

## Research Paper

## An Introduction of a New Learning Activity “One Minute Paper”: A Case of a Tertiary University of Creative Technology.

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**Abstract :** This study examines the potential benefits by analyzing post-secondary results of learners and whether LUCT (Linkokwing University of Creative Technology) will adopt the study in its institutional environment and the confrontations that would be faced in coming up with the overall introduction of the one minute paper by looking at how tutors engage students. Emphasis was also focused on how best the practice would be introduced and various ways to its adoption in LUCT classroom setup. The practice has been chosen to be performed on one of my sessions to my learners doing B.Sc. (Hons) Software Engineering with Multimedia and B.Sc. (Hons) Business Information Technology at LUCT. Emphasis was placed mainly on the description of the area, the motivation behind the activity, rationale, and justification of the activity, describing the activity, coming up with results brought by the activity and how carrying out the process of an activity has influenced my learning. The major findings of the study showed that the one minute paper helped learners to grasp and understand concepts which they would have failed to understand during the class session.

**Keywords:** Learner, One-minute paper, Institution, Lecturer, Activity.

### 1. Introduction

In our drive to make our learners well equipped and employable graduates, this paper focused on a “one minute paper” activity. The paper was rolled out to my learners in class and it did not remove or replace the already existing assessments but it was introduced as an activity to aid the lecturer to receive anonymous feedback from learners on areas the lecturer might lack on each and every classroom teaching session. According to Davis et al (1983), “a one-minute paper is a very short, in-class writing activity (taking one-minute or less to complete) in response to an instructor-posed question, which prompts learners to reflect on the day’s lesson and provides the instructor with useful feedback”. Therefore, this technique” can be viewed as “one of a wide variety of quick classroom assessment techniques designed to provide lecturers with anonymous feedback on what students have learned in class”.

### 2. A Description of the area used and why there was a need to change it

The in-class activity which was introduced can be performed when students are grouped together or as single individuals, this varied with the topic which the lecturer was doing, students would write on

a small piece of paper, issues or concepts discussed on which they would be having questions about the session and this would alert the lecturer on areas which needs to be addressed. This activity has been rolled out to analyze various learning styles until they sit for their mid-examinations since the minute papers’ role is to cater for those with passive participation or failure to remember or those who memorize facts before sitting for an examination. The minute paper would build tutor-student relationships thereby creating frameworks for assimilation of knowledge. “The existence of an examination traditionally would prompt students to memorize rather than understanding concepts hence there is a need for introducing activities in the classroom”, this was also attributed by Biggs, J. (1999) in his “theories of Deep and Surface Learning”. Biggs also mentioned that Students would be given an academic article to read, and would be asked questions on that article or text. The second group would try to remember facts contained within the text, identifying and focusing on what they thought they would be asked later”, in his theories he describes this type of learners as, “They demonstrated an approach that would be recognized as rote learning or a superficial, surface approach”. This second group of learners which were

identified by Biggs helped the writer/author in coming up with the one minute paper at LUCT to promote understanding hence facilitating learning.

This new practice will focus on B.Sc. (Hons) Software Engineering with Multimedia and B.Sc. (Hons) Business Information Technology students doing Java Programming 2 Module. The research will be performed on the two classes that I am currently tutoring (BSSM and BSBT); the module focuses on developing java programs using object-oriented programming, we cover aspects such as creating classes and objects, modeling using the four pillars of object-oriented techniques such as inheritance, polymorphism, encapsulation, and abstraction. In the module, we handle errors, in all created programs including on all graphical user interface programs using java swing components and the creation of a database for information retrieval. A one-minute paper activity was applied to BSSM students and no activity was introduced to BSBT. The rationale in the tutor choosing these classes in this manner was derived from a questionnaire which was issued to both classes, on evaluating and analyzing the results from the distributed questionnaires; BSSM had positive responses and had interest in performing the one-minute activity compared to BSBT. The classes attend lectures once a week, lectures have 30 students, a class session is 3 hours long, and both classes will sit for the same Mid-term examination. At the end of the Mid-term, an evaluation will be performed on the results for the Mid-term examination for BSSM with BSBT during the Board of Studies which sits every semester where concerned lecturers will be present, on BSBT the activity was not performed to evaluate the magnitude to which it has influenced knowledge.

### 3. Rationale and justification of the one minute paper

The first rationale in introducing this activity "one minute paper", emanates from the fact that my learners don't rely on understanding when it comes to new situations. With this problem at hand, there was a need to have activities in class which help foster active participation during a class session. Among other factors, failure to remember can be caused by the tutor as well who performs a lecture placing more emphasis on storage of information than on performing activities which helps in understanding concepts. The one minute paper rolled out helped students in a number of ways and according to Pat Rogers, (2003) a "one minute paper is a simple technique that can be used to improve learning and encourage active participation in lectures". The second rationale of this activity as a lecturer is to maximize retrieval of taught material and according to Prof. Sherman Frankel on his website "learners remember information that we hear during the introduction and conclusion of a classroom period". The rule of three states that, "learner concentration tails-off to a low point in a period of about 15 to 20 minutes". Therefore tutors can take advantage of these theories by lecturing the most important points first while rounding off with the less important ones, and also grouping class sessions into smaller units by bringing in activities providing learners with the required and appropriate skills in memory retrieval, hence the introduction of the minute paper.

To justify further the implementation of minute papers, I anticipated the following to be achieved, Minute papers are an effective way of involving all students in class simultaneously. If conducted well, they

ensure fair participation of every class member, including those who are shy or fearful to participate orally. On the other hand, one-minute papers could help my class attendance to improve and even attentiveness of learners the moment I roll them in the classroom. In addition, a one minute paper can boost my class attendance, which most tutors would like to experience. Minute papers had an impact to my academic practice; I have improved in identifying module concepts that are most important to students before they leave class?" When I implemented the one minute paper, I realized that they build tutor-student rapport because students will receive their minute papers back, and the tutor will answer all raised concerns because the minute paper solicits student responses that involve students' personal perceptions or experiences. I have found that minute papers allow me to communicate with students more. In summary to the activity I have used, there is need for the tutor to work hard in improving the quality of knowledge gained by learners by creating a proper framework for transfer of knowledge from one conceptual framework to another especially after their graduation when faced with challenges in the industry, according to Bransford (2000), "people have a natural propensity to learn and they develop deep knowledge organized around important conceptual frameworks. This means that teaching and assessment should assist learners to organize information into conceptual frameworks that facilitate the transfer of knowledge from one conceptual framework to another". In simple terms, learners should apply knowledge gathered from their tutor.

### 4. Methods

When I rolled out my questionnaire survey, students preferred receiving minute papers towards rounding up a period, which I then adopted in class. This provides a meaningful sense of ending or "closure" and student attention is increased to the main points or issues addressed during the session and, by so doing it will increase the likelihood that they will consolidate it into long-term memory. This was also coined by Menges (1988), "If students engage in a short review of materials presented to them towards the end of a class period, they retain almost twice as much of its factual and conceptual content when tested for it at a later point in time (e.g. two months later)". My students answer for my questionnaire are provided in the appendix section at the end of the paper.

### 5. Research Outcomes

When I Rolle Both cohorts wrote the class test and the Mid-term; marks were recorded to aid in the evaluation process. The tables below show the categorized marks which were scored by the two classes in the class test and Mid-term. The class test was issued before the one-minute papers were rolled out and as you can see from the results, BSSM performed slightly poor as opposed to BSBT and there was a need to perform the minute paper on BSSM to aid the students.

*Table -1: BSSM and BSBT Marks for class Test (class has maximum of 30 students)*

| Mark (%) | Number of Students (BSSM) | Number of Students (BSBT) |
|----------|---------------------------|---------------------------|
| 0 - 20   | 0                         | 0                         |

|          |    |    |
|----------|----|----|
| 21 – 40  | 0  | 0  |
| 41 – 60  | 10 | 5  |
| 61 – 80  | 17 | 20 |
| 81 - 100 | 3  | 5  |

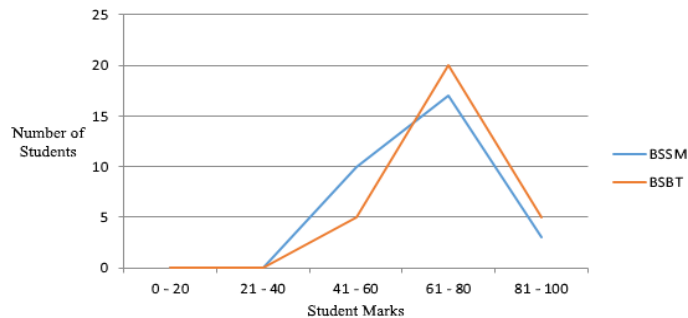


Figure - 1: Graph showing student's marks

Generally, both classes did well on the class test. The only difference being that the graph above shows that the greatest range with high marks on the class test appears from BSBT and this is before the minute papers were introduced.

Table - 2: BSSM and BSBT Marks for midterm test (class has maximum of 30 students)

| Mark (%) | Number of Students (BSSM) | Number of Students (BSBT) |
|----------|---------------------------|---------------------------|
| 0 - 10   | 0                         | 0                         |
| 11 – 20  | 0                         | 0                         |
| 21 – 30  | 0                         | 0                         |
| 31 – 40  | 0                         | 0                         |
| 41 - 50  | 0                         | 1                         |
| 51 - 60  | 5                         | 4                         |
| 61 - 70  | 11                        | 16                        |
| 71 - 80  | 11                        | 7                         |
| 81 - 90  | 2                         | 2                         |
| 91 - 100 | 1                         | 0                         |

By the time the students wrote their Mid-term test the minute papers were in effect in BSSM. According to the statistics above BSSM shows a tremendous improvement throughout the semester from the moment the minute papers were rolled out. BSSM shows an improvement with fewer learners (11 learners) on have an average range 61 – 70 comparing with BSBT showing (16 learners) thus many learners ranging between 71 – 80 (11 learners) comparing with (7 learners) on BSBT in the same range. Lastly, on the statistics, BSSM shows one student appearing in the range 91 – 100 which was not evidenced in BSBT. Below is a graph showing the same information graphically.

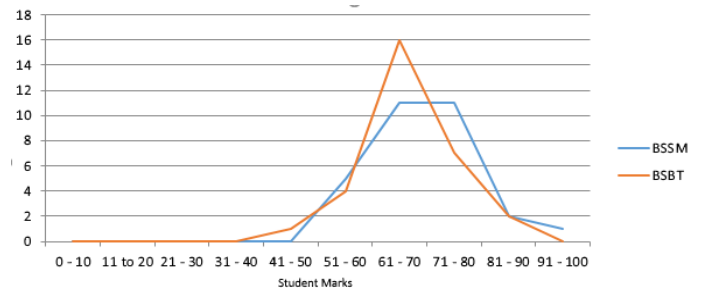


Figure - 2: Showing students' marks versus the number of students

Both graphs show a pick in the range 61 – 80 except for the following: If we look at the graph on marks range of 91 – 100, BSSM class had one learner comparing with BSBT without even one learner in that range and this is a welcome improvement. BSSM shows a normal distribution curve with more learners above average. BSSM showed a greater peak on their mid-term marks especially on those who had lower grades in the class test when the activity was rolled in class. The BSSM class gained much from the activity as compared to the group where the minute paper was not exercised. Through this research, It can be concluded at the same time passing my recommendation on the activity that it enhances students to make inferences as well as think critically and solve problems better than those where the minute paper was not practiced. According to the author's Angelo et al (1993), "classroom assessment techniques provides day-to-day feedback which can be applied immediately; and useful information about what learners have learned without the amount of time required for preparing tests, reading papers, etc.; allow them to address student misconceptions, lack of understanding concepts in a timely way; help foster good relationships with learners and encourage them how to understand that teaching and learning are on-going processes which require full participation".

## 6. Discussion and Recommendation

According to Boston, (2002:3) "Tutors are encouraged to use questioning and classroom discussions as an opportunity to increase their learners' knowledge and improve their understanding". The questioning moment and answering interaction assist students' when they get corrected by their tutor mostly when the feedback is being given to the learners. In support, Black and William (1998), says "communication between learners and the tutor should be thoughtful reflective, focused to evoke and explore understanding, such that all learners have an opportunity to think and to express ideas". On this note, learners pointed out the importance of oral feedback that it enables students to reflect on their learning.

## 7. Conclusion

The new activity, "One-minute papers" will, therefore, serve as part of my class sessions activities meant to develop new competencies to address the complex global environmental, social, cultural, and economic pressures with which present and future generations are succumbed to.

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## Appendix

### Appendix-A: one minute paper questions

Below, we have the types of minute paper questions I posed to my learners during the semester February to August 2018. The questions are designed to prompt e.g. attitudes or opinion, conceptual connections, relevance, interest, and analysis.

#### Type 1 Questions (Attitudes and/or Opinions)

1. Amongst today's group's discussions, what was the most convincing argument that you enjoyed?
2. Would you agree or disagree with what we have learnt today? And Why?
3. Did the tutor explain anything in today's class that you found to be disturbing and unsettling?
4. In today's session, what idea was expressed by the tutor in today's class, which strongly influenced your personal opinions?

#### Type 2 Questions (Conceptual Connections)

1. What was discussed in today's class session by the tutor which seemed to connect with what you have learned in other modules?
2. Regarding your programming knowledge in Java, what differences did you see between today's session and other topics previously covered by the tutor?

#### Type 3 Questions (Relevance)

1. Which programming ideas have struck you as things you should put into practice?
2. In your own opinion, what was the most important idea which was discussed in today's session?
3. What was discussed in today's session that you relate to the most

#### Type 4 Questions (Interest)

1. What do you think remain unanswered about today's topic?
2. Without checking your books or material, what could be the most memorable concepts which were discussed today?

#### Type 5 Questions (Analysis)

1. What do you think was the major purpose of today's lesson?
2. What do you think was the most important point which the tutor was trying to elaborate?

### Appendix-B: Sample one minute answers I received from my learners

The following are the type of answers I received from my learners.

#### Type 1 Answers (Attitudes and/or Opinions)

1. I enjoyed the argument of how the garbage collection works in removing unwanted and unused objects.
2. During the practical's the tutor explained that the same software we are using is the same as the one that we will use when we graduate at the work place and it strongly influenced my personal opinions.
3. The most convincing argument in today's class was programming in Java can pay more compared to PhD holders.
4. I agree with what I have learnt today because the tutor explained with real world examples.
5. I disagree with what I have learnt today because I could have done it better with another programming language such as visual basic.net.

#### Type 2 Answers (Conceptual Connections)

1. The way we invoke and call objects in Java programming is more or less the same as in C++ programming module.
2. The tutor seems to connect every session from classes to objects and we managed to understand.

#### Type 3 Answers (Relevance)

1. Java swing components have cleared the air for me as I could now manage to create an interface from just dragging and dropping.
2. The most important idea discussed was that Java Software is free, and can be downloaded easily from Oracle website.

#### Type 4 Answers (Interest)

1. The tutor did not answer us clearly on whether programming is an art which one can be born with or it can be acquired through class sessions and reading.

#### Type 5 Questions (Analysis)

1. The major purpose of today's lesson was to let us know that we can design customized interfaces by using the java swing components.
2. The most important point which the tutor was trying to elaborate is that you can create your objects the same way in a normal program, and you can more or less do the same for graphical user interface programs.

