

## Continuous assessment in distant learning: assessment or enhancement tool to the achievement of learning outcomes?

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# **Continuous Assessment in Distant Learning: Assessment or Enhancement Tool to the Achievement of Learning Outcomes?**

Rajasegeran Ramasamy  
School of Science & Technology  
Wawasan Open University  
54, Jalan Sultan Ahmad Shah, 10050 Pulau  
Pinang rajasegeranr @wou.edu.my  
Tel: 6042180478, Fax: 6042297292  
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## **Abstracts**

In open and distant education, continuous assessment is essential to students' success. Continuous assessments for quantitative courses such as Mathematics have to be planned carefully. The continuous assessment serves as assessments itself and also as a crosscheck on the understanding of a particular concepts. This research paper looks into the impact of continuous assessment and its role in enhancing the skills to achieve learning outcomes of the course. The researcher picked TEE 202/05 Engineering Mathematics, a middle level course in Wawasan Open University as a case study. The continuous assessment of this course contains three tutor- marked assignments which covers 60 % of the course syllabus. The continuous assessment was divided into several sub-skills in respective learning outcomes and the students' performances were analysed and recorded. The performances of students in final examination were analysed according to the respective learning outcomes. The gained knowledge, achievement of learning outcomes was determined by the performance of students in the continuous assessment and the final examination. The performance in continuous assessments and final examination were compared. The study shows the performance in continuous assessment does not show a strong relation to the performance in the final examinations. This shows the continuous assessment does not serve as enhancement to the disembarking of knowledge to the students. This paper suggests the continuous assessment should be planned accordingly to play its role as a tools to enhance the students understanding on certain sub-skills rather than being assessments tools and high quality feedback should be given to students.

## **Introduction**

The world of teaching and learning is bounded with a single word “assessment”. The question whether assessment is a boon or bane to the activities related in acquiring knowledge? Does assessment helps in the process of acquiring knowledge or it serve as a filtering, grading and certifying tool in the world of education.

In the word of distant learning where human physical contact in form of tutoring and counseling is very minimal, the correct method of assessment and the feedback of the assess work can be a major contribution to a students performance in acquiring knowledge. Ridgway et al.(2004) said that it is essential to develop systems for assessment which reflect our core educational goals, and which reward students for developing skills and attributes which will be of long-term benefit to them and to society. Black & William (2002) have shown that well designed formative assessment can be associated with major gains in student attainment on a wide range of conventional measures.

In this paper, the focus will be on continuous assessment and the feedback provided at the end of each continuous assessment role to the student performance in gaining knowledge.

## **Methodology**

A sample of 110 students taking TEE 202/05 Engineering Mathematics II course in Wawasan Open University was used to measure the role of continuous assessment in the process of acquiring knowledge. The performance in final summative examination was taken as measurement to the final acquired knowledge.

The continuous assessment in Wawasan Open University has a fixed format where students in lower and middle level courses were required to complete three Tutor-marked assignments (TMA). These assignments were posted at the beginning of the semester and students were given 6 weeks to complete their first TMA, 10 weeks to complete second TMA and 15 weeks to complete the final TMA. The weeks were calculated from the day one of the semester. Guidance was given in various forms in Learning management system, ”Wawasanlearn”, face to face tutorials and also via telephone tutorials. The continuous assessment will cover most of the content but it depends on the individual course. The feedback of continuous assessment was monitored by respective course coordinator.

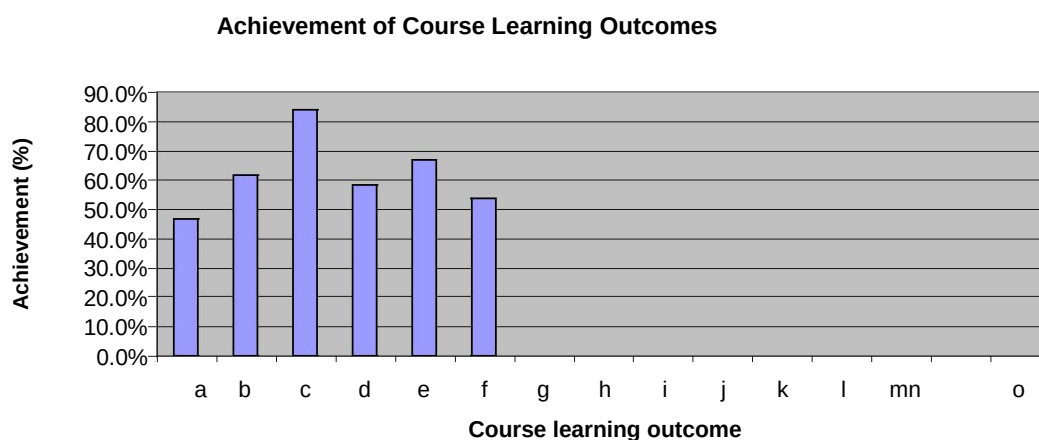
In this research paper, the continuous assessment questions and final examinations questions were spread according to learning outcomes of the relevant units. The performances of continuous assessment were mapped to the final examination performance in respective learning outcomes. Statistics analysis was done to see if the learning outcomes are achieve, correlation between continuous assessment and final examination performance by using a simple tool in Microsoft Excel spreadsheet.

## **Result**

The continuous assessment questions and final examinations questions were spread according to learning outcomes of the relevant units. The following Figure 1 shows the learning outcomes of relevant units mapped to the questions in final examination and continuous assessment.

|     | Learning Outcomes                                                                                  | Continuous Assessment  | Final Examination |
|-----|----------------------------------------------------------------------------------------------------|------------------------|-------------------|
| (a) | Able to compute relevant series and determine its convergence                                      | TMA 1(Q1 & Q3a)        | Section A-Q1      |
| (b) | Apply various test to determine the convergence of series                                          | TMA 1(Q2,Q3b, Q4 & Q5) | Section A-Q1      |
| (c) | Compute partial derivatives up to 4 <sup>th</sup> order of multivariable functions                 | TMA 2(Q1,Q2 & Q3)      | Section A-Q2      |
| (d) | Apply Lagrange methods to solve optimization problem                                               | TMA 2(Q4 & Q5)         | Section B-Q1      |
| (e) | Solve differential equations by using separation of variables, integrating, numerical methods      | TMA 3(Q1,Q2 & Q3)      | Section A-Q3      |
| (f) | Apply various methods to solve engineering problems modeled in the form of differential equations. | TMA 3(Q4 & Q5)         | Section B-Q2      |

The performance of continuous assessment and final examination of respective learning outcomes were analysed by using Microsoft Excel spreadsheet. Each individual performance in continuous assessment and final examination were analysed. For each question, the number of students attempted the questions and the performance of each attempt was calculated. The performance in each question then was tabulate in another spreadsheet where each learning skills was evaluated according to this results. The following graph shows the final achievement of respective learning objectives.



Except for learning objective (c) where the achievement is around 84 %, the rest of learning objectives achievement lingers around 47 % to 65 %. The standard practice

in Wawasan Open University, any performance of learning outcomes more than 50 % is considered achieved.

In this case learning objective (a) is not achieved and the rest of learning outcomes were achieved.

The performance of continuous assessment is compared with respective final examination questions. The following table shows the correlation between relevant continuous assessment and their respective final examination questions.

|     | <b>Learning Outcomes</b>                                                                           | <b>Continuous Assessment</b> | <b>Final Examination</b> | <b>Correlation</b> |
|-----|----------------------------------------------------------------------------------------------------|------------------------------|--------------------------|--------------------|
| (a) | Able to compute relevant series and determine its convergence                                      | TMA 1(Q1 & Q3a)              | Section A-Q1             | 0.167742753        |
| (b) | Apply various test to determine the convergence of series                                          | TMA 1(Q2,Q3b, Q4 & Q5)       | Section A-Q1             | 0.414609           |
| (c) | Compute partial derivatives up to 4 <sup>th</sup> order of multivariable functions                 | TMA 2(Q1,Q2 & Q3)            | Section A-Q2             | 0.43807            |
| (d) | Apply Lagrange methods to solve optimization problem                                               | TMA 2(Q4 & Q5)               | Section B-Q1             | 0.356699           |
| (e) | Solve differential equations by using separation of variables, integrating, numerical methods      | TMA 3(Q1,Q2 & Q3)            | Section A-Q3             | 0.330596           |
| (f) | Apply various methods to solve engineering problems modeled in the form of differential equations. | TMA 3(Q4 & Q5)               | Section B-Q2             | 0.36162            |

The correlation between the questions in continuous assessment and final examination shows a strong relation with the achievement of learning outcomes. The correlation between Continuous assessment and final examination question in learning outcomes 1 is very weak. Its shows the performance in learning outcomes does not help to enhance the skills in solving relevant question in examination. The correlation in other learning outcomes categories shows continuous assessment are average; in range of 0.33 to 0.44. However, the correlation is not strong enough to make a conclusion.

## **Conclusion and Recommendation**

In this paper, the analyses were done to find the achievement of learning outcomes based on the performance in continuous assessment and respective final examination and the effect of continuous assessment to the respective final examination question.

Continuous assessment had plays its role in enhancing the skills required to solve respective questions in all the learning outcomes expect for the first learning outcomes (a). The correlation between the performance in continuous assessment and respective final examination questions shows similar results.

The analyses show that the continuous assessment in this course does not have a strong influence in determining the performance in respective examination questions. This raise an issue, does the continuous assessment does not succeed to enhance the final examination performance in respective learning outcomes or the feedback of continuous assessment failed to do that? As mention by Ridgway et al. (2004), formative assessment is inherently about making use of feedback, both to the student and to the teacher on the teaching. But the giving of feedback on an assessment does not necessarily make that assessment formative.

Further analyses on feedback on continuous assessment can be carry out in future to determine the effectiveness of continuous assessment in enhancing the skills needed in solving final examination questions, where both collectively contribute to the achievement of respective learning outcome.

## **References**

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