

# MOOC Videos-Derived Emotions

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**Abstract**—MOOC, the acronym for Massive Open Online Course, is a relatively new medium for online course delivery that affords open access and mass participation of learners. Nevertheless, the high drop-out rate of MOOC learners remains as a challenge. Videos are extensively used as a medium of instruction in Massive Open Online Courses (MOOCs) and emotions play an important role in learning. This raises the question on how emotions relate to the various types of MOOC video. Thus, this paper examines the emotions derived by different types of commonly used MOOC videos. The study reveals that Picture in Picture, Text Overlay, Khan Style Tablet Capture, Screencast, and Animation video types in MOOCs are able to induce positive emotions and thus, should be leveraged by MOOC developers.

**Index Terms**—Emotion; MOOC; Video.

## I. INTRODUCTION

The revolution of technology has breathed new life into education. To date, Massive Open Online Courses (MOOCs) have been widely employed as a platform to access knowledge online. Brian [1] stated that MOOC is an online learning platform that offers online learning without geographical and time zone constraints. Popular MOOC providers include Coursera, Udacity, Udemy, edX, OpenLearning and many more.

According to Guo, Kim and Rubin [2], video is the primary instructional medium to deliver lectures online although the engagement of learners with different video presentations may vary. Emotional states have the potential to affect learners' engagement [3]. Recent empirical studies on MOOC [2, 4, 5] focus on survey and analysis of server log data to deduce student engagement in MOOC but these studies do not emphasize on the emotional aspect of learners. Emotions play a significant role in learning. However, this aspect is often overlooked by instructional developers.

This study, thus aims to investigate the relationships between learners' emotion and different types of MOOC videos by employing the Kansei Engineering (KE) methodology. To step towards this aim, KE Type I was implemented. Learners' emotions towards various types of MOOC videos were classified according to Kansei (feeling) words and the relationship between Kansei and types of MOOC videos were quantified. This paper reports the significant emotions that relate to MOOC videos and identify the types of MOOC videos that relate to these emotions.

## II. METHOD

This study employed the stages of the KE Type 1 method. This paper reports the activities for the first three stages. In the first stage, different types of MOOCs videos were

selected. Then, a list of KE words that are related to learning process was adapted in the second stage. In the third stage, the collected words were then reduced using the principal component analysis.

This study involved fifty undergraduate students. The word list was adapted from references [6, 7] as the Kansei words used were related to emotions in a learning process. The final compiled Kansei words were generated into a 5-point semantic differential scale for participants to respond accordingly. Ten types of MOOC videos were chosen as the specimens in this study. All of the specimens (see Table 1) were taken from various MOOC platforms such as edX, Coursera, MITx, Standfordx and so forth.

Table 1  
Specimen Codes and Types of Videos

Code	Type of video
V1	Talking Head
V2	Presentation slides with voice over
V3	Picture in picture
V4	Text Overlay
V5	Khan Style Tablet Capture
V6	Udacity Style Tablet Capture
V7	Actual Paper/ Whiteboard
V8	Screencast
V9	Animation
V10	Classroom Lecture

Figure 1 to 4 show examples of a few video types.



Figure 1: Talking head



Figure 2: Presentation slides with voice over