. |
| Participation | To use effective teaching strategies and techniques to engage students in active participation in online sessions. | Teacher training workshop for the CTE faculty. | 1-day teacher training workshop during summer or beginning of the academic year. | Enhanced skills in the utilization of effective teaching strategies and techniques. | The budget will depend on the number of participants in the training. |

**Table 6.** *Work Plan Schedule*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phases of the Proposal** | **Activities** | **Output / Target Indicators** | **Person**  **In-charge** | **Resources Needed** |
| Considering Proposed Intervention Scheme | Meeting with the administrators and CTE faculty | Organization of the intervention scheme and staff | Proposal Leader | Budget for the meal of the participants and the venue. |
| Creating the Proposal | Proposal writing | Written document of the proposal | Proposal Leader | Internet connection, writing materials, and ink for the printer. |
| Approval of the Proposal | Presentation of proposal to the Board of Trustees for approval | Approved proposal | Proposal Leader | Internet connection, LCD projector, and venue for presentation. |
| Implementation of Proposed Intervention Scheme | Implementation of the proposed strategies | Teacher training workshops accomplished | Proposal Leader | Budget for meal and transportation of workshop facilitator and participants. |
| Assessment/  Amendment of the Proposed Intervention Scheme | Proposal revision writing | Revised written document of the proposal | Proposal Leader | Internet connection, writing materials, and ink for the printer |

**Discussion**

The study revealed that the level of the teaching competence of the faculty in terms of knowledge, teaching skills, assessment and evaluation, and professional value and behavior was all described as very high. In support of this, the level of teaching competence found in the table is similar to the study by Ferrando and Balones (2021), which showed that teachers always manifest teaching competence. Consequently, teachers demonstrated competency in delivering their lessons online (Clarin & Baluyos, 2021).

On the other hand, the study showed that generally, the level of online student engagement was high. It's worthwhile to engage students since it leads to higher course completion and academic effort. In American classrooms, oral participation is often highly appreciated, and it is frequently regarded as a good sign of students' learning engagement (Frymier & Houser, 2015). Correspondingly, this result aligns with the study by Chen et al. (2021), which indicated that students actively participated in all online learning activities and received high grades on all tasks, quizzes, and assessments.

Moreover, correlation analysis revealed a significant positive relationship between the teaching competence of the faculty and online student engagement. This result affirms the findings of Xu et al. (2020) that students demonstrated substantially higher levels of behavioral and cognitive engagement during online classes when teachers facilitated discussions. In addition, students of teachers who participate in the autonomy-supportive intervention program have more engagement and lower disengagement than students of teachers who do not. Teachers have significant post-intervention gain in teaching efficacy to boost students' engagement during instruction (Reeve et al., 2019). Thus, teachers' knowledge, beliefs, and enthusiasm are essential characteristics of their professional competence, but students must also perceive them to influence student engagement in a subject (Shin & Shim, 2021).

Subsequently, the regression analysis revealed that the teaching competence of the faculty significantly influenced the online student engagement of the BEEd students. Teachers play a vital role in promoting and improving student engagement in higher education institutions, according to the findings of Almarghani and Mijatovic (2017). Furthermore, instructional support, as a component of teaching competence, has the greatest impact on student engagement (Alrajeh & Shindel, 2020). Thus, student achievement, student advancement over time, and student application of knowledge to a professional position are all quality indicators that efficient and successful online teachers help, lead, and cooperate with their students to achieve (Frazer et al., 2017).

Given this context, the intervention scheme was proposed, which gives emphasis to the indicators of teaching competence. Fathima et al. (2014) further emphasize that teachers must continually assess and update their skills with new and innovative strategies to enhance their teaching effectiveness and keep up with changes in the education system. However, to give more credence to the proposed intervention on the indicators of teaching competence, the researchers will supplement training with topics on online student engagement, particularly participation, which garnered a high-level rating only; hence, the need to raise it to a very high level. Sinaga (2024) found that using interaction models focused on collaborative learning and personalized feedback greatly boosts student engagement and motivation.

**Conclusions**

The study concluded that the teaching competence of the faculty was always observed, while online student engagement was often manifested. There was also a significant, moderate correlation between faculty teaching competence and online student engagement. This implies that any increase or decrease in teaching competence is matched by a corresponding change in the level of student engagement. Finally, since the effect of the teaching competence of the faculty is not one hundred percent, the study concluded that there are other elements that may influence online student engagement.

**Recommendations**

The following recommendations are offered based on the findings and conclusions of the study. The administrators may initiate teacher training workshops to maintain the very high level of teaching competence of the CTE faculty and equip them with the necessary skills to increase the level of online student engagement of the BEEd students. The CTE faculty may also provide instantaneous feedback on the students’ performance and demonstrate a willingness to engage in activities stipulated in the proposed intervention. Additionally, the BEEd students may consider and comply with the activities to be implemented by their teachers. Finally, future researchers may also conduct the same research, digging into other factors that may contribute to the improvement of online student engagement.

**Ethical Approval:**

As per international standards or university standards written ethical approval has been collected and preserved by the author(s).

**Consent**

As per international standards or university standards, Participants’ written consent has been collected and preserved by the author(s).

**Disclaimer (Artificial intelligence)**

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1.

2.

3.

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