

Impacts of Disruptive Technology: Implementation of MOOCs in Language Teaching

Wipanee Pengnate, Bundit Anuyahong, Chalong Rattanapong

Abstract: This article presents trends and directions for language teaching instructors, especially in higher education. The objectives of this paper were to investigate the satisfaction of implementation of MOOCs in language teaching and to illustrate the change caused by disruptive technologies effected on behaviors and methods of language teaching-learning process. Due to Covid-19, the pandemic has shown a remarkably dramatic impact on Higher education. The term disruptive technology for e-Learning, therefore, become a common trend in educational system around the world with the rapid transition from traditional classes to online learning systems. Therefore, a robust and implemented approach aimed on improving and empowering the university staff should be created and developed to achieve the highest effectiveness of students' learning process. In this study, the theory of teaching-learning activity pedagogy and trends in language learning are being proposed. These theories explain and provide conceptual frameworks for Higher Education (HE) to clearly see the interactions and consequences of the new educational paradigm according to disruptive innovation.

Keywords: Disruptive Technology; Disruptive Technology in Education; Disruptive Technology in Education in Higher Education; New Pedagogy; Educational Theory, MOOCs in Language Teaching.

I. INTRODUCTION

It cannot be denied that the Covid-19 pandemic has brought a massive impact both in economic downturn and social changes [1]. The standard measurements of social distancing and lockdowns are applied to discontinue the spread of the virus. In term of educational system, the severe impacts are on educational management process as a traditional mode of teaching system [2] is entirely transformed to an online teaching-learning system [3]. The fact highlighted by Marinoni et al. [4]) indicates that at least 185 countries all over the world have to close the tertiary educational level which, consequently, affects more than 1,000 million students who have to adapt themselves with the use of online learning technology. Effective urgent paradigms to cope with this current situation, therefore, are mentioned with the challenges and opportunities to create alternative educational and assessment strategies for educational levels.

Manuscript received on May 20, 2021.

Revised Manuscript received on May 22, 2021.

Manuscript published on May 30, 2021.

* Correspondence Author

Wipanee Pengnate*, Department of English, College of General Education and Languages, Thai-Nichi Institute of Technology, Thailand
Email: wipanee@tni.ac.th

Bundit Anuyahong, Department of English, College of General Education and Languages, Thai-Nichi Institute of Technology, Thailand
Email: bundit@tni.ac.th

Chalong Rattanapong, Faculty of Business Administration, Rajamangala University of Technology Rattanakosin, Wang Klai Kangwon Campus, Thailand
Email: chalongrattanapong11@gmail.com

In this way, the term disruptive education is remarked as a sudden break or interruption from an old model of teaching style by developing the current model using innovation as a major channel to transmit the knowledge. Students and lecturers are then acting as significant engines of learning process exposed to a form of digital education [3]. To remark a successful educational innovation in disruptive education is based on the approach provided by the universities to transform old-fashion learning style into engagement of technological advancement in all levels [5], [6].

II. PURPOSES

The purposes of this study were:

- 1) to investigate the satisfaction of implementation of MOOCs in language teaching, and
- 2) to illustrate the change caused by disruptive technologies effected on behaviors and methods of language teaching-learning process.

III. RESEARCH METHODOLOGY

The population of this study was 850 first year students who enrolled in English for Communication 2 or ENL-112 course and the samples were 350 first year students who enrolled in ENL-112 course derived through Simple Random Sampling technique. The data was collected though the questionnaire which consisted of three parts: respondent demographic information; the satisfaction of implementation of MOOCs in language teaching; and content analysis on change caused by disruptive technologies effected on behaviors and methods of language teaching-learning process. Five- Likert scale developed by Best [7] was calculated to analyze of mean and standard deviation based on the rank of "The highest level", "High level", "Moderate level", "Low level", and "The lowest level". In this study, the data of respondents and responses from the questionnaires were subsequently coded as follows:

- | | |
|---|-----------------------------|
| 5 | refers to The highest level |
| 4 | refers to High level |
| 3 | refers to Moderate level |
| 2 | refers to Low level |
| 1 | refers to The lowest level |

This, then, is calculated into mean scores as a following formulation.

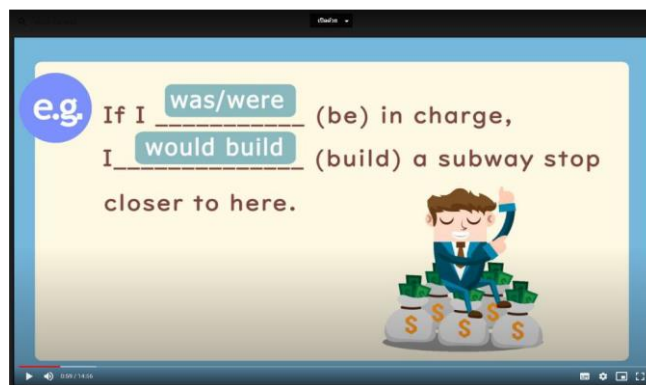
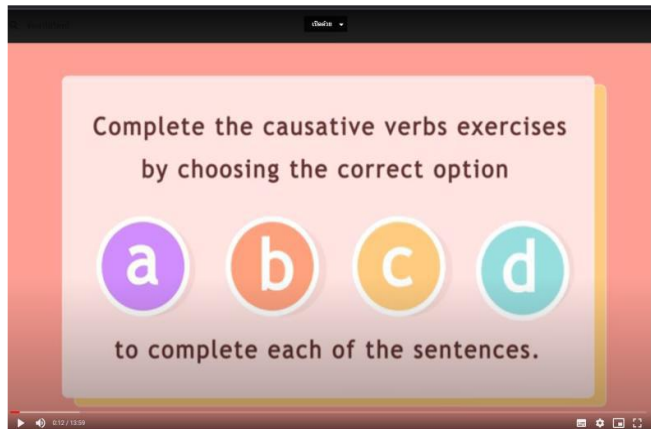
- | | |
|----------------------------|-----------------------------|
| $1.00 \leq \bar{X} < 1.50$ | refers to the lowest level. |
| $1.51 \leq \bar{X} < 2.50$ | refers to low level. |
| $2.51 \leq \bar{X} < 3.50$ | refers to moderate level. |
| $3.51 \leq \bar{X} < 4.50$ | refers to high level. |

$4.51 \leq \bar{X} < 5.00$ refers to the highest level.

The collected data was analyzed using a computer program. The statistics used for analyzing the data were frequency, percentage, mean, standard deviation, and content analysis.

There were five units of MOOC lessons that were taught to the students. In each unit, it was categorized into Grammar, Vocabulary, Conversation and Exercises. The contents of each unit were paralleled with the contents that the students had to study in class. However, there were some changes and additional information of how to use the grammar and vocabulary in various situations. The exercises, moreover, were different and more complex than in the textbook.

Examples of the MOOC lessons were as follows:



There were approximately 10 minutes in each clip which was about 30 minutes for a whole lesson in each unit.

IV. RESULTS

Part 1: Results of the demographic data of the respondents

Table 1: Results of the Demographic Data of the Respondents

Demographic data of the respondents	n	Percentage
1. Gender		
1.1) Male	185	52.86
1.2) Female	165	47.14
Total	350	350
2. Faculty		
2.1) Business Administration	113	32.29
2.2) Engineering	120	34.29
2.3) Information Technology	117	33.42
Total	350	350



Table 1 showed that percentages of respondents in genders ranged from 52.86% as male students and 47.14% as female students. For the faculties, the percentages ranged from 32.29% for Business Administration students,

followed by 34.29% for Engineering students, and 33.42% for Information Technology students

Table 2: Mean (\bar{X}) and Standard Deviation (S.D.) of satisfaction of implementation of MOOCs in language teaching.

No.	Components	\bar{X}	S.D.	Level
1.	The contents on MOOC lessons are very useful.	4.52	0.68	Highest
2.	The contents on MOOC lessons are well-organized.	4.61	0.74	Highest
3.	The activities on MOOC lessons are various.	4.30	0.65	High
4.	The grammar and vocabulary on MOOC lessons are suitable.	4.47	0.49	High
5.	The exercises and quizzes on MOOC lessons are interesting.	4.65	0.57	Highest
6.	I feel more confident after learning through MOOCs lessons.	4.59	0.81	Highest
7.	The lecturer is passionate in teaching and providing a feedback to each student's exercises on MOOC lessons.	4.78	0.77	Highest
8.	The lecturer explains clearly about contents and exercises on MOOC lessons.	4.62	0.63	Highest
9.	MOOC lessons are easy to access both in PC and mobile.	4.26	0.82	High
10.	I can gain more knowledge ENL-112 course after learning through MOOC lessons.	4.51	0.70	highest
Total		4.53	0.68	highest

The above table presented that the mean score of t satisfaction of implementation of MOOCs in language teaching in overall was at the highest level ($\bar{X} = 4.53$). The highest level of satisfaction was "The lecturer is passionate in teaching and providing a feedback to each student's exercises on MOOC lessons." ($\bar{X} = 4.78$), followed by "The contents on MOOC lessons are well-organized." ($\bar{X} = 4.61$) whereas the lowest rank at a high level of was "MOOC lessons are easy to access both in PC and mobile." ($\bar{X} = 3.26$).

Part 3

Analysis of change on behaviors and methods of language teaching caused by disruptive technologies

Increasing the Level of Students' Learning Motivation

The old-fashioned style of language teaching, especially in an EFL or ESL context, might be uninteresting in somehow and then leads to unattractive learning environment. On the other hand, technological advancement in education such as multimedia features audio, visual and animation effects might be a seamless medium to fascinate the students' imagination and attention of learning due to abundant and accessible information with the capacity to pass the knowledge without limited of time and space. In other word, multimedia technology using in language teaching-learning process provides a sense of engaging atmosphere whether the students are not in the classroom. This is, therefore, a significant system to create the students' learning motivation as well as sustain the students' lifelong learning.

Stimulating Students' Communicative Competency

Students in Thailand have been studying English language since they were grade 1 as a compulsory course. However, the outcome of the traditional model of face-to-face communication between teachers and students is not presented as a well satisfaction result. Various form of multimedia technology is, therefore, highlighted as a process of integrating teaching and learning in a current learning system to promote the students' greater opportunities to

communicate with teachers, friends and others in various channels.

According to O'Neill et al. [8], these behaviors and methods language teaching caused by disruptive technologies will not be possible without requirement systematic approach as follows:

- 1) Infrastructure formation
- 2) Developing and implementing of teaches and staff training
- 3) Research work on information technologies used in the educational process
- 4) Policy that adapting new technologies to the conditions of institutes
- 5) Enlargement of electronic educational resources and tools
- 6) Process of monitoring the outcomes

V. CONCLUSION AND DISCUSSION

The findings presented that the students had the highest satisfaction on using MOOC lessons for the English for Communication 2 course. The item that had the highest rank was "The lecturer is passionate in teaching and providing a feedback to each student's exercises on MOOC lessons." This might be because the students need explanation in come contexts. Thus, it is significant for the teachers to understand the students' problems as each student has a different level of learning and receiving knowledge. This is similar to the notion of Miliszewska [9] who addresses that effective communication between teaches and students is productive and conducive to the learning process. This because it is presenting a remarkable chance to sharing knowledge and questioning "easier" and more interactive. Thus, the 100 percent online process of learning may not offer a completed effectiveness of teaching-learning outcome.



To achieve the objectives of language learning, the students should be ensured that they are provided an unlimited sense of belonging in a virtual class with teacher providing in-person support.

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AUTHORS PROFILE



Assistant Professor Dr. Wipanee Pengnate, is an assistant professor of English at College of General Education and Languages, Thai-Nichi Institute of Technology. She got her Doctorate degree in Trans disciplinary Studies, Central Queensland University, Australia. She also obtained two master degrees. One is Master of Arts Administration, Central Queensland University, Australia., and the other is Master of Education in Educational Administration from Naresuan University, Thailand.



Assistant Professor Dr. Bundit Anuyahong, is an assistant professor of English at College of General Education and Languages, Thai-Nichi Institute of Technology. He got Ph.D. in Curriculum and Instruction-Teaching English at Silpakorn University. He also obtained triple degrees for his master. One is Master of Education in TEFL from Silpakorn University, Master of Education in Educational Administration from Naresuan University and Master of Educational Communication and Technology from Ramkhamhaeng University, Thailand.



Dr. Chalong Rattanapong, is a Business English lecturer under the Faculty of Business Administration, Rajamangala University of Technology Rattanakosin, Wang Klaikangwon Campus. She got Ph.D. in Curriculum and Instruction-Teaching English at Silpakorn University, Thailand. Her expertise is Curriculum and Instruction both for undergraduate and graduate levels.