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The parable of the sower: A study of journaling teaching strategy and the academic achievement of under disposed learners

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Abstract
This study adopted the quasi-experimental research design to investigate the comparative academic performance of a group of 53 learners who personally sought for information on specified instructional content and later applied the reflective journaling strategy during teacher facilitated experiential teaching of same content and another equivalent group of 34 learners who received the same instructional content by the conventional classroom lecture/discussion method. Analysis of learner performance data revealed that there is no significant difference in the academic performance of the two groups of learners when evaluated immediately after the lesson. But the academic performance of learners was considerably enhanced when learners applied spaced repetitive approach in self-study of their reflective journals. The study recommends that teachers should structure spaced repetitive study of learning matter into the facilitation of learning.

Keywords: under disposed learner, reflective journaling, experiential teaching, spaced repetitive study

Introduction

The second category of learners in Jesus Christ's parable of the sower represents the seeds that fell on rocky ground. The great teacher explained that the seeds of the message of salvation actually sprouted but the little soil of the rocky ground on which the seeds fell could not sustain the roots of the plants. And so when the scourging heat of the sun threatened, the plants withered. He further explained that the heat of the sun represent threats, persecutions and harassments for which the little root, being the little faith of the hearer could not withstand because it had not developed the requisite anchorage; hence the listener backslid. The little soil of the rocky ground is actually indicative of lack of basement on which the roots of the plant could anchor. The implication of the parable for teaching and learning is that this category of learners lacks the requisite background knowledge for an adequate comprehension of the learning matter. They are therefore ill-prepared for the lesson; hence they are classified under-disposed.

The following defects are evidenced in their learning tasks:

1. They lack the ability to construct new meaning from the information or new knowledge.
2. They are unable to relate knowledge presented by the teacher in classroom lessons to real life experiences.
3. They prefer to copy notes dictated by the teacher instead of creating a personal understanding of concepts in their own words.

In the words of Schwartz & Hartman, (2007)

> "Without relevant prior knowledge, people can have difficulty making sense of a lesson and often have no recourse but to memorize the content rather than understand it".

Consequently, their effortful learning activities become shallow oriented. The establishment of solid and appropriate background knowledge about a given concept is therefore essential for memorability and meaningfulness of content, as well as enhancement of learner achievement.

In an effort to subdue the impact of the little soil and facilitate the learner into successful study efforts, we shall explore the benefits of a quasi-flipped classroom model of teaching and learning, active involvement of the learner in classroom learning activities and individualised study sessions. The study shall:

1. Mandate learners to source for requisite knowledge for specified lesson objectives ahead of the treatment of the accompanying lessons in the classroom
2. Involve learners in active learning in the classroom through journaling
3. Encourage learners to extend the time on classroom learning task by studying the journal entries

Aim of the study

The study shall apply active learning strategies to facilitate learner engagement. It seeks to enhance academic achievement through the instrumentality of individualised study efforts and reflective journaling.

Active learning

The mere reception of information from the teacher which characterise teacher centred learning does not really facilitate deep learning (Mangal and Mangal, 2009). Learning actually takes place when the learner participates in activities that engage him/her in meaning-making. Such activities include; inquiry, imagination, writing, interaction, hypothesising,

reflection, etc. (Cranton, 2010). These types of activities engage the learner in active information processing activities. The active learning strategies include teaching and learning activities that involve students in doing things and thinking about what they are doing (Bonwell and Eison, 1991). The activities also constitute experiential learning; a form of active learning that immerses students into real-life contexts of the learning matter. Experiential learning is of benefit to learners who require the knowledge of the value of a subject to motivate them to learn as well as learners who require alternative learning method since they find classroom learning problematic (Cantor, 1995. P80).

And so effective learning takes place when the learner is involved in practical activities that complement the information received from the teacher and also elucidates the concept being learnt. When a teacher applies active learning strategies, his objective is to engage the learner in critical thinking and creative mindset. He enables learners to be reflective and to exchange ideas and thoughts. Essentially, the focus of active learning is the engagement of students through activities that engender higher levels of learning (Prince, 2004). No wonder Serra and Fuller (1999) observed that active learning strategies constitute a significant predictor of students' success. The choice of the type of active learning strategy, however, depends on the objective of the instruction, the nature of the learning matter and the circumstances of the learning environment. Highlighting the importance of the appropriate structure of active learning activities, Wurdinger (2005, p13) noted that the problems to be solved should be intertwined with learning activities in order to involve the learner simultaneously in thinking about the problem while also executing the activities.

Reflective journaling

Reflective practice is actually an opportunity for self-discovery. When the learner studies reflectively, the meaningfulness of concepts presented by the teacher becomes revealed for enhanced understanding. One strategy to augment classroom teaching and learning experiences is the intentional design of reflective strategy into learning experiences. The reflective or learning journal is one avenue to fulfil this learning opportunity. In the words of Al-rawahi and Al-balushi (2005, p368), "learning journal is believed to engage students thinking through different cognitive processes such as prediction, brainstorming, reflection and questioning". The use of learning journal motivates students to reflect on what they have gained in the classroom. (Istianah, 2017). Functionally, the reflective journal records experiences, facilitates experience-based learning, develops deep thinking and the representation of understanding (Moon, 2006, p. 44)

Repetitive study

The adage "practice makes perfect" actually affirms the fact that one-time learning experience is inadequate for a learner to effect long-term retention or mastery of a set of facts, concepts or skills. Obviously, for long-term retention or transfer of learning to take place, the learner deserves repeated exposure to the learning experience. The repetition of an item of knowledge reminds the learner of its prior occurrence, enhances the background knowledge of the learner and also prompts the learner to retrieve related elements of knowledge

from the long-term memory (Wahlheim, Maddox, & Jacoby, 2014). Noticeably, however, when repetition is amassed or executed in close succession, retrieval is needless for each phase of the repetition. This is because the item of knowledge in the working memory is the same as the item that was immediately encoded in the long-term memory. There may also be no difference in the contexts of the learning matter. However, if the repetition is spaced out over time, there would be differences in the type of content encoded in long-term memory. The differences in the contexts of encoded learning matter associated with the different types of content encoded through spaced repetition eventually constitute cues that facilitate the retrieval of the associated content in times of need.

It is in this vein that Kang (2016), recall the following words of William James at the end of the 19th Century while exhorting teachers to encourage spaced practice in their students.

> "You can now see why "cramming" must be so poor a mode of study. Cramming seeks to stamp things in by intense application immediately before the ordeal. But a thing thus learned can form but few associations. On the other hand, the same thing recurring on different days, in different contexts, read, recited on, referred to, again and again, related to other things and reviewed, gets well-wrought into the mental structure. This is the reason why you should enforce your pupil's habits of continuous application".(James, 1899 p.129)

This discouragement concerning the use of repetition in close succession, which arises by reason of its tendency to coerce students into cramming, is still relevant today, (Kang, 2016). Spaced repetition is therefore favourable to deep learning and problem-solving.

Objectives of the study

The study shall achieve the following objectives:

1. Ascertain the comparative academic achievement of learners who engaged in journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method
2. Ascertain the extent to which repetitive review/study of journal entries affect the academic achievement of under disposed of learners
3. Ascertain the impact of the number of times a student studied a given learning matter on his/her academic performance

Research questions

1. What is the comparative academic performance of learners who engaged in reflective journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method
2. How does a repetitive study of the reflective journal entries of under disposed of learners affect their academic performance
3. How does the number of times a student studied a given learning matter affect his/her academic performance

Hypotheses

1. There is no significant difference in the academic performance of learners who engaged in reflective journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method
2. Repetitive study of reflective classroom journal entries of under disposed learners has no impact on their academic performance

Methodology

This study adopted the quasi-flipped - classroom model as an avenue to generate background knowledge. The classroom journaling strategy was also adopted to actively involve the learner in learning activities. By taking notes of personal understandings of concepts presented by the teacher in the class in own language, the student is actually involved in the self-reflective assessment of meaning made of the concept and also recording same in personal language thereby enhancing his/her understanding of the concepts.

In the quasi-flipped - classroom model, the teacher presents the title and the objectives of the next lesson and encourages the students to source for knowledge on thematic concepts and questions arising from the objectives of the lesson. During the lesson, the teacher adopts a detailed descriptive experiential approach in presenting the concepts; requiring each learner to create lesson notes in personal language to replicate personal understanding of the concepts. Pre-test data provided information on the basic knowledge of the learners concerning the concepts. At the end of the lessons, the learners were assessed to ascertain the extent to which the treatments resulted in the achievement of the objectives of the instruction

Data analysis

The data obtained from performance assessment of the control and experimental groups of learners were analysed descriptively for the research questions, while ANCOVA was used to test the hypotheses.

Results

Research question 1

What is the comparative academic performance of learners who engaged in reflective journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method?

Table 1: Mean, standard deviation on the performance of learners who engaged in reflective journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method

		Pre test		Post test		Gan	
Treatment	**N**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Reflective journaling	53	24.34	8.21	36.13	8.97	11.79	9.26
Conventional approach	34	34.26	9.39	44.85	9.81	10.59	9.98

Table 1 shows that the pre-test mean score of learners who were engaged in reflective journaling was 24.34±8.21 whereas that of their conventional approach counterparts was 34.26±9.39. The pre-test mean score of learners who engage in reflective journaling was 36.13±8.97 whereas that of their counterparts was 44.85±9.81. The mean learning gain of learners who were engaged in reflective journaling was 11.79±9.26 whereas that of their conventional group counterparts was 10.59±9.98.

Research question 2

How does a repetitive study of the reflective journal entries of under disposed learners affect their academic performance?

Table 2: Mean and standard deviation on the influence of regularity of journaling on learners academic performance

		Pretest		Posttest		Gain	
Study time	**N**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Once	17	36.76	9.34	42.94	10.32	6.18	8.57
Twice	20	36.25	9.30	45.00	9.73	8.75	13.36
Thrice	5	29.00	10.84	54.00	6.52	25.00	11.18

Table 2 shows that the pre-test mean score of learners who studied once was 36.76±9.34 whereas that of those who studied twice was 36.25±9.30 and those who studied thrice had pre-test mean score of 29.00±10.84. The post-test mean score of learners who studied once was 42.94±10.32 whereas that of those who studied twice was 45.00±9.73 and those who studied thrice had pre-test mean score of 54.00±6.52. The mean learning gain of under disposed learners who studied once was 6.18±8.57 whereas that of those who studied twice was 8.75±13.36 and for those who studied thrice they had mean gain of 25.00±11.18.

Research question 3

How does the number of times a student studied his classroom reflective journal entries affect his/her retention?

Table 3: Mean and standard deviation on the influence of study times of journal on learner's retention of studied contents

				95% Confidence Interval for Mean	
Study time	**N**	**Mean**	**SD**	**Lower Bound**	**Upper Bound**
Once	26	43.08	8.95	39.46	46.69
Twice	22	45.68	9.55	41.45	49.92
Thrice	5	54.00	6.52	45.91	62.09

Table 3 shows that learners who studied once had mean retention score of 43.08±8.95 whereas that of those who studied twice was 45.68±9.55 and those who studied thrice had mean achievement score of 54.00. The mean retention appears to increase with the study times.

Hypotheses

H_{01}: There is no significant difference in the academic performance of learners who engaged in reflective journaling during classroom lesson and those who study the conventional lesson notes of the lecture method

Table 4: Summary of analysis of Covariance (ANCOVA) on the difference in the academic performance of learners who engaged in reflective journaling during classroom lesson and those who study by the conventional lesson notes of the lecture method

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	2989.920[a]	2	1494.960	21.135	.000
Intercept	4890.364	1	4890.364	69.137	.000
Pretest	1414.651	1	1414.651	19.999	.000
Treatment	258.676	1	258.676	3.657	.059
Error	5941.689	84	70.734		
Total	144950.000	87			
Corrected Total	8931.609	86			
a. R Squared =.335 (Adjusted R Squared =.319)					

Table 4 shows that there is no significant difference in the academic performance of learners who engaged in reflective journaling during classroom lesson and those who studied by the conventional lesson notes of the lecture method ($F_{1, 84}$=3.657, p>.05). The null hypothesis one was retained at.05 alpha level.

H_{02}: Repetitive study of reflective classroom journal entries under disposed of learners has no impact on their academic performance

Table 5: Summary of ANCOVA on the main effect of the repetitive study of reflective classroom journal entries under disposed of learners on the academic performance

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	792.767[a]	3	264.256	2.993	.043
Intercept	3780.241	1	3780.241	42.818	.000
Pretest	318.090	1	318.090	3.603	.065
Studytimes	655.264	2	327.632	3.711	.034
Error	3354.852	38	88.286		
Total	90100.000	42			
Corrected Total	4147.619	41			
a. R Squared =.191 (Adjusted R Squared =.127)					

Table 5 shows that repetitive study of reflective classroom journal entries of under disposed learners has a significant impact on their academic performance (F1, 38=3.711, p<.05). The null hypothesis two was rejected at.05 alpha level.

Discussion of Findings

The performance of learners who engaged in reflective journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method

Table 1 shows that the pre-test mean score of learners who were engaged in reflective journaling was 24.34±8.21 whereas that of their conventional approach counterparts was 34.26±9.39. The post-test mean score of learners who engage in reflective journaling was 36.13±8.97 whereas that of their counterparts was 44.85±9.81. The mean learning gain of learners who were engaged in reflective journaling was 11.79±9.26 whereas that of their conventional group counterparts was 10.59±9.98. when put to the statistical test, the result on Table 4 shows that there is no significant difference in the academic performance of learners who engaged in reflective journaling during classroom lesson and those who studied by the conventional lesson notes of the lecture method (F1, 84=3.657, p>.05). The null hypothesis one was retained at.05 alpha level.

The influence of regularity of journaling on learner's academic performance

Table 2 shows that the pre-test mean score of learners who studied once was 36.76±9.34 whereas that of those who studied twice was 36.25±9.30 and those who studied thrice had pre-test mean score of 29.00±10.84. The post-test mean score of learners who studied once was 42.94±10.32 whereas that of those who studied twice was 45.00±9.73 and those who studied thrice had post-test mean score of 54.00±6.52. The mean learning gain of under disposed learners who studied once was 6.18±8.57 whereas that of those who studied twice was 8.75±13.36 and for those who studied thrice they had a mean gain of 25.00±11.18. When put to the statistical test, Table 5 shows that repetitive study of reflective classroom journal entries of under disposed learners has a significant impact on their academic performance (F1, 38=3.711, p<.05). The null hypothesis two was rejected at.05 alpha level.

The influence of study times of journal on learners retention of studied contents

Table 3 shows that learners who studied once had mean retention score of 43.08±8.95 whereas that of those who studied twice was 45.68±9.55 and those who studied thrice had mean achievement score of 54.00. The mean retention appears to increase with the study times.

Conclusion

Based on the findings of the present study, it was concluded that: The learners who were engaged in reflective journaling gained more than those who were taught using conventional approach. The learning gain, as well as retention, appears to increase with increasing frequency of study time. No significant difference in the academic performance of learners who engaged in reflective journaling during classroom lesson and those who studied the conventional lesson notes of the lecture method. Repetitive study of reflective classroom journal entries of under disposed learners has a significant impact on their academic performance

Implication

When learners engage in reflective journaling during classroom teaching/learning session, the learning benefit is not immediately derivable in that same learning session. The benefit derives from the study of the journal entries through individualised study sessions. Since the journal entries are notes of personal understandings of the concepts presented by the teacher in the classroom, reflective study sessions eventually vivify the meaningfulness of the concepts thereby enhancing learner mastery and the achievement of the objectives of the instruction

Recommendation

Teachers should adopt the experiential teaching strategy in the presentation of concepts to learners and encourage them to create personal journals out of their understanding, not the raw information presented by the teacher. Students should extend the time on classroom learning tasks by studying the journal entries so that mastery can be enhanced.

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