

## Embedding Micro-Credential Concept in Financial Management Modular Course

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### Abstract

*Micro-Credential is currently a new culture in offering training and short-courses in Malaysia. Following the Covid-19 pandemic outbreak, many Micro-Credentials have been developed and offered, and applicants have various choices whether to enroll from local or international provider. Micro-Credentials give the flexibility for the participants to acquire knowledge and skills at their own convenient pace, place and time. Due to these advantages and the similar objective of Micro-Credential method, the concept has been embedded into a Modular Course on Module 3 of Financial Management. The objective is to expose students to experience the concept of Micro-Credential learning experience as advancement to a blended learning method and to analyze the students' performance before and after the concept was applied. Two analyses have been made [1] Comparing students' performance on the same assessment in different semesters (Test on Module 3); [2] Comparing students' performance on different assessments in the same semester (Quiz on Module 1 vs. Test on Module 3). The first analysis found that the performance of the students increased significantly from 50.40% to 77.45% whereas in the second analysis, the result also shows better performance from 74.6% to 77.45%, in which historically, the result would usually be lower. Therefore, it can be concluded that the concept of Micro-Credential has a positive impact in this Modular Course. It is suggested that educators could explore and embed the Micro-Credential concept as part of their teaching and learning delivery method as an advancement to the substitute blended learning mode.*

**Keywords:** Micro-Credential, Modular Course, Substitute Blended Learning, Flexible Learning, Students Performance

### Background of the Research/ Innovation/ Invention/ Design

Micro-Credential is currently a new culture in offering training and short-courses in Malaysia. Following the Covid-19 pandemic outbreak, many Micro-Credentials have been developed and offered, and applicants have various choices whether to enroll from local or international provider. Not to be left behind, local universities also participate in preparing the Micro-Credential to be offered not only to their own registered students, but also to the public community. Micro-Credential has more advantages as compared to blended learning and substitute blended learning as it gives more flexibility for the participants to acquire knowledge and skills at their own convenient pace, place and time. As suggested by Müller and Mildenerger (2021), students as individuals should plan their study at their own convenient place, time and own learning pace.

Due to these advantages and the similar objectives of the Micro-Credential method, the concept has been embedded in one of the researcher’s Modular Course which is on Module 3 of Financial Management. The execution of the Micro-Credential concept in this course is hoped to expose the students for the benefit of self-directed learning experience and lead them for long-life learning motivation. As shared by Kim et al. (2021), there is a positive association between the self-directed learning with the intention for further learning. The selected course, Financial Management, is a course which consists of theory and calculations and the enrollment is targeted for the second-year students in Bachelor of Industrial Technology Management with Honours in Universiti Malaysia Pahang. The Micro-Credential concept applied is beyond the normal blended learning and it is an extension principle of substitute blended learning.

### Description of the Research/ Innovation/ Invention/ Design

The objective of the study is to analyze the students’ performance before and after the Micro-Credential concept was embedded in the course. Prior to preparing the Micro-Credential, the researcher maps the course syllabus of 10 chapters to 4 modules (refer Figure 1). According to Tanrısever & Erişen (2009), the modular concept in education is a more flexible educational approach that could lead to an increase in teaching efficiency. Each of the four modules has been updated on its student learning time (SLT) before further planning on individual module’s material preparation, activities, and assessment. In this paper, the highlight is on the implementation of Module 3 as Micro-Credential. The centre of comparison in this study is on the quantitative data of the assessments result.

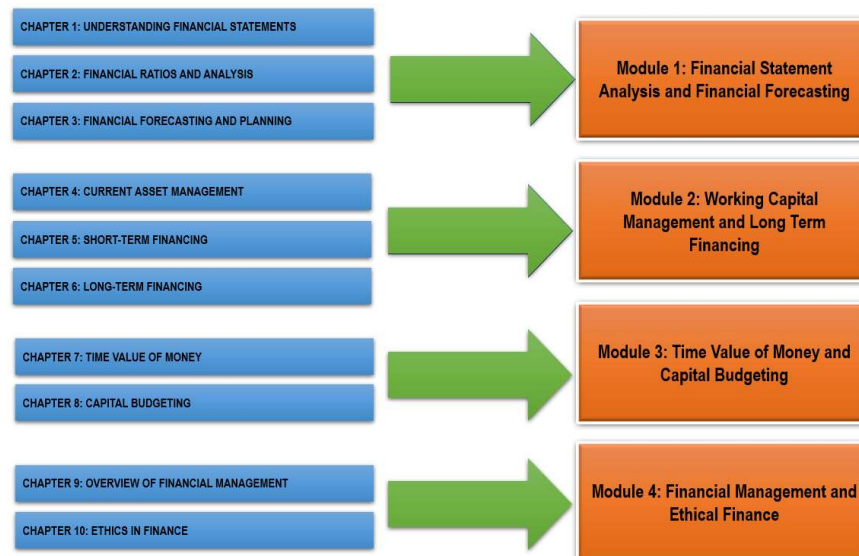
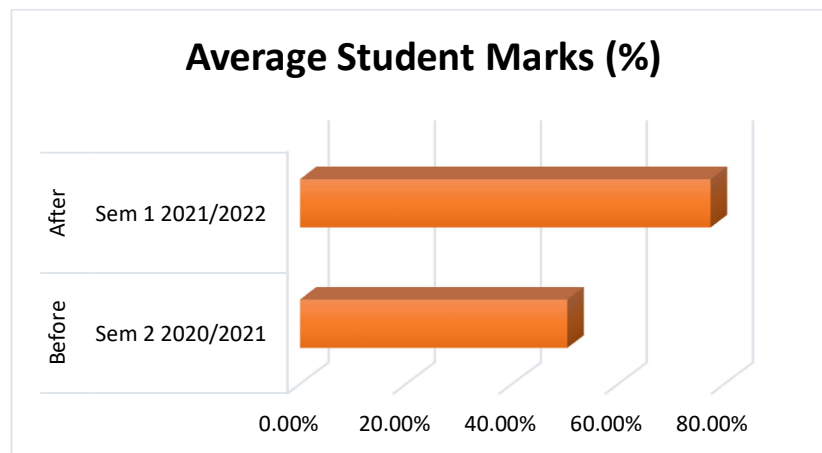


Figure 1: Mapping Syllabus Chapters into Modules

Two comparisons have been made to measure the difference of students’ performance on the implementation of Micro-Credential concept to the course. The first analysis is comparing students’ performance on the same assessment in different semesters. The data used are the assessment result from the Test conducted on Module 3 which compares the result from Semester 2 2020/2021 that is before the implementation of Micro-Credential concept and Semester 1 2021/2022 that is after the implementation. The second analysis is comparing the students’ performance on different assessments in the same semester, which means both

assessments were answered by the same set of students. The reason is simply to compare the results of the same students on different assessments on different methods of learning experience. The data analyzed were from Quiz which was conducted in Module 1 (no Micro-Credential concept) and were compared to the Test results on Module 3 (embedded Micro-Credential concept), both in Semester 1 2021/2022.

For the first analysis which compares the test results between two different semesters, that is before and after embedding the Micro-Credential concept to the course, it is found that the performance of the students increased significantly from 50.40% to 77.45% as shown in Figure 2. The result after embedding the Micro-Credential concept is better by 27.03% which means the growth of test performance is by 53.63%. This result shows that the students performed better after the Micro-Credential concept was embedded in the syllabus rather than just blended learning format. As for the second analysis, the result also shows better performance from 74.6% to 77.45%, where the Test result is better compared to the Quiz result by 2.83%. This is contradictory to the normal trend of the course which historically showed notably higher Quiz score than the Test score. For instance, in Semester 2 2020/2021, the Quiz average marks are at 95.56% as compared to the Test average marks at 50.40%.



**Figure 2:** Comparison on Average Students Marks Before and After Embedding Micro-Credential Concept

Therefore, it can be concluded that embedding the Micro-Credential concept has a positive impact in this Modular Course. This is consistent with the study conducted by Acree (2016) where the Micro-Credential participants shared their positive experience that learning through the Micro-Credential has contributed to better focus and provides support in the learning experience. It is suggested that educators may explore and embed the Micro-Credential concept as part of their teaching and learning delivery method as an advancement to substitute blended learning mode.

### **Significance of the Research/ Innovation/ Invention/ Design**

This research is significant as it expands the concept of Micro-Credential application in the existing university syllabus with the advantages of flexible learning which supports self-paced learning and self-directed learning. By embedding the Micro-Credentials concept in the syllabus at the university level, it is hoped to induce and inculcate the lifelong learning culture among the learners.

### **Impact of the Innovation/ Invention/ Design Towards Education or Community**

As can be seen in the result of the study, there is significant improvement on the result of the students' assessment after embedding the Micro-Credential concept. Therefore, the concept could be considered and further explored as an alternative solution to increase student's learning motivation as well as performance. In addition, the educators could explore to prepare the teaching and learning materials, activities and assessment that suit the Micro-Credential concept in their existing syllabus.

### **Commercialization Potential**

The Micro-Credential is widely offered as training and short courses in various local and international platforms. Preparing Micro-Credentials in educator's own course and to own students is one step forward for the educators to expand the offerings to the public. The Micro-Credential in this study, Module 3, is currently on ILMU UMP platform and is ready to be offered once the platform is launched to the public. With the offerings, it is hoped that the knowledge and content could benefit the society especially for those who cannot afford to enroll in the full program in the university.

### **Conclusion**

It can be concluded that embedding the Micro-Credential concept has a positive impact in improving the students' performance. With the flexibility features of Micro-Credential, the concept could be considered as an alternative learning method to be embedded in the existing syllabus.

### **Acknowledgement**

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