A Study of Problems and Obstacles in Using MOOCs of TNI Students

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Abstract

The purposes of this research were 1) to study of problems and obstacles in using MOOCs of TNI students 2) to compare problems and obstacles in using MOOCs of TNI students according to gender, faculty and academic year, and 3) to compile opinions and suggestions of the students.

Research samples were 291 TNI students in the first semester of 2017 academic year, derived through simple random sampling technique. The instruments used for gathering the data were the rating-scale and open-ended questionnaire. The statistics used for analyzing the data were frequency, percentage, mean, standard deviation, t-test, F-test, and content analysis.

The research findings were as follows:

1. TNI students had a moderate level of problems and obstacles in using MOOCs.

2. TNI students with different genders had no differences in total. When considered in each aspect, it was found out that there were statistically significant differences at 0.05 level in obstacles.

3. TNI students with different faculties had statistically significant differences in the total at 0.05 level. When considered in each aspect, it was found out that there were statistically significant differences at 0.05 level in Problems and Obstacles.

4. TNI students with different academic years had statistically significant differences at 0.05 level in total. When considered in each aspect, it was found that there were statistically significant differences at 0.05 level in Problems and Obstacles.

5. TNI students had supplemental suggestions: Trial of MOOCs should be experimented before launching to students; Internet and computer are significant devices that support teaching-learning process; I like a traditional classroom style because relationship between teachers and students is the most important factor; Duration of the clip should not too long so the students will not get bored; MOOCs are suitable for the students who pay attention on this kind of learning and; MOOCs should be applied with a language classroom. The students will be getting the highest benefit from this online learning.

Keywords: Problems and Obstacles, Using MOOCs.

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1. Introduction

Massive Open Online Courses (MOOCs) are a quickly growing style of educational establishment, holding the potential to open up access to world class teaching and educational resources beyond social boundaries (Ebben and Murphy, 2014). The potential benefits of MOOCs for the students in Thailand focus on tuition to attend face-to-face education. In addition, despite the potential and hype associated with MOOCs, retention rates overall are typically very low. While research studies are starting to examine the reasons behind the low retention rates, these tend to focus on a single MOOC as a case study (Greene et al., 2015).

Learner perceptions of MOOC features were collected using scales developed from the literature on distance and eLearning evaluation. Our main aim was to explore problems and obstacles in using MOOCs of TNI students. The result of this research will be guideline for developing MOOCs of TNI in next occasion.

Research Purposes
1. To study of problems and obstacles in using MOOCs of TNI students
2. To compare problems and obstacles in using MOOCs of TNI students according to gender, faculty and academic year
3. To compile opinions and suggestions of the students.

2. Method

Population and Samples

This research was to study problems and obstacles in using MOOCs of TNI students which consisted of population and samples as follows:

Population of this research was 1,200 TNI students in 3 faculties of Engineering, Information Technology and Business Administration in the first semester of 2017 academic years. Samples of the research were 291 students derived through simple random sampling technique. The instruments used for gathering the data were the rating-scale and open-ended questionnaire. The statistics used for analyzing the data were frequency, percentage, mean, standard deviation, t-test, F-test, and content analysis.

Instrumentation

The instrument used in this study is a questionnaire which constructed by the researcher, based on problems and obstacles in using MOOCs of TNI students.

The first part (Part 1) of this questionnaire asks for the demographic information on their genders, academic year and faculty. The participants were asked to report their information by ticking in only one box.

The second part (Part 2) concerns a study of problems and obstacles in using MOOCs of TNI students in 2 major areas: 15 items of problems, 15 items of obstacles. The participants were asked to check by ticking in only one box under the five levels of importance on each item in Part 2 to indicate their problems and obstacles in using MOOCs in each area listed in the questionnaire.

Data collection

Problems and obstacles in using MOOCs of TNI students were accessed through the questionnaire in the first semester of 2017 academic year.

The administration of the research questionnaire was conducted in problems and obstacles in using MOOCs of TNI students. Part 1 concerns the demographic variables about their gender, academic years and faculties. The 15 items of Part 2 cover problems and obstacles in using MOOCs of TNI students. Therefore, the participants were requested to consider each item carefully and indicate how important each item was for their study. A total of 291 TNI students from the 3 faculties completed the questionnaire.

Process analysis was conducted with the second research question in determining the associations of the participants' problems and obstacles in using MOOCs of TNI students to each of these demographic variables: genders, academic years and faculties.

Data Analysis from Questionnaire

Data analysis from questionnaire both single item and whole questionnaire which presented a form of rating scale. These rating scales were calculated to find out mean and standard deviation and then translated based on criteria developed by Best (1981) as follows:

$1.00 <= \bar{x} < 1.50$ refers to students who had the lowest problems and obstacles in using MOOCs

$1.51 <= \bar{x} < 2.50$ refers to students who had low problems and obstacles in using MOOCs

$2.51 <= \bar{x} < 3.50$ refers to students who had moderate problems and obstacles in using MOOCs

$3.51 <= \bar{x} < 4.50$ refers to students who had high problems and obstacles in using MOOCs

$4.51 <= \bar{x} < 5.00$ refers to students who had the highest problems and obstacles in using MOOCs

The statistics used for analyzing the data

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

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3. Results

Results of Data Analysis

Phase 1 The results of demographic variable of TNI undergraduate students

The analysis of the data from the students' questionnaire reported by TNI undergraduate students in the 2017 academic year is presented in the 2 section deals with the demographic variables from the students' responses to Part 1 of the questionnaire: genders, academic years and faculties as following table.

Table 1: Table of the results of demographic data of respondents

Demographic data of respondents	n=291	Percentage
1. Genders		
1.1 Male	188	64.60
1.2 Female	103	35.40
Total	**291**	**100**
2. Faculties		
Engineering	59	20.30
Information Technology	152	52.20
Business Administration	80	27.50
Total	**291**	**100**
3. Academic Years		
1st Year	110	37.80
2nd Year	53	18.20
3rd Year	66	22.70
4th Year	62	21.30
Total	**291**	**100**

Table showed that percentages of TNI undergraduate respondents in genders ranged from 64.60% for male and 35.40% for female; in faculties ranged from 20.30% for Engineering, 52.20% for Information Technology, 27.50% for Business Administration; in academic years ranged from 37.80% for 1st year, 18.20% for 2nd year, 22.70% for 3rd year and 21.30% for 4th year.

Phase 2 Problems and obstacles in using MOOCs of TNI students

Table 2: Table of mean and standard deviation of problems and obstacles in using MOOCs of TNI students

Components	n	$\bar{x}$	S.D.	Level
Problems	291	3.15	0.61	Moderate
Obstacles	291	3.25	0.65	Moderate
Total	291	3.20	0.58	Moderate

The table above indicated that TNI students had a moderate level of problems and obstacles in using MOOCs in overall ($\bar{x}$=3.20). When considered in each aspect, it was found that the students had a moderate level of problems and obstacles respectively.

Phase 3 The results of the comparison of problems and obstacles in using MOOCs of TNI students according to genders, faculties, and academic years

Table 3: Table of mean and standard deviation of problems and obstacles in using MOOCs of TNI students according to genders

Components	Male (M) n=188		Female (F) n=103		t	p
	$\bar{x}$	S.D.	$\bar{x}$	S.D.		
Problems	3.07	0.62	3.29	0.55	3.07	0.17
Obstacles	3.09	0.65	3.54	0.54	5.91	0.05*
Total	3.08	0.59	3.42	0.50	4.91	0.12

Statistical significance at 0.05 level

The table showed that students with different genders had no differences in total. When considered in each aspect, it was found out that there was no difference in problems. For the rest, it was found that there were statistically significant differences in obstacles at 0.05 level.

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Table 4: Table of comparison problems and obstacles in using MOOCs of TNI students according to faculties

Components		SS	df	MS	F	p
Problems						
	Between groups	7.158	2	3.579	10.138	0.000
	Within groups	101.664	288	0.353		
	Total	**108.882**	**290**			
Obstacles						
	Between groups	8.342	2	4.171	10.373	0.000
	Within groups	115.811	288	0.402		
	Total	**124.153**	**290**			
Total						
	Between groups	7.736	2	3.868	0.000	
	Within groups	90.751	288	0.315		
	Total	**98.487**	**290**			

* Statistical significance at 0.05 level

The table showed that students with different faculties had statistically significant differences in total at 0.05 level in total. When considered in each aspect, it was found out that there were statistically significant differences at 0.05 level in Problems and Obstacles.

Table 5: Table of comparison of problems and obstacles in using MOOCs of TNI students according to academic years

Components		SS	df	MS	F	p
Problems						
	Between groups	9.647	3	3.216	9.306	0.000
	Within groups	99.175	287	0.346		
	Total	**108.822**	**290**			
Obstacles						
	Between groups	10.648	3	3.549	8.974	0.000
	Within groups	113.506	287	0.395		
	Total	**124.153**	**290**			
Total						
	Between groups	10.072	3	3.357	10.898	0.000
	Within groups	88.415	287	0.308		
	Total	**98.487**	**290**			

* Statistical significance at 0.05 level

The table showed that students with different academic years had statistically significant differences at 0.05 level in total. When considered in each aspect, it was found that there were statistically significant differences at 0.05 level in Problems and Obstacles of all year students.

Phase 4 The results of opinions and suggestions strategies of Thai-Nichi Institute of Technology students

TNI students had supplemental suggestions as following:
1. Trial of MOOCs should be experimented before launching to students.
2. Internet and computer are significant devices that support teaching-learning process.
3. I like a traditional classroom style because relationship between teachers and students is the most important factor.
4. Duration of the clip should not too long so the students will not get bored.
5. MOOCs are suitable for the students who pay attention on this kind of learning.

MOOCs should be applied with a language classroom. The students will be getting the highest benefit from this online learning.

4. Conclusion

According to the study and data analysis, the results of this study were concluded as follows:

1. The percentages of TNI undergraduate respondents in genders ranged from 64.60% for male and 35.40% for female; in faculties ranged from 20.30% for Engineering, 52.20% for Information Technology, 27.50% for Business Administration; in academic years ranged from 37.80% for 1st year, 18.20% for 2nd year, 22.70% for 3rd year and 21.30% for 4th year

2. TNI students had a moderate level of problems and obstacles in using MOOCs in overall ($\bar{X}$=3.20). When considered in each aspect, it was found that the students had a moderate level of problems and obstacles respectively.

3. TNI students with different genders had no differences in total. When considered in each aspect, it was found out that there were statistically significant differences at 0.05 level in obstacles. For the rest there were not differences.

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4. TNI students with different faculties had statistically significant differences in the total at 0.05 level. When considered in each aspect, it was found out that there were statistically significant differences at 0.05 level in Problems and Obstacles.

5. TNI students with different academic years had statistically significant differences at 0.05 level in total. When considered in each aspect, it was found that there were statistically significant differences at 0.05 level in Problems and Obstacles.

6. TNI students had supplemental suggestions as following:

   6.1 Trial of MOOCs should be experimented before launching to students.
   6.2 Internet and computer are significant devices that support teaching-learning process.
   6.3 I like a traditional classroom style because relationship between teachers and students is the most important factor.
   6.4 Duration of the clip should not too long so the students will not get bored.
   6.5 MOOCs are suitable for the students who pay attention on this kind of learning.

MOOCs should be applied with a language classroom. The students will be getting the highest benefit from this online learning.

5. Discussion

TNI students had a moderate level of problems and obstacles in using MOOCs. This is relevant to Reich (2014) who describes a learner's motivation as the approach to act in a positive way towards MOOCs. Moreover, using a MOOC as a learning opportunity within the context of a broader, University qualified program is valuable in terms of increasing the likelihood of completion. However, the majority of learners still did not complete their MOOC, even in this context, suggesting that there still remains an issue with MOOCs in terms of the extent to which they engender completion among a motivated learner. Further work would be needed to explore whether this does indeed explain participants' motivations.

Moreover, TNI students with different faculties and academic years had statistically significant differences in the total at 0.05 level and both in problems and obstacles. This might be because TNI students need using MOOCS for learning in a variety of activities and styles and MOOCs tend to be used in distance learning through social networking which related to the idea of Sampson (2003) and Wenger (1991) who advocated that MOOCs can be considered as distance learning with additional peer support and social networking. The integration of online forums offer possibilities for the appearance of learning communities to share experiences and ordinary interests, or communities of practice where more knowledgeable participants help others develop skills and knowledge.

6. Acknowledgements

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