

# MEASURING AFFECTIVE DOMAIN IN PROGRAMMING TECHNIQUE COURSE USING MASSIVE OPEN ONLINE COURSE

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**ABSTRACT** – *This study evaluates the affective domain of students learning Programming Technique course that have at UTeM. This course is taught using blended learning approach where the sources is put on Massive Open Online Courses (MOOC). For the chosen topic, the students have undergone self-learning process without going to the classroom. Samples were asked to use a questionnaire instrument for assessing attitudes and behaviours. Results of the study indicate that development of MOOC provide a holistic element that will produce students with excellent academic achievement and good behaviour. The study also proposed a MOOC development life cycle model.*

## 1. INTRODUCTION

Affective domain in learning and teaching is the most complex, the emotional life of the students and reflects the confidence of the students, attitudes, perceptions, desires, feelings, values, priorities, and interests [1, 2, 3]. This paper will discuss on the literature review of 21<sup>st</sup> century learning approach using e-learning and how the affective domain is measure using Massive Open Online Courses (MOOC). After that, the paper will explain the methodology that we use to measure the affective domain. Later, the discussion will continue with the evaluation of affective domain for this sample case. Lastly the paper will end with the discussion and conclusion.

## 2. LITERATURE REVIEW

With the use of ICT in education has increased and the spread of network technologies, they have caused the e-Learning practice to evolve significantly. The term e-learning may be defined as learning facilitated and supported using ICT. This may include several activities from the use of the technology to support the learning process as part of an approach called blended learning to learning that is entirely delivers [4]. The term e-Learning therefore covers the use of computers and technology as the main tools for knowledge exchange within teaching and learning. The term ‘e’ in e-learning used to represent ‘electronic’ but now; it merely signifies the use of technology [5]. Some circles within the education sector itself refer the ‘e’ as ‘enhanced’. The implementation of e-Learning will be able to provide distance learning or off campus learning for the students [6]. It is also a great tool for a blended learning and teaching approach which mean the students will be exposing with both face-to-face interactions as well as using the technology. E-Learning also will support the uses of technology to support a wide range of educational activity [4].

With the development and growth of e-Learning, lecturers at the universities must develop the materials needed for the e-Learning such as the iBook, videos containing lecture series and other e-learning materials. These resources can be classified as e-content materials are also important in the

growth of the local learning system. The e-content should be available for the students to use at any point of time. As for example is by putting learning materials inside university's Learning Management System (LMS). LMS can act as the Virtual Learning Experience (VLE) for the students and the educators can either use the vast variety of platforms available online or they can use the LMS that are already developed by the university [4]. Once the e-content have been developed and it has reached the specification required by the educators, the educators are now able to turn the learning process around or as they call it Flipped Learning.

### **3. RESEARCH QUESTION**

This study try to emphasis the following research questions:

- (i) Is MOOC Programming Technique development methodology for teaching suitable for use among students in higher education?
- (ii) Is MOOC Programming Technique effectively implement students' affective domain?

### **4. METHODOLOGY**

MOOC Programming Technique development was carried out based on a life cycle model which involved five phases namely analysis phase, design phase, the development phase, implementation phase and evaluation phase. This study proposed a model which is called Model Lifecycle MOOC Programming Technique.

### **5. MOOC PROGRAMMING TECHNIQUE DEVELOPMENT**

This section describes the findings of a study on the development of MOOC Programming Technique, which have been choose as a sample. MOOC Programming Technique contain twelve sub-topics which is deliver for one semester of study. This subject implemented online approach using the MOOC platform. At Universiti Teknikal Malaysia Melaka (UTeM), C++ language is used as programming technique subject. This is a compulsory subject for engineering and ICT undergraduate students. MOOC Programming Technique provide menu selection as listed below:

- Home Menu
- Student Guidelines Menu
- Modules & Activities
- Peer Content
- Groups
- The Team Profile
- UTeM Portal
- UTeM MOOC
- Administer Students
- Course Setup

### **6. DISCUSSION**

In general, this study has two main findings. Firstly, the outcomes regarding the development of education MOOC Programming Technique itself. Secondly, regarding the MOOC Programming Technique evaluation of students' affective learning using MOOC Programming Technique in learning and teaching process.

### **7. CONCLUSION**

This research has produced findings that involve the development of Programming Technique course in MOOC. MOOC Programming Technique development process has considered various factors in

ensuring MOOC Programming Technique is suited to Information Technology education such as syllabus, and learning and teaching objectives that have been set. A holistic development model is designed and developed to serve as a guide to designers, builders and specialist subjects of MOOC for Information Technology related fields.

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