Do Teaching Models Affect Students Academic Performance

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Abstract: The study's objective was to evaluate how the ADDIER and ASSURER models affected the academic performance of students. A test was used to collect data from Sunyani Technical University's final-year hospitality students in Ghana as part of the study's experimental research design. Statistical Product and Service Solutions (SPSS) version 20 was used to manage and process the data. The data were analyzed using descriptive and inferential statistics. The study revealed that the ADDIER and ASSURER models have an impact on students' academic performance. Comparatively, it can be seen from the values of the effect size statistics that the ASSURER model has a stronger impact on students' academic performance than the ADDIER model. The study is important as it has provided empirical evidence on how reflection processes affect students' academic performance and expanded the literature on hospitality education. The researcher recommends that the study be repeated with a large sample size in other tertiary institutions to confirm the external validity of the theoretical expansions

Keywords: ADDIER, ASSURER, eta square, models, reflection

1. INTRODUCTION

It is predicted that more than one billion youth would enter the workforce globally in the next ten years based on the pattern of skills development in the various tertiary institutions around the world (Kamath, 2018). However, the biggest question that perhaps remains unanswered is: how could students be prepared for jobs that require a great deal of high-profile skills? Therefore, Kamath (2018) has stated that it is challenging to foresee the kinds of skills employers will need in the future given the nature of job prescriptions, which are subject to rapid change.

It can however be predicted that skills that are likely to be required by employers in the 21st century will focus on transferable soft skills that can be put into good use across a wide range of industries. Such skills are expected to enhance the modern graduates' employability. In the same vein, exposing students to industry-standards, practices and procedures at an early age, using appropriate methods of teaching, can help to bridge the gap between theory and practice after graduation (Kamath, 2018). Coryell et al. (2013)

have prescribed that in order to fit into the current global workforce within the purview of fourth industrial revolution, students in Ghana's tertiary institutions need quality education and training aimed at providing practical skills to function as responsible employees to provide skills that are on higher demand in the present labour market.

Besnoy et al. (2015) have also observed that effective participation in the current global market workforce requires the acquisition of highly sophisticated technological knowhow and the development of 21st century labour-market skills to compete and secure sustainable employment. The Hospitality Skills Oversight Group (2018) recommended that the modern tertiary educational system improve its alignment of hospitality-related education and training with the skill requirements of the hospitality sector based on the current trend of the global market as a result of the Fourth Industrial Revolution. The stakeholders in the business community are seriously investing in various forms of youth workforce

development to increase their productivity and profitability in response to the skills gaps and the need to attract newly trained graduates with the necessary skills in the current changing workplace (Deloitte, 2018).

In this regard, Hospitality/Tourism students in Ghana's tertiary institutions need to be given the requisite training that would enable them acquire practical education and skills to take advantage of the current industrial revolution (4IR) within the competitive global market (Boahin & Hofman, 2012). In Ghana, the tourism and hospitality sector are seen as a major potential engine of growth and development. For instance, the "Year of Return, Ghana 2019" initiated by the Government of Ghana, has led to an increase in tourist arrivals by 200,000 and generated a total of $ 1.9 billion (Oteng-Gyasi, 2019). These improvements have not been met with any corresponding improvement in service delivery in the hospitality and tourism management industry. The development has created a great opportunity for the Hospitality and Tourism educators to train the needed manpower to address the service needs of the industry. However, Ghana's tourism potential is still largely untapped, particularly in terms of service delivery and customer care at hotels, restaurants, fast food outlets, travel agencies, amusement parks, entertainment venues, tour operators, as well as sites and event attractions; and in tourism-related micro-businesses like the handicrafts industry, all of which fall far short of acceptable international standards (GTA, 2020).

In addition, the National Tourism Development Plan (2013–2027) states unequivocally that the level of service quality delivered in the Ghanaian hospitality and tourism sector falls short of acceptable and competitive international standards (Ministry of Tourism, 2012). The hospitality and tourism industry in Ghana has certain significant flaws that need to be fixed, according to studies that have been conducted (Mensah-Ansah, 2014; Adu-Ampong, 2018). The foregoing literature pointed that, there is a significant disconnect between education and practice that has to be bridged. This brings up a serious problem that necessitated scientific action. In order to fill the gap, the researcher set out to adapt the ADDIER and ASSURER MODEL as a form of intervention by looking at how it affected students' academic performance. The Hypotheses of the Studyincludes i H0: There is statistically no significant difference in the performance of students between the control group and treatment group using the ADDIER and ASSURER

models. ii.H1: There is statistically significant difference in the performance of students between the control group and treatment group using the ADDIER and ASSURER models.

2. LITERATURE REVIEW

Definitions of Reflection: The word "reflection" has been loosely defined in a variety of literary settings. Essuman and Asante (2010) defined reflection as the activity of looking back on a practice experience in order to explain, analyze, and evaluate it to inform learning about practice.

Reflection is the process by which experiences are transformed into dynamic knowledge, according to Korthagen (2001). It is also described by Farrell (2015) as the process of internally evaluating and studying a matter of concern that is brought about by an event, which clarifies and generates meaning for the self and leads to a modified conceptual and pedagogical perspective.

Studies on importance of reflection: Reflection is crucial to the teaching and learning processes since it encourages both teachers and students to acquire abilities, according to numerous academics. Olaya Mesa (2018) found that reflective practice improves teachers' professional practices and students' learning outcomes, while Kheirzadeh and Sistani (2018) revealed that reflective practice enables ineffective teachers to become effective since such teachers are able to reflect. For instance, a study by Goodley (2018) discovered that reflecting helps both teachers and students improve their decision-making, metacognition, and logical thinking abilities.

Furthermore, Suphasn and Chinokul, (2021) study found that reflective practice contributes to enhancement of teacher quality. According to the Léon-Henri (2022) study, reflective teaching techniques foster students' creativity, motivation, critical thinking, and metacognitive abilities.

In a related study, Larsen et al. (2021) study found that reflection processes help students to gain problem solving skills. Heyler (2015 asserted that through reflection, students build skills continuously. Farrell (2015) also argued that reflective practice improved professional behavior such as knowledge, skills, and attitudes. A study conducted by Boateng and Boadi (2015) corroborated this perceptive that reflective practice enables teachers to understand how students develop knowledge and learn well. Further,

Miradkhani et al. (2019) studies unveiled that reflective practice enhances teachers' self-efficacy while in the view of Amidu (2016), teachers who employed reflective practice can guarantee successful learning outcomes.

Addie Model: The Addie model is a foundational instructional systems design concept that has historically been utilized by instructional designers. Branson et al. (1975, as cited in Wong, 2012) were the first to develop the ADDIE paradigm for the American army. Angiah (2013) highlights the fact that the ADDIE model consists of five steps: Analysis, Design, Development, Implementation and Evaluation. She goes on to explain that analysis, the first step in the ADDIE approach, identifies the instructional problem as well as learner characteristics. The second step is design, where learning activities and assessment are chosen and an outline of instructional strategies is made. The third step is *development,* where the instructor builds his or her learning content, learning assignments, and assessment. The *implementation* phase includes the testing of models where training for the instructor happens, followed by learners' participation in the instruction. *Evaluation* consists of two parts: formative and summative. Formative evaluation is a measurement of learning outcomes during the instruction process, and summative evaluation—measurement of learning outcomes after instruction is the final stage (Angiah, 2013). Figure 1 represents the core elements of the ADDIE model.
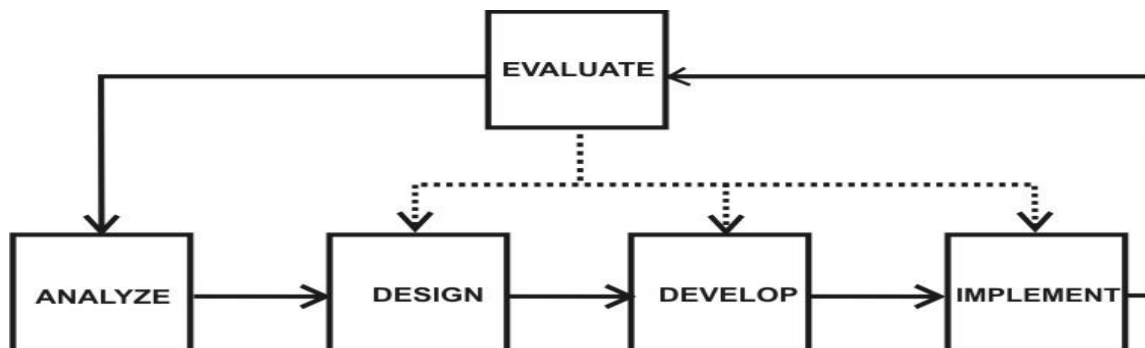

Figure 1: The ADDIE Model
Source: Adopted from *Principles of Instructional Design* (5th ed., p. 21), by R. M. Gagné, W. W. Walter, K. C. Golas, and J. M. Keller, 2005, CA: Wadsworth/Cengage Learning.

Some academics have questioned the ADDIE paradigm, focusing in particular on its inefficiency and lack of effectiveness (Gordon & Zemke, 2000). The model, it is said, neither guarantees the finest instructional solutions nor does it deliver them quickly or effectively. Others claim that the paradigm is overly cumbersome and slow because ADDIE has been abused or applied in an unimaginative way (Gordon & Zemke, 2000; Gustafson & Branch, 1997).

On the other hand, the ADDIE model has shown to be effective when used by learners to perform a certain task (Branson et al., 1975 cited in Wong, 2012).
Notwithstanding, this study expanded the phases of the ADDIE Model to include the "reflection component. The goal of the current study is to close that gap by giving both teachers and students the chance to reflect both during and after an action. For this reason, Figure 1.1. depict the ADDIE(R) model.
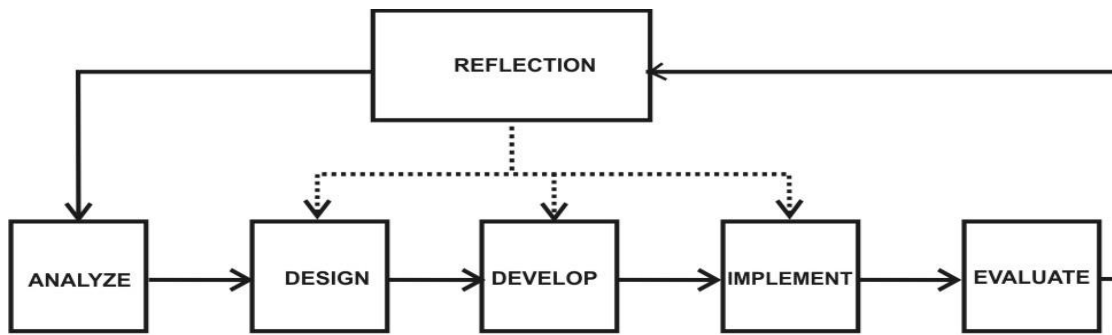
Figure 1.1: The ADDIE(R) model
Source: Adapted from *Principles of Instructional Design* (5th ed., p. 21), by R. M. Gagné, W. W. Walter, K. C. Golas, and J. M. Keller, 2005, CA: Wadsworth/Cengage Learning.

Assure Model: The Assure model, established by Heinich et al. (1993) as an expanded development of the ADDIE general model, is another model that is significant to this study. The five stages of the ASSURE model are Analysis, State, Select, Utilize, Require, and Evaluate. According to Luna (2012), the designer must start by analyzing the learner and then state the objectives to determine the knowledge and skills that the learner

Should have attained by the end of the relevant education. At the third stage, the designer chooses the method and materials to achieve the objectives. At the fourth stage, the designer employs the method and materials. At the fifth stage, the designer requires learner participation through both in-class and follow-up activities. At the last stage, the designer evaluates all learning components so as to achieve qualified learning outputs. Figure 2. Depicts the ASSURE model.
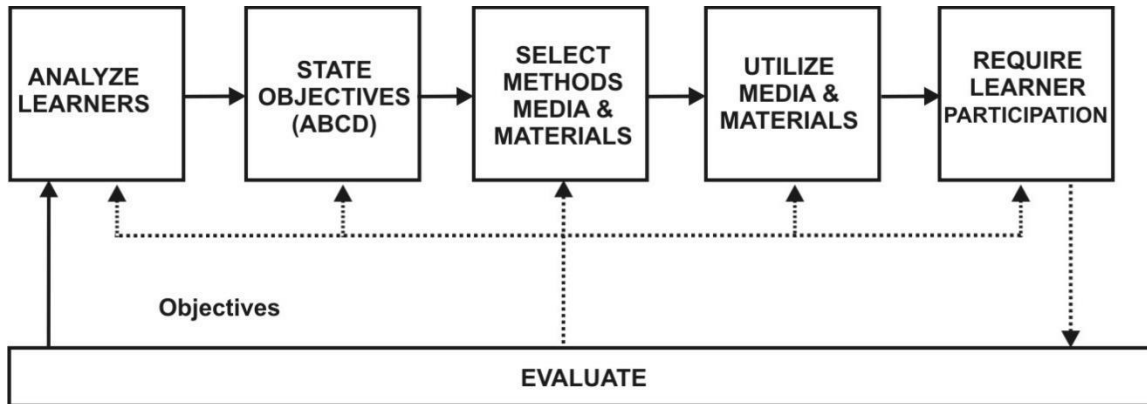

Figure 2: The ASSURE Model for Creating Learning Experiences
Source: http://www2.sjsu.edu/depts/it/edit186/mod3b.html

The ASSURE model has been applied by many researchers, such as (Edmonds et al., 1994; Smaldino et al., 2005) to provide a framework in which instructional design models could be compared. Conversely, all the researchers who adopted the ASSURE model did not allow the learners to reflect at the stages of the study. Hence, the ASSURE model does

not take into account the concept of 'reflection', just as was the case for the ADDIE model. The reflection stage is often overlooked, though, the most important of all. This study fills the 'reflection' gap by allowing both the teacher and the learner an opportunity to reflect in action and reflect on action. Figure 2.1 shows the adapted ASSURE(R) model which allows 'Reflection'
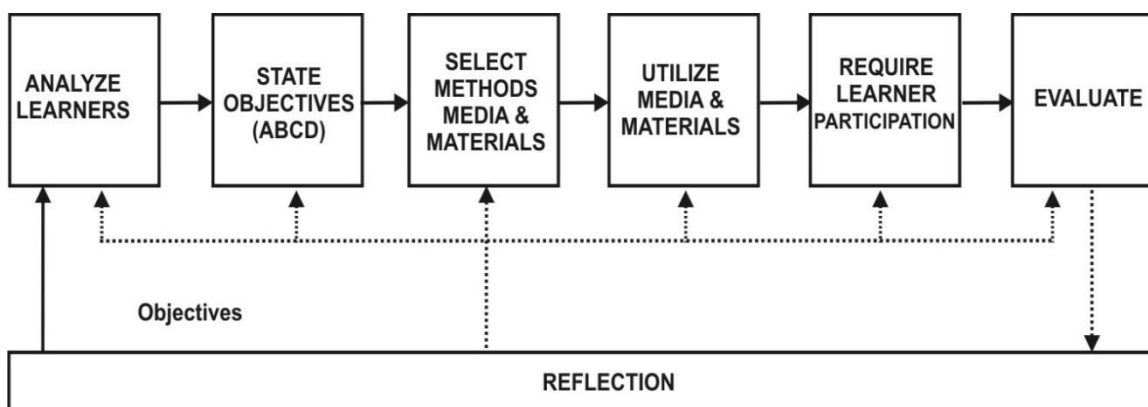
Figure 2.1: ASSURER Model
Source: Adapted from *Principles of Instructional Design* (5th ed.), by R. M. Gagné, W. W. Walter, K. C. Golas, and J. M. Keller, 2005, CA: Wadsworth/Cengage Learning.

3. MATERIALS AND METHODS

Research Design
An experimental research design is a researcher's plan or the conceptual framework within which an experiment is done (Kuranchie, 2021). Experimental design was used for the study since it allowed the independent variables to be manipulated to determine the effectiveness of the intervention (ADDIER and ASSURER Models). The design also assisted in gathering and analysing data to address research question   which sought to "examine the extent to which ADDIER and ASSURER Models influence hospitality students' academic performance. The design helped in analysing whether there is enough evidence to reject or accept the research hypothesis that there is no statistically significant difference in mean scores for the pre-test and post-test.

Population and Sampling Procedure
The population is made up of Sunyani Technical University's department of hospitality and tourism final-year students. Forty (40) third-year students were chosen at random to participate in the exercise. To give everyone in the population an equal and independent chance of being chosen, a simple random technique was employed. On separate pieces of paper, the researcher wrote "Yes" or "No," and the papers were then jumbled before being placed in a container. The researcher led the students in choosing a piece of paper without allowing them to see the container. To take part in the exercise, only the students who selected "Yes" were chosen. The third-year students were picked because they had been in the school for at least two years and might know about the various modes of delivery employed by their lecturers.

Data Collection Tools and Procedure
A test was the main instrument used to gather primary data from the respondents. Test is a series of tasks, which are used to gather data from participants of a study. Test as a tool, is intended to measure a test taker's knowledge, skill, or physical fitness on a given task. The test could be oral, written, or practical and the results obtained are analysed and discussed in relation to the literature (Nwadinigwe, 2005). With this method, a researcher subjects' respondents to test conditions and use their performance to determine the nature of what is being investigated. In this study, researcher made test was employed since it allowed the researcher to set questions on area of study after a lesson to match the objectives of the study and thereby helped in evaluating the learning outcomes of what had been taught to the group of learners in the study.

The researcher set twenty multiple objective test items and three essay items. One mark was allotted to each correct answer for each multiple objective test item to sum up to 20 marks whilst 10 marks were awarded to each three-essay test item to sum up to 30 marks. The test items from multiple objectives and essays were chosen from the core areas such as cake making, bread making, biscuit making, sandwiches, salad making, tour booking, guest registration, reservation form, guest cycle among others. Two (2) hours were allowed for the test and two sets of questions were set for the participants of exercise. One set test of the questions was employed to test the students for the pre-test and post - test. The marks obtained were recorded. The researcher then taught the class without ADDIER/ASSURER model at different time. Thereafter, ADDIER/ASSURER model was introduced to the two treatment groups. Later, the researcher administered one set of questions to the treatment groups and the marks obtained recorded. Results from the pre- and

post-tests were also compared. To determine the differences between the two study results, the outcomes of the control and treatment groups were compared.

In addition, to ensure reliability of the instrument. The following measures were taken: One, the researcher ensured that tables and chairs provided to the students were well arranged to avoid collusion and good ventilation. Two, test instructions: In this study, the participants were asked to answer twenty multiple objective test items by circling or marking the letter of their choice and three essay questions for two (2) hours. Three, the test's length: One printed question and answer booklet was handed to each student during administration of the test. After the test's given time had passed, the response booklets were gathered. A scoring matrix created by the researcher was used to grade the students' responses. The pre-test and post-test findings were then analyzed using a paired sample

t-test to determine whether there was a statistically significant difference in the mean score between the pre-test and post-test when using the ADDIER and ASSURER MODELS. The results were then discussed in relation to the literature.

Finally, in order to strengthen the findings of the study, normality test was conducted for ADDIER and ASSURER test scores. According to Pallant (2005), normality can be determined using skewness statistic values. Thus, when skewness of $\pm$ 0.5 is calculated for data distribution in continuous scale of measurement, then the appropriate measure of central tendency and measures of dispersion to be used are mean and standard deviation, respectively.

On the other hand, if the assumption of normality is met, then median and quartile deviation will be suitable for measure of central tendency and measure of dispersion respectively.

Table 4: Descriptive Statistics and Normality Test

Descriptive Statistics: Sunyani Technical University

Pre-test and post-test variables	N	Min	Max	Mean	Std. Dev	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Pre-testADDIERcontrol	20	40.00	90.00	65.50	11.91	-.028	.512
Post-testADDIERtreatment	20	40.00	90.00	65.50	13.95	.145	.512
Pre-testASSURERcontrol	20	40.00	80.00	62.25	12.62	-.241	.512
PosttestASSURERtreatment	20	50.00	95.00	75.00	13.57	-.211	.512

Source: Field Data, 2017

As can be observed from Table 4. all the skewness statistic values indicate that the distribution of the marks obtained by the students in both the pretest and posttest fall within the normal region and that the normality assumption required as prerequisite for t-test was not violated. This therefore warranted the use of mean and standard deviation as part of the descriptive analysis as presented in Table 4. In this regard, skewness statistic values were used to examine the normality of 40 students' data that were used for the paired sample t-test. The results show that all the skewness values for both the pre-test and post-test for ADDIER and ASSURER models are less than the $\pm$ 0.5

Benchmark used as a rule of thumb to ascertain whether or not a dataset are normally distributed.

Data Analysis
Frequencies and percentages were used in analysing the test results obtained from the exercise. Paired sample t-test was further used to ascertain whether there was a statistically significant mean scores for the pre-test (without ADDIER and ASSURER) and post-test (with ADDIER and ASSURER Models) in teaching. This was done to examine the effect of ADDIER and ASSURER Models on students' academic performance. Additionally, eta square was employed to test whether there was enough evidence to reject or accept the research hypothesis that there is no statistically significant difference in mean scores for the pre-test and post-test.

4. RESULTS AND DISCUSSION

Table 5: Distribution of Pre-Test/Post-Test Score for ADDIER Model

Score	Percentages of Students	
	Pre-Test Score N (%)	Post test score N (%)
Above – 80	4 (20.0)	12 (60.0)
79-70	13 (65.0)	7 (35.0)
69-60	2 (10.0)	1 (5.0)
59-50	1 (5.0)	0 (0.0)
Below 50	0 (0.0)	0 (0.0)
Total	20 (100)	20 (100)

Source: Field Data, 2017

(Scale: A = **Above 80; B =79-70; C = 69-60; D = 59-50; E = Below 50)

Pre-Test Result: ADDIER Model

Table 5 shows the pre-test and post test results of at the beginning of the study and after the intervention using the ADDIER Model. It was found out that, during the pretest, most of the students did not perform well as compared with the results from the post test. Out of the 20 students who took part in the test, 20.0 percent of them scored marks above 80, 65.0 percent scored marks between 79-70, 10.0 percent scored marks between 69-60 and 5.0 percent scored marks between 59-50. Therefore, it can be concluded that the majority of the students scored marks between 79-70 indicating that, the performance of students without the use of the ADDIER Model could be graded "B" according to the scale under Table 5.

Post-Test Result: ADDIER Model

Table 5 provides the results of the post-test conducted after the intervention. It was found out that, 60.0 percent of the students scored marks above 80. This was followed by 35.0 percent students who scored marks between 79-70 while 5.0 percent of the students scored marks between 69-60. Thus, the majority of the students scored marks 80 and above indicating that, the performance of students after introducing the ADDIER Model could be graded "A" according to the scale under Table 5. The results from the post-test show clearly that there has been a tremendous improvement in students' performance after the intervention.

Table 6: Results of Paired Sample T-test analysis between the control and treatment groups using the ADDIER Model

Variables	Group Statistics				Paired Sample T-test		
	Control Group (n=20)		Treatment Group (n=20)		T	Df	Sig (2-tailed)
Assisting Students using the ADDIER MODEL	Mean	SD	Mean	SD			
	65.500	11.91	77.75	12.08			
Pre-test and Post-test Results					-2.625	19	.017

Source: Field data, 2018

As evident in Table 6, the Paired Sample T-test was conducted to investigate whether the variances between the two groups (Control and Treatment) were significant. The results from the test indicated that the

differences in the performance of students in both the control and treatment groups using the ADDIER Model were statistically significant (p < 0.05). From Table 6, the Paired Sample T-test results showed that there is a statistically significant difference in the control group (M = 65.50; SD=11.91) and treatment group using the ADDIER Model (M= 77.75; SD=12.08; t = -2.625; df = 19, p < .05, 2-tailed). Therefore, it can be concluded that there is statistically significant difference between the control and treatment groups using the ADDIER Model.

Magnitude of effect of ADDIER Model on Students' Academic Performance

According to Pallant (2005), determining the significant difference in mean scores of the pre-test and post-test of an intervention alone is not enough to draw conclusion about the effect of such intervention. This is so because significant differences in mean scores of a pre-test and post-test of an intervention do not tell much about the magnitude of the intervention's effect. However, to determine the magnitude of the intervention's effect, effect size statistic is calculated. One of the commonly used statistics for determining effect size, according to Pallant (2005) is eta square. Eta square can be obtained using the fomular:

$$\text{Eta square} = \frac{t^2}{t^2 + N - 1}$$

Where t = t statistic for the paired sample = 2.625
N = Sample size for pre-test and post-test = 20

$$\text{Eta square} = \frac{(2.625)^2}{(2.625)^2 + 20 - 1}$$

Eta square (η^2) = .266

According to Cohen (1988) as cited in Pallant 2005, .01 of eta square value indicates small effect, .06 indicates moderate effect, while .14 indicates large effect. In this case, having eta square value of .266 shows that the use of ADDIER Model in teaching has a very greater effect on the Hospitality students' academic performance.

Distribution of Pre-Test/Post-Test Score for ASSURER Model

Score	Percentages of Students	
	Pre-Test Score N (%)	Post test score N (%)
Above – 80	3 (15.0)	10 (50.0)
79-70	11 (55.0)	8 (40.0)
69-60	4 (20.0)	2 (10.0)
59-50	2 (10.0)	0 (0.0)
Below 50	0 (0.0)	0 (0.0)
Total	20 (100)	20 (100)

Source: Field Data, 2017
(Scale: A = **Above 80; B = 79-70; C = 69-60; D = 59-50; E = Below 50)

Pre-test Result: ASSURER Model

Table 7 shows the pre-test and post test results of the students conducted at the beginning of the study and after the intervention using the ASSURER Model. It was found out that, during the pretest, most of the students did not perform well as compared with the results from the post test. Out of the 20 students who took part in the test, 15.0 percent of them scored marks above 80, 55.0 percent scored marks between 79-70, 20.0 percent scored marks between 69-60 and 10.0 percent scored marks between 59-50. Therefore, it can be concluded that the majority of the students scored marks between 79-70 indicating that, the performance of students without the use of the ASSURER Model could be graded "B" according to the scale under Table 7.

Post test Result: ASSURER Model

Table 7 provides the results of the post-test conducted after the intervention. It was found out that, 50.0 percent of the students scored marks above 80. This was followed by 40.0 percent students who scored marks between 79-70 while 10.0 percent of the students scored marks between 69-60. Thus, the majority of the students scored marks 80 and above indicating that, the performance of the majority of the students taught using the ASSURER Model could be graded "A" according to the scale under Table 7. The results from the post-test show clearly that there was a tremendous improvement in students' performance after the intervention (ASSURER Model) was introduced.

Score	Percentages of Students	
	Pre-Test Score N (%)	Post test score N (%)
Above – 80	3 (15.0)	11 (55.0)
79-70	11 (55.0)	9 (45.0)
69-60	4 (20.0)	0 (0.0)
59-50	2 (10.0)	0 (0.0)
Below 50	0 (0.0)	0 (0.0)
Total	20 (100)	20 (100)

Source: Field Data, 2017
(Scale: A = **Above 80; B =   79-70; C = 69-60; D =   59-50; E = Below 50)

Table 8: Results of Paired Sample T-test analysis between the Control and Treatment Groups using the ASSURER Model

Variables	Group Statistics				Paired Sample Test		
	Control Group (n=20)		Treatment Group (n=20)		T	Df	Sig (2-tailed)
	Mean	SD	Mean	SD			
Assisting Students using the ASSURER MODEL							
	63.75	12.34	74.75	10.19			
Pre-test and Post-test Results					-3.023	19	.007

Source: Field data, 2017

As evident in Table 8, the Paired Sample T-test was conducted to investigate whether the differences between the two groups (Control and Treatment) were significant. The results from the test indicated that the differences between the control and treatment groups using the ASSURER Model in assisting students learn hospitality programmes were statistically significant ($p < 0.05$). From Table 8. the Paired Sample T-test results showed that there is a statistically significant difference in the control group (M = 63.75; SD=12.34) and treatment group using the ASSURER Model (M= 74.75; SD=10.19; t = -3.023; df = 19, p < .05, 2-tailed). Therefore, it is concluded that there is statistically significant difference between the control and treatment groups using the ASSURER Model.

Magnitude of effect of ASSURER Model on students' academic performance
Although assessment was made to ascertain the effect of the use of both ADDIER and ASSURER Models on Hospitality students' academic performance, a comparison of the effect size statistics of ADDIER and ASSURER Models would provide enough evidence to identify which of the two models greatly affect students' academic performance.

$$\text{Eta square} = \frac{(-3.023)^2}{(-3.023)^2 + 20 - 1}$$

Eta square (η^2) = .325
The values of the effect size statistics (eta squares) tell which of the models (ADDIER or ASSURER) best affects students' academic performance. Comparatively, it is observed from the values of the effect size statistics that the effect of ASSURER Model (eta square = .325) on students' academic performance is greater than that of ADDIER Model (eta square = .266).

5. CONCLUSION AND IMPLICATIONS
The post-test results of this study, which evaluated the impact of the ADDIER and ASSURER Models on Ghanaian hospitality students' academic performance, conclusively demonstrate that the students' performance significantly improved after the intervention of both (the ADDIER and ASSURER Models) was implemented in the experiment. The study further concluded that there is statistically significant difference between the control and

treatment groups using the ADDIER and ASSURER Models. Comparatively, the study established that the values of the effect size statistics of ASSURER Model (eta square = .325) on students' academic performance is greater than that of ADDIER Model (eta square = .266). This finding suggests that if educational policy is to be made to adopt a model which would be employed by hospitality trainers in tertiary institutions in Ghana, it should rather be the ASSURER Model, since its effect on students' academic performance is greater than ADDIER Model. The study has broadened the scope and horison of literature on the impact of ADDIER and ASSURER models on student's academic performance is an attempt to fill the void in hospitality education. Further, the study's findings have provided current data on how reflection processes affect students' academic performance by expanding the frontiers of the ADDIE and ASSURE models and added to literature in that regard.

Theoretical Implications

The studies extend the scope of ADDIE and ASSURE models. All the researchers who adopted the ADDIE and ASSURE model ended at evaluation and did not give learners the opportunity to reflect what they have learnt after they have been evaluated. The study therefore extends the scope by adding reflection to the stage to make it ADDIE(R) and ASSURE(R) model. The results of the study have provided data on the impact of ADDIER and ASSURER models on students' academic performance. The study has also, contributed to literature on the few models that have been developed in existing hospitality literature and provided the basis for the development of further models in developing country context. This would enhance knowledge and understanding of usage of models in teaching to enhance students' performance. This study further, expand literature by addressing the paucity of empirical research with regard to the use of models in teaching hospitality in tertiary students in Ghana and contributes to recent and growing literature on the use of models in teaching. The model developed in this study has important implications for researchers seeking to understand the dynamics of models used in hospitality education in tertiary institutions in Ghana.

Practical Implications

The outcome of the study is expected to be of importance to Hospitality educators as they may adopt the new ways of training their students by using ADDIER and ASSURER models and thereby assist students to acquire new knowledge and the necessary skills to meet the industry requirements. It is further

expected that Technical Universities would also adopt the proposed ADDIER and ASSURER models of this study

Future Research

The researcher recommends that the study be repeated with a large sample size in other tertiary institutions to confirm the external validity of the theoretical expansions.

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