Introduction

The use of information and communications technology such as internet applications, CD-ROMs, video technology, various computer attachments and software programs have, of course, caused many changes in society. These changes have not just been technical but, more importantly, of structure. Many of the major institutions of our community have changed, and the way live our daily lives has been impacted. However, the impact on education is just beginning to be felt as teachers integrate this new technology into their teaching. In the early stages, when information and communications technology started to be used for teaching, the experiences of a distinguished teacher provided some clues as to what possibilities and problems may be presented with this new technology. The purpose of this study is to answer the following research questions: how does the use of Information and communication technology (ICT) change the work of a teacher? And what problem or concern do teachers foresee in the introduction of an ICT classroom?

Related Literature

The study was guided by the constructivism theory associated with Bruner J (1966). People create their own understanding of the world through experience and the internalization of these experiences. Learning requires that learners be encouraged to use active methods, which include experiments and inquiries using factual data. Constructivism changes the way teachers instruct learners. The teacher's primary role is to direct learners so that they construct ideas and not reproduce mere facts. According to constructivism, the teacher should provide a situation where learners are faced with problems that they can formulate answers to, thereby testing their knowledge, their ability to draw conclusions and get answers, as well as create an environment for collaborative learning in the process (Ultanir 2012). The teacher should guide the learners to realize that the activities they are undertaking are helping them arrive at a better understanding of their problems. By looking at the tasks and using their chosen strategies, students become expert learners as they learn how to learn on their own. Constructivism theory ties with this study as it shows that the use of ICT in the teaching and learning of English helps learning become learners-centred. The learners look for information on their own and practice what they have learned using ICT Integration resources. According to Bruner (1966), the learners can manipulate the ICT resources and, in doing this, only work slowly and at risk of forgetting what they learn. According to Mbagwana and Tani (2008), a theory of teaching should look at the learner's views of the materials to be learned, and should be structured in order to allow learners to grasp them easily. The best method to present subject matter, reward, and punishment, calls for a positive attitude from learners and for the teachers to use the right approach and the right resources. This will lead to the desired outcomes. The teacher can find the process of teaching easier if they knows ICT Resources are used in teaching. The learners become motivated, they go out and look for more information that they can easily access

through ICT resources. According to constructivism, for education to take place, there must be action. Knowledge and ideas will only be attained when learners get experiences that are meaningful to them. These experiences do not occur in isolation, but rather when learners work together as in a classroom, manipulating resources, and thereby building their knowledge together as well as their spirits. For learning to occur, learners must be an active participant, because understanding must be sought and not just accepted. The learners must engage in activities so that this knowledge can be realized (Kirk, 2013). By using ICT, learners become involved in the learning process by making use of the ICT resources under the guidance of teachers.

ICT can help students learn by affording them knowledge constructs and learner-centered activities that enable them to arrive at all answers. Computer based applications support these approaches to learning. Learners can simulate various situations and by such means solve creative and fundamental problems as learners come to understand how online materials help in deep inquiry and problem solving (Kozma, 2005). ICT enriched classrooms change classroom dynamics. The class is more actives, and there is increased classroom interaction and student learning as they cooperate and work as a team. This builds team spirit and encourages peer-support learning, which is important for better knowledge when computer-aided instructions of individualised education are used. Learners are in a position to work at their own pace and get feedback without being coerced and thus evaluate their own performance (Frankel and Wallen 1990).

Objective of the Study

The study used and development Information and Communications Technology (ICT), which has had a significant impact on people's lives, including how education is delivered. The GOK acknowledges the fact that ICT play's a major role in making education accessible, relevant, and equitable. The ministry of education's policy on ICT is to integrate information and communication technology into education and training institutions to prepare learners for a future technological knowledge-based economy. The government, private sector, non-governmental organizations, and individuals have donated ICT facilities to schools and opened training opportunities in order for teachers to use ICT facilities and improve education delivery. This study investigates the extent to which teachers have integrated ICT integration and the academic performance among senior students. Specifically, this study aimed to determine the level of academic performance among senior students and the significant influence of ICT integration on academic performance among senior students.

Methodology

The descriptive correlation design was used in the study. The demographic profile of the respondent was treated descriptively while correlation dealt with the rest of the analysis.
This study was conducted at Tawi-Tawi Regional Agricultural College (TRAC), which is located at Nalil, Bongao Tawi-Tawi, along the road going to Sanga-Sanga approximately 1.22 kilometres away from the town of Bongao and 7.50 kilometres from the Sanga-Sanga Airport.

The respondents of the study were senior students of a Bachelor of Science in Computer Science at TRAC, who were officially enrolled in the school year 2018-2019. Out of these students, only 30 were involved in this study.

A simple random sampling technique was utilized. The target respondents were drawn from the total population by listing the names of the senior students and placing them in the box, which was draw from one after the other without replacement. The procedure was repeated until the desired number of samples were obtained.

The researchers made a structure questionnaire-checklist. Part I dealt with the demographic profile of the respondent, Part II focused on the students' performance, while Part III reflected the academic performance of the respondent, which was gathered from the different instructors who handled the respondents of this study.

To interpret the data, frequency and percentage were used to analyse the demographic profile of the respondents. Also, mean and standard deviation was used to analyse the data on the students' different performances. The regression analysis was employed in order to determine the influence of ICT Integration and academic performance among senior students.

Results and Discussion

Table 1: The Mean Value and Standard Deviation of Information and Communications Technology (ICT) Integration among Senior Computer Science Students at Tawi-Tawi Regional Agricultural College

Statements	Weighted mean	SD	Verbal description
1. A computer-based network of information resources that combines text and multimedia.	1.833	1.341	Agree
2. Device for increasing amplitude or powers of electric signals	1.867	1.074	Agree

3. Creation of an electric current in a conductor moving across a magnetic field.	1.933	1.258	Agree
4. A set of wires used for data transfer.	1.933	1.337	Agree
5. A mechanism that stores take for used by a computer.	1.967	1.066	Agree
6. Equipment involved in the function of a computer.	1.967	1.066	Agree
7. High-level computer designed for the most intensive computation tasks.	1.967	1.129	Agree
8. Electrical condenser, a device for storing an electrical charge.	2.000	1.313	Agree
9. A computer program design to help students a certain type of work.	2.033	1.351	Agree
10. Instructions that cause the hardware the machine to do work.	2.033	1.217	Agree
11. A computer is a form of a desktop or laptop device design for use by students.	2.033	1.326	Agree
12. Property of any object or substance to resist or oppose the flow of an electrical current.	2.067	1.413	Agree
13. Computer-based global information system.	2.067	1.213	Agree
14. Devices and systems that transmit electronic or optical signals across a long distance.	2.133	1.252	Agree
15. The basic software that controls a Computer	2.267	1.081	Agree
Average Weighted Mean	**1.904**	**0.990**	**Agree**

Legend:

Scale	Range of Mean	Verbal Description
1	1.0 – 1.49	Strongly Agree
2	1.5 – 2.49	Agree
3	2.5 – 3.49	Moderately Agree
4	3.5 – 4.49	Disagree
5	4.5 – 5.00	Strongly Disagree

The average weighted mean value of responses on the statements, as shown in Table 1, on the Information and Communications Technology Integration among Senior Computer Science Students in Tawi-Tawi Regional Agricultural College was 1.904. The respondents believed in the integration of electronic skills and information and communications technology. They were

aware that computer operation requires an adequate supply of electric energy, which eventually contributed to the effective transmission of the information and communication system.

The measures of variation of responses in the statements of information and communication technology integration among the respondents can be explained in terms of standard deviation values about the mean values. As reflected in the table, the analysis of data suggested that all the statements mentioned above are indicators of information and communication technology integration among the respondents and manifested high standard deviation values. This implies that the respondents have varied responses to the above items. It can be surmised that some of the respondents have indicated agree or even strongly agree, while others may have indicated moderate agreement. Others may have reported disagree or strongly disagree. However, based on the average weighted mean value of respondents of 1.904, the level of information and communication of technology integration among senior Computer Science students at Tawi-Tawi Regional Agricultural College was rated as agree.

Table 2: The Level of Visual Basic Programming Performance among Senior Computer Science Students at the Computer Science Department in Tawi-Tawi Regional Agricultural College

FACTOR	MEAN	S.D.	MAXIMUM	MINIMUM
Grades	2.343	0.361	1.5	2.75

Numerical Ratings	Verbal Description
1.00 – 1.25	Excellent
1.26 – 1.75	Very Good/Very Satisfactory
1.76 – 2.25	Good/Satisfactory
2.26 – 2.75	Fair/Moderate Satisfactory
2.76 – 3.0	Passing/Poor

Table 2 presents the mean value and standard deviation of academic performance among senior Bachelor of Science in Computer Science students at Tawi-Tawi Regional Agricultural College. As depicted in the table, the level of academic performance among the respondents was represented by the mean GPAs of 2.343. A standard deviation of 0.361 described fair or moderately satisfactory. The maximum level of academic performance among the respondents corresponded to a GPA of 1.5 which is described as very satisfactory. On the other hand, the minimum level of academic performance among the respondents corresponded to a GPA of 2.75 with a verbal description of moderately satisfactory.

However, when analysed carefully, with a mean value of 2.343 and a standard deviation of 0.361, the analysis of data revealed that a set of data that constitutes the distribution of GPAs among the respondents manifested a homogeneous distribution. This implies that the levels of academic performances among the respondents were statistically similar.

Generally, based on the mean value of GPA of 2.343, the level of academic performance among the senior BSCS Students in Tawi-Tawi Regional Agricultural College was assessed as moderately satisfactory.

Table 3: The Influence of Information and Communications Technology (ICT) Integration on the Academic Performance among the Senior Computer Science Students at Tawi-Tawi Regional Agricultural College

Predictor Variables	Regression Coefficient	Standard Error	Student's T-value	P-value
1. A computer-based network of information resources that combines text and multimedia.	0.14722	0.17579	0.84	0.4164
2. Device for increasing amplitude or powers of electric signals	0.13120	0.14232	0.92	0.3722
3. Creation of an electric current in a conductor moving across a magnetic field.	-0.37224	0.18191	-2.05	0.0600
4. A set of wires used for data transfer.	0.13742	0.12999	1.06	0.3084
5. A mechanism that stores take for used by a computer.	0.05488	0.24784	0.22	0.8280
6. Equipment involved in the function of a computer.	-0.00074	0.08321	-0.01	0.9930
7. High-level computer designed for the most intensive computation tasks.	-0.07960	0.21369	-0.37	0.7151
8. Electrical condenser, a device for storing an electrical charge.	-0.04102	0.16704	-0.25	0.8096
9. A computer program design to help students a certain type of work.	-0.05749	0.07946	-0.72	0.4813
10. Instructions that cause the hardware the machine to do work.	-0.13671	0.16950	-0.81	0.4334
11. A computer is a form of a desktop or laptop device design for use by students.	-0.09966	0.12497	-0.80	0.4385
12. Property of any object or substance to resist or oppose the flow of an electrical current.	0.15310	0.11976	1.28	0.2219

13. Computer-based global information system.	0.12586	0.11372	1.11	0.2871
14. Devices and systems that transmit electronic or optical signals across a long distance.	0.04096	0.10799	0.38	0.7102
15. The basic software that controls a computer	-0.07243	0.19435	-0.37	0.7150
r = 0.53 F - obs = 1.28 R² = 0.2782 P - value = 0.3250				

Table 3 shows how the coefficient r(r=0.53) indicates the existence of a moderate relationship between that information and communications technology integration, when taken collectively, and the academic performance among senior BSCS students at Tawi-Tawi Regional Agricultural College. Also, the coefficient of determination (R^2=0.2782) indicates that 27.82 percent variance of academic performance among the respondents can be explained by the collective factors of information and communications technology integration. It implies further that 72.18 percent of the factors, which contributed to the variance of academic performance of the respondents, were not discussed in this study. Moreover, the overall f-values of 1.28 with a probability value greater them the alpha level of signification (p-value =0.3250 70.05) reveals that the relationship between the information and communication technology integration, when taken collectively, and the academic performance among the respondents was not significant.

Likewise, when taken individually, eight (8) out of fifteen statements on the information and communications technology integration as predictors of academic performance among the respondents indicated an inversely proportional relationship with their academic performance. This means that even the ITC integration among the respondents improves, academic performance may tend to decline or vice versa. On the other hand, the other seven (7) statements as predictor variables indicated a directly proportional relationship between the ITC integration taken individually and the academic performance among the respondents. It means that, as the ITC integration system among the respondents improves, it follows that the academic performance of the respondents will also improve or vice versa. Corresponding t-values with a probability of occurrence greater than the alpha level of significance relate to academic performance among the respondents.

Based on the findings, the null hypothesis, which stated information and communications technology integration has no significant influence on academic performance among senior BSCS students at Tawi-Tawi Regional Agricultural College was accepted at a 5% level of significance.

There was no sufficient evidence to conclude that there is a significant influence of ITC integration on the senior BSCS students at Tawi-Tawi Regional Agricultural College.

Conclusions

Based on the results, it is claimed that student's t – values corresponded with the statistical probability value found, which is greater than the alpha level of significance (p-value=α>0.05). Statistical analysis revealed not even one of the predictor variables (classroom environment), when taken individually, was significantly related to the typing skills of the student-respondents. The preceding findings accepted the null hypothesis, which stated that "There is no significant influence of classroom environment on the computer typing skills among senior computer science students in Tawi-Tawi Regional Agricultural College" at a 5 percent level of significance. Statistically, it can be concluded that the variables have no relationships. Typing skills concentrate only on the way students are driven to learn typing procedures and the techniques behind the improvement of their learning capabilities.   Finally, the findings, which revealed no sufficient evidence to declare that there is a significant influence of the classroom environment on the typing skills among senior computer science students in Tawi-Tawi Regional Agricultural College, was enough proof of the disclosed statistical analysis of the findings.

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