

Perspectives of Online Learners: Demographic Characteristics on Synchronous Learning Environment in Taiwan

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ABSTRACT

This study addressed the differences of distance learners' perspectives of synchronous e-learning environment based on their demographic characteristics. The participants in this study are 120 Indonesian migrant workers in Taiwan who takes undergraduate program with blended learning environment in Indonesia Open University in Taiwan. The majority of students (70%) are female. Degree or education level (78.3%), better occupation in the future (69.1%), and work schedule (51.6%) are the top three enrollment factors. Based on results of statistics, the results show that students have positive perceptions of synchronous e-learning environment ($M = 3.84$). There were significant different perceptions on synchronous e-learning environment when students are compared by gender ($p = .03$), where females perceived synchronous e-learning more positively than males. Furthermore, when students are compared by academic year or class level, there was a significant different perception ($p = .008$). However, there were no significant differences in students' perceptions when students are compared by age ($p > .05$).

Keywords: Demographic characteristics, blended learning, synchronous learning, distance learning, enrolment factors.

1. INTRODUCTION

1.1. Synchronous for distance learning

Distance learning is a form of instruction in which a geographical separation exists between instructor and students. Using synchronous e-learning system, distance learning activity will be more effective, between students and instructors, and between students and students [1]. Synchronous learning is real time online learning form. Several studies such as [2] showed that the use of synchronous e-learning system is the best way to provide the possibility of distance learning that resembles a real learning process in the classroom. Synchronous e-learning is very useful for distance learning, especially for real-time distance learning, which can be collaborative in nature incorporating e-tivities, students and teachers or instructors use the system simultaneously in real time [3][4][5].

The best advantages of synchronous online instruction are that faculty and students can talk to each

other using text, audio, and video and express emotion using emoticons [6][7]. Most participants believed that the quality of online instruction or synchronous distance learning was equal to that of traditional instruction or face to face classroom [8]. In another hand, students do not initially feel they learn as much in online courses as they do in traditional [9].

1.2. Enrolment factors

At least 80 percent of more than 122,000 graduate and undergraduate students in 2014-15 listed nearly all of these items as enrolment factors [10]. As seen in Table 1, the convenience, flexible pacing for completing a program, and work schedule are the consistent top three enrollment factors. Online learners clearly require their courses to fit into their lives and to allow them to participate when it is convenient for the student.

Factors of convenience and flexibility are important factors [11][12].

Table 1. Factors that contributed to enrollment

Factor	All	Under-graduate	Graduate
Convenience	96%	96%	97%
Flexible	93%	93%	93%
Schedule	92%	91%	93%
Requirements	89%	88%	90%
Financial	85%	88%	81%

Source: Noel-Levitz [13]

1.3. Themes related to learners' perspectives

There are some themes related to learners' perspectives on synchronous e-learning environment, such as: (1) Sense of connectivity, there are three types of interaction in distance education: learner-content interactions, learner-instructor interaction, and learner-learner interaction. Learner-content interaction is the most important factor in the successful implementation of an online program [14]. Learner-instructor interaction could become as vital in the successful of online learning [15][16][17]. The academic performance mostly depended on student-instructors and student-student interaction in online learning settings [18]. This form of interaction between learners, one-to-one or in group settings, with or without the real-time presence of an instructor, and is believed to give advantages for knowledge development ; (2) Prompt support and feedback, feedback from instructors should be short, unambiguous, effective, and immediate. Feedback provides an opportunity to evaluate student improvements on learning [19]. Online feedback from teachers and course websites may enhance student learning [20]; (3) Technology Acceptance Model (TAM), there are three variables of perceived ease of use, perceived usefulness, and perceived intention to use are combined as the basis of TAM [21]; (4) Time sessions, time constraints and lack of reflection time are the disadvantages of the synchronous e-learning environment [22]; (5) Technological issues, including network connection problems, audio screen tool related issues. Technical problems such as connection speed, microphone, noise, echo, and voice quality are the problems on synchronous tools [23]; (6) Competence, students' perceptions of their own skills with the technology needed to engage in online learning are perceived as a factor related to their perceptions of success in an online learning environment and their overall satisfaction with online learning courses [24]; (7) It is important for faculty who teach distance learners to provide content that adds value, is useful and applicable to the profession, and stresses important concept [25].

1.4. Students' demographic characteristics

It is important for researchers to understand the characteristics of students participating in online learning [26]. In this study a decision was made to consider three important students' demographic characteristics: age, gender, and class level. Age is one of the major variables that contribute to successful online learning [27]. Younger students tended to perform better than mature students in a college setting [28]. Age is a factor of computer self-confidence [29]. In another hand, some studies found that students' age did not significantly affect academic performance in the online course [30]. Gender is one of the important characteristics that impacts students' perceptions of online learning. Males significantly higher computer self-efficacy than females. Males greater experience with more positive attitudes toward computers than females [31]. In another hand, some studies examine that female students learn better than male students in online learning environment [32]. There were remarkable differences among the group of students in difference academic year, Senior year students felt less technological difficulties with information and felt more freedom of speech while participating in online discussions [33].

The main purpose of the present study was to examine the differences of distance learners' perspectives on synchronous e-learning environment at the Indonesia Open University in Taiwan based on their demographic characteristics. Based on references, then the hypothesis can be formulated as follows:

- (1) There is difference in perceptions on synchronous e-learning environment when students are compared through their age.
- (2) There is difference in males' and females' perception on synchronous e-learning environment.
- (3) There is difference in perceptions on synchronous e-learning environment when students are compared through their class level.

2. METHOD

2.1. Participants

In determining the number of subjects in this study using Sample Size Calculator. Mostly researchers using the 95% confidence level and the confidence interval is 4. With 193 population, 95% confidence level, and confidence interval is 4, then the sample size needed were 146 students. However, only 120 students completed the questionnaire.

2.2. Research instruments

In this study, there are two instruments (documentation and questionnaire). The documentation refers to data from the online database and printed document of Indonesia Open University about study programs, learning system, learning method, and number of students.

Questionnaire items in this study were taken from several from books and journals. After questionnaire items revised based on the experts' analysis, the questionnaire was pilot tested to 30 students at Indonesia Open University in Taiwan who not as subjects of this study, r_{table} for questionnaire validity test of this survey is 0.361 (N = 30).

2.3. Procedures and data collection

This study conducted after cover letter sent and research permission letter from Indonesia Open University in Taiwan accepted. All participants completed online questionnaires about perceptions of synchronous online learning. These questionnaire items dealt with their experiences in Indonesia Open University in Taiwan. To find out about learning system, learning method and number of students, online database and printed document was obtained from the staff of Indonesia Open University in Taiwan.

2.4. Data analysis

Analysis of the data focused on students' perception of synchronous online learning based on their age, gender and class level. Statistical Package for the Social Sciences (SPSS) was used to perform the statistical analysis.

3. RESULTS

3.1. Demographic characteristic

Table 2. Students' demographic characteristics

No	Demographic characteristics		%	N
1	Age	< 30 years	56.67%	120
		30 years	43.33%	
2	Gender	Female	74.17%	120
		Male	25.83%	
3	Class level	1 st and 2 nd year	55.83%	120
		Above 2 nd year	44.17%	

Table 2 above shows that majority of the students are female and the majority of students are above 30 years old.

3.2. Enrolment Factors

Degree or education level (78.3%), future employment opportunities (69.1%), and work schedule (51.6%) are the top three enrolment factors.

3.3. Students' general perceptions

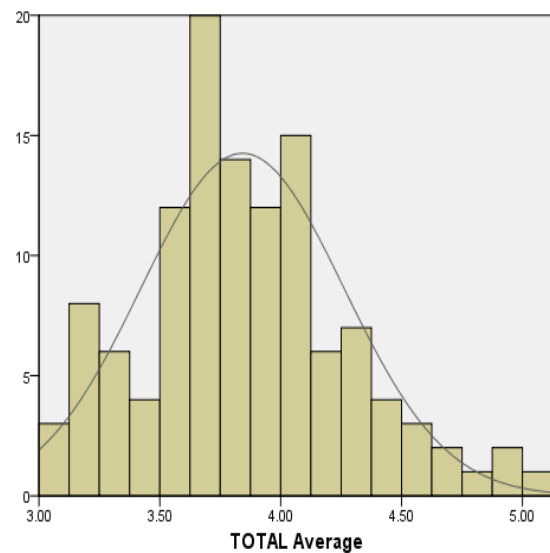


Figure 1 Students' general perceptions of synchronous e-learning environment.

Students at Indonesia Open University in Taiwan generally have positive perceptions of synchronous e-learning environment. In another word, perception with synchronous e-learning was generally positive ($M=3.84$).

Table 3. Factors that contributed to enrollment

No	Factor	All
1	Degree (education level)	78.3%
2	Future employment opportunities	69.1%
3	Work schedule	51.6%
4	Convenience	30.8%
5	Cost	25%
6	Flexible	23.3%

Table 4 below shows that based on sub-average (perception based on sub-categories) and total average

Table 4. Students’ perceptions based on average

Category (Average value)	Min	Max	M	S. D.
Connectivity	2.00	5.00	3.85	.63
Support and feedback	2.67	5.00	4.00	.62
Learning strategies	3.00	5.00	3.89	.53
Ease of use	2.67	5.00	3.91	.58
Usefulness	1.00	5.00	3.97	.61
Time sessions	2.20	5.00	3.78	.56
Technical issues	1.71	5.00	3.59	.69
Competence	2	5.00	3.81	.55
Learning content	1.67	5.00	3.83	.57
TOTAL	3.00	5.00	3.84	.41

Table 5. Students’ perceptions based on age

Categories	Age	N	M	Sig
connectivity	< 30	68	3.82	.52
	≥ 30	52	3.90	
support and feedback	< 30	68	4.00	.99
	≥ 30	52	4.00	
learning strategies	< 30	68	3.89	.98
	≥ 30	52	3.88	
ease of use	< 30	68	3.97	.24
	≥ 30	52	3.84	
usefulness	< 30	68	3.98	.73
	≥ 30	52	3.94	
time sessions	< 30	68	3.86	.06
	≥ 30	52	3.66	
technological issues	< 30	68	3.68	.07
	≥ 30	52	3.45	
competence	< 30	68	3.94	.003*
	≥ 30	52	3.63	
learning content	< 30	68	3.94	.014*
	≥ 30	52	3.68	
TOTAL Average	< 30	68	3.89	.112
	≥ 30	52	3.77	

(general perception), the synchronous e-learning environment at Indonesia Open University in Taiwan was good.

3.4. Students’ perceptions based on their age

When students are compared through their age, students have no significant different perception of synchronous e-learning environment, $p > .05$.

3.5. Students’ perceptions based on their gender

Table 6. Students’ perceptions based on gender

Categories	Gender	N	M	Sig
Connectivity	F	89	3.89	.23
	M	31	3.74	
Support and feedback	F	89	4.07	.051
	M	31	3.81	
Learning strategies	F	89	3.95	.03*
	M	31	3.71	
Ease of use	F	89	4.00	.01**
	M	31	3.68	
Usefulness	F	89	4.00	.23
	M	31	3.85	
Time sessions	F	89	3.82	.15
	M	31	3.65	
Technological issues	F	89	3.60	.57
	M	31	3.52	
Competence	F	89	3.83	.33
	M	31	3.74	
Learning content	F	89	3.90	.02*
	M	31	3.63	
TOTAL Average	F	89	3.89	.03*
	M	31	3.70	

When students are compared through their gender, there was significant difference perception of synchronous e-learning environment, $p=.03$. Gender significantly influenced the perceptions of predictors and students’ satisfaction with e-learning system. On total

average, female students have higher mean scores ($M = 3.89$) than male students ($M = 3.70$).

3.6. Students' perceptions based on their class

Table 7. Students' perceptions based on class level

Categories	Class Level	N	M	Sig
connectivity	1 st - 2 nd	67	3.96	.04*
	> 2 nd	53	3.72	
support and feedback	1 st - 2 nd	67	4.17	.001**
	> 2 nd	53	3.78	
learning strategies	1 st - 2 nd	67	3.95	.15
	> 2 nd	53	3.81	
ease of use	1 st - 2 nd	67	4.06	.002**
	> 2 nd	53	3.73	
usefulness	1 st - 2 nd	67	3.99	.63
	> 2 nd	53	3.93	
time sessions	1 st - 2 nd	67	3.89	.01**
	> 2 nd	53	3.63	
technologic al issues	1 st - 2 nd	67	3.62	.51
	> 2 nd	53	3.53	
competence	1 st - 2 nd	67	3.86	.24
	> 2 nd	53	3.74	
learning content	1 st - 2 nd	67	3.89	.18
	> 2 nd	53	3.75	
TOTAL Average	1 st - 2 nd	67	3.93	.008*
	> 2 nd	53	3.72	

level

There was a significant different perception of synchronous e-learning environment when students are compared through their class level, $p = .008$. There were remarkable differences among the group of students in different academic year or class level. On total average, the 1st to 2nd-year students have higher means score ($M = 3.93$) than students from 3rd and above ($M = 3.72$). On sub-average, for almost all categories, the 1st to 2nd-year students have higher means score than students from 3rd and above.

4. DISCUSSION

Degree or education, better occupation in the future, and work schedule are the top three enrolment factors. Synchronous e-learning is a great environment for

distance learning that offered by Indonesia Open University in Taiwan.

Students at Indonesia Open University in Taiwan have positive perception on synchronous e-learning environment. This study examined distance learners' demographic characteristics, factors that contributed to enrolment, and learners' perceptions on synchronous e-learning. As seen in Table 8, there was significant differences perception when students are compared through their gender, class level. However, there were no significant differences on students' perceptions when students are compared though their age. Younger students have a higher mean score and tend to perform better than older students. When students are compared based on their gender, female students have higher satisfactions with synchronous e-learning environment. There was remarkable difference among the group of students in different academic year or class level. Surprisingly, junior students have higher mean score than their senior.

Even though there is no significant difference perception of synchronous e-learning environment when students are compared based on their age, but on average value or in some part of the learning environment such as competence and learning content there were significant difference perception. This finding was interesting and can be an important information for future research at Indonesia Open University in Taiwan to find the cause of this different perceptions, whether the student have problem in learning process or tutor need to pay more attention to the students who felt not satisfied in this case those students are the older students.

Table 8. Perceptions based on demographics

Independent variables		N	M	Dependent variable
Age	< 30	68	3.89	$p = .112$
	≥ 30	52	3.77	
Gender	Female	89	3.89	$p = .03^*$
	Male	31	3.70	
Class level	1 st - 2 nd	67	3.93	$p = .008^*$
	> 2 nd	53	3.72	
General perception	All	120	3.84	

Table 8 shows that there were no significant differences in students' perceptions when students are compared by age. By this finding, the researcher can conclude that synchronous e-learning environment is

suitable for young students and older students and this finding shows that implementation of technology and information in education system is easy and can be perfectly implemented in education system especially during this pandemic and maybe in other situations.

5. CONCLUSION

This research focused on the differences of distance learners' perspectives of synchronous e-learning environment based on their demographic characteristics. In summary, the results show that students have positive perceptions of synchronous e-learning environment. There were significant different perceptions on synchronous e-learning environment when students are compared by gender, females perceived synchronous e-learning more positively than males. Furthermore, when students are compared by academic year or class level, there was a significant different perception. However, there were no significant differences in students' perceptions when students are compared by age.

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