**Correlation Between ICT Integration in Teaching, Learning and Perceived Student Performance Among College Students in Bansalan, Philippines**

**ABSTRACT**

|  |
| --- |
| The implementation of technology is one of the critical drivers for transforming knowledge and technological advancement, determining how it is delivered and integrated into education. It offers different avenues for learning and engagement through technology. In today’s era, the integration of ICT tools in teaching and learning has become vital for educational progress, highlighting the essential role that technology plays for various purposes. In the municipality of Bansalan, the integration of this instrument is hindered by a lack of access to technological resources, posing difficulty to the students and teaching influences. This study aimed to determine the extent of the relationship between the ICT Tool Integration and the Student Performance experiences of the Bachelor of Information Technology students at St. Mary’s College of Bansalan, Inc. This study follows a structured framework of correlation analysis to explore how, why, and when ICT integration affects students’ learning and teachers’ instructional practices, including its impact on motivation, engagement, and overall performance. Additionally, this research provides insights into the technological challenges that impact educational achievement, emphasizing the importance of ICT tools and their significant implications for enhancing academic outcomes. The study was conducted at St. Mary’s College of Bansalan, Inc. from September 6, 2024, until December 2024. This examines and investigates the connections between the ICT tools integration to the students' performance of bachelor of science in information technology students in the municipality of Bansalan. The Quota sampling technique was adopted, and the undergraduates who participated were Bachelor of Science in Information Technology students, with a set minimum sample size of 200. Primary data was collected using a School Survey Questionnaire. The statistical software used was JSAP, along with manual calculations for classification outlines and to review the computations. The persistent lack of access to essential ICT tools poses various challenges, potentially hindering students’ academic innovation and progress. The results demonstrate the demographic profile of the respondents in terms of year level. A total of 205 students from the bachelor of science in information technology course who integrated towards ICT integrations in the school participated in the study, which the results were able to show a comprehensive matter to the research as the responding rate of 65%. Out of 205 students, indicate a monotonic correlation between the adoption of ICT tools integration and the level of student performance (r=0.390, n=205, p=0.001). Statistically, this suggests that as the level of ICT tools integration increases, the level of student performance will not decrease but may even increase as documented. The results show that implementing ICT tools significantly influences student performance among BSIT students in the municipality of Bansalan. Additionally, the results highlight the need to deal with the ongoing crisis of ICT tools that would help increase not only student performance but also academic creativity and innovativeness. Although the relationship is modest, it further confirms the view that ICT tools are potentially powerful change agents in education and provides an indication of how they can be improved to mitigate pain points and enhance the learning process and experience as a whole. In the end, the results offer prospects to policymakers, educators, and institutions such as St. Mary’s College of Bansalan, Inc., in formulating initiatives that seek to address the iniquitous distribution of technological resources in order to enhance and promote a better and inclusive education. |

***Keywords****: IT Skills, College Students, ICT, Teaching, Performance, Technology, Bansalan Davao del Sur*

**1. INTRODUCTION**

* 1. **Background of the Study**

The accessibility to information that interacts with the learning environment is a key aspect of ICT tool integration, which enhances students’ perception of academic innovation and helps them grasp various technological concepts. However, students need to explore and use different technological tools, which are essential for building knowledge in technology. Integrating ICT into teaching and learning is a complex process and one that may encounter a number of difficulties. These difficulties are known as “challenges” (Schoepp, 2005) A few common challenges include time constraints, inadequate ICT competence, attitudinal barriers, infrastructure accessibility and limited ICT training. If lecturers are to integrate ICT in their teaching practices with confidence, then technical personnel must be recruited in sufficient numbers to provide due technical assistance when required (Nyakito et al., 2021; Murithi & Yoo, 2021). Unfortunately, educational progress in this area remains lacking. In a study, attention was paid to the variable affecting academic performance. The first variable is teachers' knowledge of ICT integration in teaching and learning (Taripe & Limpot, 2022). In the Municipality of Bansalan, Bachelor of Science in Information Technology (BSIT) students face inadequate access to technological tools, such as laptops, personal computers, internet connectivity, and sufficient learning devices (like how PowerPoints and modules are provided) and the concepts issues of the school technology tools (Like Internet problems and Computer assets integration). The limited access to educational software, such as programming compilers, databases, and web development tools, insufficient devices like Wifi, laptops, and phones which can impact the student performance towards their academic progress of these college students. According to Becta (2004), the inaccessibility of ICT resources is not always due to the non‐availability of the hardware and software or other ICT materials within the school, but this situation affects students’ academic performance, as it is not solely determined by their intellectual capabilities but also by the availability and integration of ICT resources (Cerrantani et al., 2016; Cotton & Jelenewicz, 2006). Those high rates of use likely reflect the fact that college students regularly use ICTs for school-related purposes. But in Saint Mary’s College of Bansalan, the Department of Bachelor of Science and Information Technology, Lack of Information Technology Tools can lead to frustration towards their school works, reduced self-efficacy to the student perseverance, and a diminished perception of the usefulness of the learning process (Amy L. Gonzales, 2018). This results in a significant negative impact on their performance, causing them to struggle in balancing technological knowledge and academic achievement in their studies. Technology is essential to improving educational results. Basic tools like software and the incorporation of educational resources like Microsoft PowerPoint and Canvas to sophisticated student assistive technology are just a few examples. Isernhagen (1999) notes, “Technology is a major catalyst for increasing learning” (p. 30). This perspective is supported by research indicating that various emerging technologies are designed not to replace traditional teaching methods but to complement and enhance them (Riley, Beard, & Strain, 2007).  During 2020, the world was facing the global COVID-19 pandemic, which caused many problems to the educational system and changed the traditional learning face-to-face to complete online learning. With this transformation, educational institutions relied on ICT to overcome this problem and adopt virtual learning depending on the previous usage of ICT infrastructure and learning management systems (LMSs) and applications (Al-Ansi & Fatmawati, 2023; Aidoo et al., 2022). During the pandemic, the application of ICT helped the higher education sector to stabilize, reduce the consequences and gain a partial advantage for competing with other industries (Hoa et al., 2022). The main objective of this correlational research study is to investigate the relationship between the ICT Tool Integration and the Student Performance of BSIT students in the Municipality of Bansalan. This research aims to explore how the ICT Tool Integration for teaching and learning impacts (Variable 1) and affects students’ perceived academic performance (Variable 2) and overall achievement. By examining these factors, the study seeks to understand how these challenges affect students’ ability to perform in their academic endeavors and how the concept of technological teaching helps them. This Matter will imply the aspect of the Limitations and diverse influences of how the technological tools and support specifically affect BSIT students. Addressing its framework will imply a comprehensive understanding of the impact on students and offer targeted recommendations.

**1.2 Theoretical framework**

The theory used in this research is the digital divide theory. It was developed by Mark Warschauer. Their study proposed an outline framework on the gap between those who have access to technology and how this gap affects educational outcomes. To empathize with the framework, the transmission perspective of education, which is linked to E.D. Hirsch’s concept of cultural literacy (1987), sees education as the process of acquiring key facts, skills, and knowledge through methods like lectures and direct teaching. To understand, the aspect of the theory implies that accessing technology either in or not, will acquire cultural literacy of knowledge implementation which will apply towards learning innovation. The importance of theory clarifies how limited access to technology can hinder academic performance, while the transmission perspective helps us understand how technology integration and innovations imply the students’ achievements.

* 1. **Conceptual Framework**

***ICT Tools Integration Students Performance***

**Frustration**

**Usefulness**

**Self Efficiency**

**ls**

**The  Use of ICT Tools**

**Implementing ICT Tools**

**Challenges of Using ICT Too**

**The Use of ICT Tools**

**ls**

**The  Use of ICT Tools**

**Figure 1. Conceptual Framework of the Study**

The conceptual framework used is the IV-DV (Independent Variable – Dependent Variable) model, which illustrates by the discussion and topic of Mr. Mark Buladaco and required for the research integration, this framework embellishes the relationship between the integration of ICT tools (independent variable) and perceived student performance (dependent variable).  This model demonstrates how the (Variable 1) integration of ICT tools in the study affects Bachelor of Science and Information Technology students’ performance (Variable 2), including challenges in implementing and using these tools, as well as students’ use of technology for learning and teaching.  These considerations have various impacts on how ICT Tools imply their daily academic innovation, which integrates various students’ academic experiences, especially in terms of changes in frustration, perceived usefulness, and self-efficacy with ICT tools, which ultimately influence academic performance. The interaction between these variables can result in significant challenges, ultimately impacting students’ academic pursuits overall. The interaction between these variables can result in significant challenges, ultimately impacting students’ academic pursuits overall. Once we have identified the independent and dependent variables, our next step in choosing a statistical Test is to identify the scale of measurement of the variables (Windish 2006). The scale of measurement of the independent Variable helps us to determine which statistical procedure within the broad category is appropriate.

* 1. **Research Questions**

This study aims to determine the extent of the relationship between the ICT Tool Integration and the Student Performance experiences of the Bachelor of Information Technology students at St. Mary’s College of Bansalan, Inc. Specifically, this study seeks to answer the following questions:

i. What is the level of ICT Tools Integration among BSIT students in terms of?

1. Implementing ICT Tools
2. Challenges in Using ICT Tools
3. Use of ICT Tools

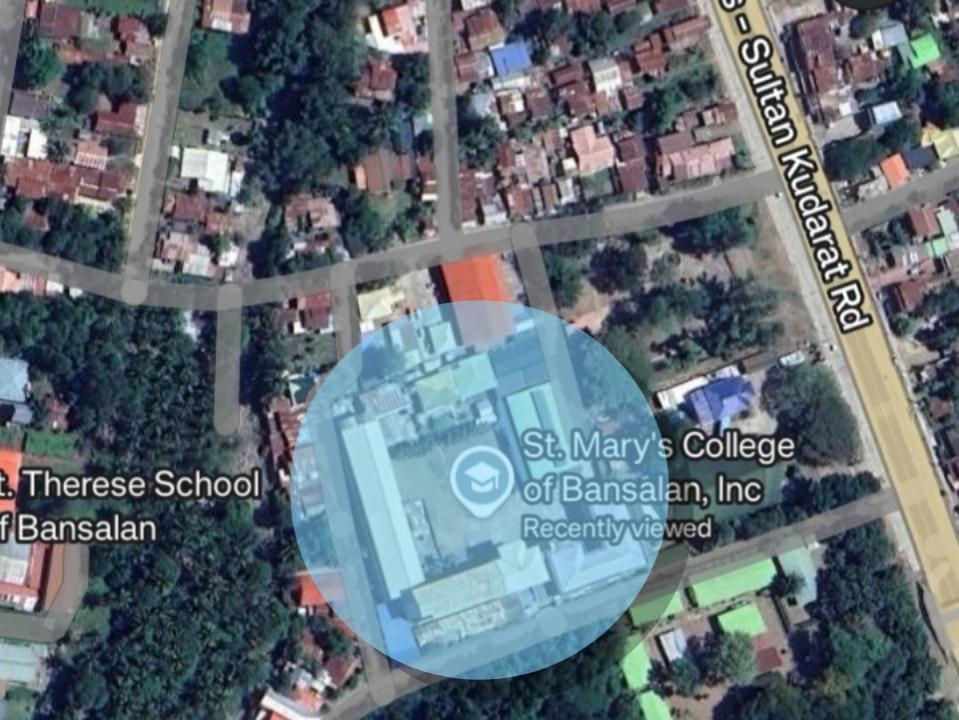
ii. What is the level of Student Performance among BSIT students in terms of?

1. Frustration
2. Usefulness
3. Self-Efficiency
   1. **Null Hypothesis**
4. Is there a significant relationship between ICT Tools Integration and Student Performance among College students in the Municipality of Bansalan?
   1. There is a significant relationship between the ICT Tools Integration and the Student Performance of BSIT students in the Municipality of Bansalan.
   2. There is no significant relationship between the ICT Tools Integration and the Student Performance of BSIT students in the Municipality of Bansalan.
5. Is there a significant relationship between ICT Tools Integration and Student Performance among College students in the Municipality of Bansalan?
6. There is a significant influence between the ICT Tools Integration and the Student Performance of BSIT students in the Municipality of Bansalan
7. There is no significant influence between the ICT Tools Integration and the Student Performance of BSIT students in the Municipality of Bansalan.

**2. methodology**

**2.1 Research Design**

     The researchers of this study used a correlational research design, which is a type of quantitative research method within the positivism paradigm (Anderson and Arsenault, 1998). The design examines the relationship between ICT tool integration in teaching and learning and the perceived academic performance of BSIT students in the municipality of Bansalan. It includes explaining phenomena by collecting numerical (quantitative) data that are analyzed using mathematically based methods (in particular statistics) (Aliaga and Gunderson, 2000). The main purpose of using a correlational study is to investigate and determine the relationship between the two variables without bias or prior assumptions. Through the use and application of a correlational research design, this study seeks to assess how various aspects of ICT integration relate to students’ academic performance and outcomes. This research approach was chosen to provide a directional understanding of the issues and insights specific to its students, particularly in relation to the integration of ICT tools and its impact on student performance.

**2.2 Research Locale**

**Figure 2. Research Locale**

  This study was conducted at St. Mary’s College of Bansalan, Inc, found in Dahlia St.,       Poblacion Uno, Bansalan, Davao del Sur, 8005, which is just off the Davao – Cotabato road in Mindanao. The college is located half a kilometre from the main landmarks of the province, the main church, the town hall of Poblacion Uno (Cluster Area of Bansalan), and Provincial Rizal Park. The school is the main Educational Centre in the area, with the total students estimated to be around 800 to 900 in various department sections.

**2.3 Participants of the Study**

     The age requirement of participants in this study is 18 years and over, with specific relevance to Bachelor of Science in Information Technology (BSIT) students from Saint Mary’s College of Bansalan. This group must be composed of males, females and different gender identities, such as the LGBTQ + community. The subjects were also integrated into ICT Tools within the School and in their daily activities, hence a thorough investigation of the Integration of ICT tools in teaching and learning as well as their effectiveness towards academic performance.

**2.4 Sampling Techniques**

     We employed quota sampling in accordance with the guidelines provided in Doctor Mark Buladaco’s study. The undergraduates who participated were Bachelor of Science in Information Technology students, with a set minimum sample size of 200. They were chosen through Quota sampling, and the researchers are expected to carry out surveys on the participants using the same questionnaires that a Professor formulated, bearing in mind the research study on the integration of ICT tools in the teaching learning process and students’ performance in Bansalan Municipality.

**2.5 Data Collection Procedure**

This study aims to interrogate ICT tools integration and student performance among BSIT students, emphasizing the relationship between the two. The statistical software to be used is JSAP, along with manual calculations for classification outlines and review of the computations.

1. Analysis of Variance – This tool used to describe the significant differences of the levels of the ICT tools Integration and Student Performance when analyzed by Bachelor of Science in Information Technology Students.
2. Pearson r – This tool used to describe the significant Relationship between the ICT Integration and Student Innovation Interest among college students is St. Mary’s College of Bansalan Inc.
3. Data Collection Procedure – In order to perform the study about the Correlation between ICT Tools Integration and Student Performance College Students at St. Mary College of Bansalan
4. T-Test - It will be used to determine if there are significant differences in the levels of ICT tools integration and student performance among college students in the Municipality of Bansalan when analyzed by specific demographic factors.
5. Standard Deviation- It will use standard deviation along with descriptive statistics such as frequency, percentage, and mean to measure the variability in the levels of ICT tools integration among BSIT students in terms of specific indicators.

**For Research Question 1**

     The researchers will use descriptive statistics, frequency, percentage, and mean to determine the level of ICT tools integration among BSIT students in terms of:

I.     Implementing ICT Tools

II. Challenges in Using ICT Tools

III. Use of ICT Tools

**For Research Question 2:**

     The researchers will use descriptive statistics mean and standard deviation to determine the level of student performance among BSIT students in terms of:

I. Frustration

II. Usefulness

III. Self-Efficiency

**For Research Question 3:**

     The researchers will use a t-test and Pearson r to determine if there is a significant relationship between ICT tools integration and student performance among college students in the Municipality of Bansalan.

**For Research Question 4:**

    The researchers will use a t-test and Pearson r to determine if ICT tool integration significantly influences the performance of college students in the Municipality of Bansalan.

     Through this method of calculation and implementation of statistical methods and techniques in the documents, the researcher can ensure the accuracy and impartiality of the systematic calculation process. This also allows for a thorough elaboration and analysis to determine if there is indeed a strong connection between Variable 1 (ICT Tools Integration) and Variable 2 (Student Performance), including whether to accept the hypothetical context in the research.

**2.6 Data Collection Procedure**

     As for the primary data collection, the researchers used a School Survey Questionnaire arranged in Quota Sampling Techniques. Such samples were collected in a printed form, QR Codes, Gadget Tools, and Google Forms. Prior to the distribution of the questionnaires, the researchers explained the consent of the respondents and presented a Form of Agreement to maintain ethics. Students from Saint Mary’s College of Bansalan were recruited and surveyed online or in person. This was decided on the effectiveness of their feedback in correlation ICT tools. As noted by Zikmund (2003), a good questionnaire must satisfy two essential criteria: relevance and accuracy.

.**2.7 Research Instrument**

     This research instrument was adapted from two primary studies. The first study, titled “Teaching and Learning with ICT Tools: Issues and Challenges,” was conducted by the Faculty of Education at the University of Malaya, Malaysia. This study focused on educational institutions that have systematically transformed their teaching and learning practices to prepare students for the Information Age while supporting the goals of the National Philosophy of Education. The study gathered insights into teachers’ perceptions and the challenges they face in integrating ICT tools into the educational process. This research used the same indicators from the original study, which include perceptions on implementing ICT tools in teaching and learning, challenges in using ICT tools in teaching and learning, and the use of ICT tools in the classroom. The survey utilized was a Likert scale questionnaire, integrated with different factors in the indicators, including how ICT improves the classroom climate, the use of ICT tools in the classroom for producing text using a word processing program, and the challenges of using ICT for teaching, particularly the issue of no or unclear benefits of using ICT. The second study adopted in this research is titled “Does Technology Affect Student Performance?” by Cindi Khanlarian from the Division of Business at Concord University, Athens, West Virginia, USA, and Rahul Singh from the Bryan School of Business and Economics at the University of North Carolina Greensboro, Greensboro, North Carolina. This investigation aimed to provide evidence which demonstrates that, unfortunately, discontent with usage of IT is a common feature within the educational setup and more so with students considered weak. These findings indicate the validity of the claim that there is a need to review the IT adoption literature to include the irrelevance, frustration aspect of students’ performance regarding some application of IT. Indicators adapted from this study encompass such factors as: Frustration, Self-Efficacy, and Technical Efficiency, among others. Furthermore, it puts into use a Likert scale of a questionnaire where the responses include the following: Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. These questions concern such negative aspects as computer-related problems, computer technology and its influence on performance improvement, and level of success in regard to the homework assigned for a given particular day.

**2.8 Ethical Considerations**

 The researchers adhered to the school’s vision of Faith, Excellence, and Service in conducting this research. A formal request letter was submitted to the school administration and program head for approval to conduct the survey within the college department of BSIT. Besides this, ethical considerations like voluntary participation of the students, ensuring full disclosure of the study and soliciting participation, especially of the target group of 18-22 years through a legal consent form stating terms and agreements were in place. The confidentiality of participants’ information was highly respected, and all activities were carried out as per the guidelines provided by Dr Mark Buladaco. In addition, the research included the employment of generative AI tools with the understanding and approval of Dr Mark Buladaco in order to practice artificial intelligence responsibly in the research.

**3. RESULTS AND DISCUSSIONS**

**Table 1. Level of ICT Tools Integration**

| ICT Tools Integration | n | SD | Descriptive Equivalent |
| --- | --- | --- | --- |
| Implementing ICT Tools | 4.03 | 0.809 | Agree |
| Challenges of Using ICT  Tools | 3.16 | 1.169 | Neutral |
| Use of ICT Tools | 3.85 | 0.801 | Agree |
| Overall | 3.68 | 0.715 | Agree |

Table 1 presents the level of ICT tools integration. Utilizing the mean to ascertain the level of ICT tools integration, the result reveals an overall mean score of 3.68, with a standard deviation (SD) of 0.715 and a descriptive equivalent of “Agree.” This suggests that the integration of ICT tools is generally favorable.

     Furthermore, the result reveals that among the indicators of ICT integration, “Implementing ICT Tools” exhibited the highest mean score of 4.03, with an SD of 0.809 and a descriptive equivalent of “Agree.” This is followed by “Use of ICT Tools,” and “Challenges of Using ICT Tools.” These indicators have mean scores and SDs of 3.85 (0.801) and 3.16 (1.169), respectively, all with descriptive equivalents of “Agree.”

**Table 2. Level of Student Performance**

|  |  |  |  |
| --- | --- | --- | --- |
| Student Performance | n | SD | Descriptive Equivalent |
| Frustration | 2.23 | 0.916 | Disagree |
| Usefulness | 3.78 | 0.794 | Agree |
| Self-Efficacy | 3.80 | 0.804 | Agree |
| Overall | 3.27 | 0.436 | Neutral |

      Table 2 presents the level of student performance. The mean was employed to assess the overall student performance. The results indicate that the mean score is 3.27, with a standard deviation of 0.436 and a descriptive equivalent of “Neutral.” This suggests that the students possess a moderate level of performance.

      Based on the indicators of student performance, the highest mean score was observed for “self-efficacy”, with a value of 3.80 (0.804). This is followed by “usefulness”, with a mean score of 3.78 (0.804). Finally, “frustrations” got the lowest mean score of 2.23 (0.916) with the descriptive equivalent of disagree.

**Table 3. Correlation between ICT Tools Integration and Student Performance**

|  |  |  |
| --- | --- | --- |
|  | Student Performance | Decision |
| ICT Tools Integration | 0.390  (.001) | Reject Ho |

       Table 3 presents the correlation between the ICT Tools Integration and Student Performance. Pearson’s r coefficient was employed to determine if the ICT tools integration is significantly correlated with the level of student performance. The results indicate a weak positive monotonic correlation between the adoption of ICT tools integration and the level of student performance (r=0.390, n=205, *P*=0.001). Statistically, this suggests that as the level of ICT tools integration increases, the level of student performance will not decrease but may even increase.

| **Table 4. Significant Influence of ICT Tools Integration on Student Performance** | | | | |
| --- | --- | --- | --- | --- |
| **Predictor** | **Estimate** | **SE** | **t** | ***P*** |
| Intercept | 2.3232 | 0.1570 | 14.80 | < .001 |
| Implementing ICT Tools | 0.1036 | 0.0478 | 2.17 | 0.031 |
| Challenges of Using ICT Tools | 0.0505 | 0.0262 | 1.93 | 0.056 |
| Use of ICT Tools | 0.0954 | 0.0513 | 1.86 | 0.064 |
| R=.399, R2=0.159, F=12.70, *p=0.001* | | | | |

     Table 4 presents the significant influence of ICT tools integration on student performance. To ascertain this influence, the research employed linear regression analysis. As shown in the table, only implementing ICT tools exhibited unique and significant contributions to the model, thereby influencing student performance. The p-value for this factor was 0.031. Furthermore, the study revealed that only 15.90% of the indicators of ICT tools integration significantly influenced student performance, indicating that 84.10% of the indicators were not included in the scope of this investigation.

**Fig 3. Scatter Plot**

A graph on a black background

Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Table 5:** Descriptive Statistics Result |  | |
|  |  | Mean | SD |
|  | Students concentrate more on their learning | 4.14 | 0.957 |
|  | Students understand more easily what they learn | 4.05 | 0.938 |
|  | ICT improves the class climate (students more engaged, less) | 3.99 | 0.907 |
|  | Students understand more easily what they learn | 3.96 | 0.920 |
|  | ICT facilitates collaborative work between students | 3.99 | 0.929 |
|  | Insufficient technical support for teachers | 3.02 | 1.462 |
|  | Too difficult to integrate ICT use into the curriculum | 3.03 | 1.446 |
|  | Lack of pedagogical models on how to use ICT for learning | 3.09 | 1.356 |
|  | Lack of adequate content/ material for teaching | 3.13 | 1.296 |
|  | Insufficient number of laptops/notebooks | 3.53 | 1.323 |
|  | Email a file to someone, another student, or a teacher | 3.99 | 0.973 |
|  | Participate in a discussion forum on the internet | 3.90 | 0.926 |
|  | Download or upload curriculum resources from/to websites or learning platforms for students to use | 3.83 | 0.859 |
|  | Participate in social networks | 3.83 | 0.910 |
|  | Organize computer files in folders and subfolders | 3.71 | 1.085 |
|  | I feel anxious when I run into a problem with the web-based homework software. | 2.12 | 1.052 |
|  | I feel helpless when I encounter a problem on the computer or have a problem with the web-based homework software. | 2.24 | 0.980 |
|  | Frustrating experiences with the web-based homework software severely impacted my ability to get the assignment completed. | 2.32 | 0.991 |
|  | Using web-based homework software enables me to finish the homework assignment faster than if I used paper. | 3.80 | 0.835 |
|  | Web-based homework software has improved the quality of the work I do compared to paper homework. | 3.73 | 0.903 |
|  | Web-based homework software gives me greater control over my work compared to paper homework. | 3.79 | 0.923 |
|  | When I work on accounting problems using web-based homework software, I can get the right answers. | 3.74 | 0.927 |
|  | I can complete homework assignments successfully. | 3.80 | 0.908 |
|  | Using a computer is an efficient way for me to learn new things. | 3.85 | 0.921 |
|  | Implementing ICT Tools | 4.03 | 0.809 |
|  | Challenges of Using ICT Tools | 3.16 | 1.169 |
|  | Use of ICT Tools | 3.85 | 0.801 |
|  | Frustration | 2.23 | 0.916 |
|  | Usefulness | 3.78 | 0.794 |
|  | Self- Efficacy | 3.80 | 0.804 |
|  | ICT Tools Integration | 3.68 | 0.715 |
|  | Students Performance | 3.27 | 0.436 |

The scatter plot illustrates the strength, direction, and form of the relationship between ICT Tools Integration and Student Performance among college students in the Municipality of Bansalan. The data points indicate a strong positive relationship to different factors; as Variable 1 (ICT Integration) increases, Variable 2 also tends to improve, reflecting the positive correlation. In addition, the trendline implies the data points' settings provide insights into the variability of the data.

     The theoretical framework of the Digital Divide Theory and Cultural Literacy aligns with the concept of this study, emphasizing the influence of access to technology on individuals and the acquisition of skills and essential knowledge for academic success. The results of the study and the theory integrated seamlessly, providing empirical evidence and support. It was revealed that Variable 1 (ICT Integration) is at a moderate level, indicating adoption among students, while Student Performance is also at a moderate level, suggesting satisfactory academic achievements. The theory claims that limited access to technology hinders academic performance, as shown by the scatter plot, which highlights and addresses the concept of the Digital Divide Theory in relation to students’ capabilities and their attainment of cultural literacy. In addition, the theoretical framework bridges the concept of the research, implying that technology integration in ICT and the concepts of student performance address academic innovation and outcomes. It explains that if a student has better access to ICT tools, it enhances their capabilities to acquire the necessary skills and knowledge, resulting in academic success.

**4. CONCLUSIONS AND RECOMMENDATIONS**

**4.1 Conclusions**

Based on the findings of this research study, the following conclusions are drawn: the results of this study were able to demonstrate the demographic profile of the respondents in terms of year level. A total of 205 students from the bachelor of science in information technology course who integrated towards ICT integrations in the school participated in the study, in which the results were able to show a moderate level of ICT tools and level of student performance among BSIT students in the municipality of Bansalan.

1. The results were able to show a weak positive correlation between ICT tools integration and student performance among BSIT students in the municipality of Bansalan. However, it indicates a weak positive monotonic correlation between the adoption of ICT tools integration and the level of student performance (r=0.390, n=205, p=0.001). Statistically, this suggests that as the level of ICT tools integration increases, the level of student performance will not decrease but may even increase.
2. The results were able to show that implementing ICT tools significantly influences student performance among BSIT students in the municipality of Bansalan.
3. The plot shows a positive relationship between ICT tool integration and students’ performance among college students in the municipality of Bansalan. As ICT integration increases, students' performance also tends to improve, as reflected by the trendlines and variability of data collected.

**4.2 Recommendations**

     The following recommendations are generated based on the integration of the findings of this study. They are not biased but reflect the ideas and concerns of researchers. The overall usability of ICT resources and student performance are both crucial to achieving academic success. This is the primary reason for conducting the study and formulating these recommendations, which aim to address the identified issues effectively:

1. ***Equitable support and access to ICT tools***- The school should recognize and consider the learners’ expectations regarding ICT change and integration. It should avail resources for ICT so that there is fairness in student performance and inequality is dealt with and not encouraged.
2. ***ICT challenges***- Programs should be devised and efforts made to resolve any issues connected with the integration of ICT tools to ensure that students derive the maximum gain possible from them towards their academic performances. This initiative should also include the addressing of ICT access problems and this involves a wise allocation of the school budget.
3. *I****CT tools integration and enhancement***- The school has complete tools for information technology, however, there needs to be a timetable for the use of the computer laboratories for those students who do not have any access to the relevant technology. It is also necessary that the school provide training in the proper use of the ICT tools, focusing on improving students’ ability to embed the tools in the study of academic issues.

**Ethical Approval:**

A formal request letter was submitted to the school administration and program head for approval to conduct the survey within the college department of BSIT.

**Consent:**

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

**Disclaimer (Artificial intelligence)**

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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Details of the AI usage are given below:

1.

2.

3.

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