

# An Investigation of ESL learners' Affective Attributes Toward Online Reading

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## ARTICLE INFO

### Article history

Received 15 Oct. 2021

Revised 20 Oct. 2021

Accepted 27 Oct. 2021

### Keywords

Keyword\_1 online reading

Online reading

affective attributes

self-efficacy

motivation

anxiety

## ABSTRACT

The Covid-19 pandemic has remarkably expedited the growth of digital culture and made online reading an indispensable element of students' academic journey. Students need to read online to learn new lesson contents and complete assignments. As educators and teachers, it is important to understand clearly our students' affective attributes toward online reading as these affective attributes play a significant role in students' reading process. The present study examined three affective attributes toward online reading among Malaysian ESL learners at the tertiary level, i.e., self-efficacy, motivation and anxiety. The data were collected by using the questionnaire *Survey of Online Reading Affective Attributes*. This questionnaire was adapted by the researcher from previous questionnaire studies to measure students' affective attributes toward online reading for academic and study-related purposes. This questionnaire survey was administered to 130 ESL learners at the tertiary level. The results revealed the following findings: (a) tertiary ESL learners had relatively positive affective attributes toward online reading, (b) no significant differences were found in terms of self-efficacy, motivation and anxiety between male and female students, (c) self-efficacy, motivation and anxiety in the online reading context were significantly correlated with one another. Some recommendations for future studies were also provided.

## 1. Introduction

The fast progress of Information and Communications Technology (ICT) has significantly modified the way people read in the past decades. Particularly, the digitization of higher education has been accelerated worldwide since the start of the Covid-19 outbreak. The growth of digital culture has made online reading a vital learning source for students' academic lives. Students are required to read online to learn new course contents and complete lesson assignments. For ESL learners at the tertiary level who are struggling with heavy cognitive tasks from traditional print text reading now encounter new challenges from online reading (Li, 2020).

Concerning studies on online reading, most of the studies about online reading comprehension concentrated on cognitive reading process, however, affective attributes are also influential and significant in the process (Hamedi et al., 2020); (O'Byrne & McVerry, 2009); (Putman, 2014). Affective attributes or dispositional attributes generally refer to attitudes and feelings influencing patterns of behavior.

Reiber-Kuijpers et al., (2021) identified the new challenges of online reading, e.g., nonlinearity, easier to lose track or miss information, complex website pages designs and split formats, distraction, etc. These new features and characteristics of online reading are bringing more challenges to ESL learners and demand clear understanding of students' affective attributes in online reading context (Yamaç & Öztürk, 2019). As educators and teachers, it is of great importance to



understand clearly our students' affective attributes toward online reading as these affective attributes play a significant role in students' reading process.

Putman (2014) developed an instrument for exploring attitudes and behaviors toward online reading. This instrument consists of self-efficacy, motivation, anxiety, value and self-regulatory behaviors. More recently, Putman et al., (2020) further explored the cognitive reading strategies and affective attributes in online reading context, and categorized self-regulation, behavioral and cognitive engagement as cognitive reading strategies, while self-efficacy, motivation and anxiety as affective or dispositional attributes toward online reading. In this study, the model of affective attributes in the online reading context developed by Putman et al., (2020) was employed, specifically, affective attributes or dispositional attributes in this study refer to self-efficacy, motivation and anxiety in the online reading context.

First, self-efficacy represents one's confidence about their abilities to succeed in specific tasks (Pajares, 1996); (Schunk, 1991). Students' sense of self-efficacy can have important effects in how they perform academic tasks and overcome difficulties. In terms of online reading, one study found self-efficacy is positively associated with self-regulation within online reading tasks (Senkbeil & Ihme, 2017). Salmerón et al., (2018) discovered that students with more self-efficacy are also more persistent in their online reading process. On the contrary, poor self-efficacious students are more likely to disengage from the online inquiry process.

Second, motivation refers to value and interest in specific tasks. If a person has interest in a specific task, the individual is more likely to cherish the chance to perform such tasks, and subsequently will feel motivated (Putman et al., 2020). Reading motivation plays a significant role in tertiary students' academic success (Kambara et al., 2021). In terms of online reading, Moos (2014) acknowledged motivation as a crucial element in one's desire to engage in self-regulatory processes. Students who had internal desires or interested in a task were more active in self-monitoring or evaluating materials during online reading process, which facilitated later synthesis of online information.

Third, as defined by Otto et al., (2010) anxiety is an emotional state featured by a sense of apprehension, worry and lacking self-control of one's own dispositional response, and it has negative influence on task success. It is induced when a person is uncertain about the result of an important task and the focus is on anticipated failure (Zaccoletti et al., 2020). In the online reading context, anxiety represents a barrier to online readers. Zylka et al., (2015) found negative relations between anxiety and engagement of Information and Communications Technology.

However, most of these studies on affective attributes were either conducted in traditional print reading settings, or only one single affective attribute was studied. As the new characteristics of online reading bring new challenges for students concerning the affective attributes needed for uninterrupted concentration and engagement, the present study aims to measure students' affective attributes towards online reading for academic and study-related purposes.

Specifically, the research questions of this study:

1. What are the profiles of tertiary ESL learners' self-efficacy, motivation and anxiety among tertiary ESL learners toward online reading?
2. Is there any significant difference between male and female students in terms of self-efficacy, motivation and anxiety among tertiary ESL learners toward online reading?
3. How are the tertiary ESL learners' self-efficacy, motivation and anxiety toward online reading correlated with one another?

## 2. Method

### 2.1. Participants

The participants of this study were 130 bachelor degree freshmen and sophomores from Universiti Malaysia Pahang, including 56 males and 74 females. The participants were from various academic majors, such as mechanical engineering, electrical engineering, chemical engineering, civil engineering, computing, industrial management, etc.

## 2.2. Instruments

The four-point Likert type scale questionnaire Online Reading Affective Attributes Survey (ORAAS) was employed in this study to explore the attitudes and feelings displayed by tertiary ESL learners when reading online for academic or study related purposes. This questionnaire was adapted by the researcher based on previous questionnaire study Survey of Online Reading Attitudes and Behavior (Putman et al., 2020), which includes both cognitive reading strategies and affective attributes. In this study, items about cognitive reading strategies were removed, and items about affective attributes were retained to better suit the purpose of the present study. The items from the previous questionnaire originally formulated for senior elementary school students were adapted to better fit the tertiary level.

In this study, ORAAS consists of three parts, i.e., self-efficacy, motivation and anxiety. Altogether, there are 23 items composed for the questionnaire. The reliability index of the questionnaire was calculated using Cronbach's alpha coefficient. The reliability index of self-efficacy was found to be 0.786, motivation 0.815, and anxiety 0.901.

## 2.3. Data Collection and Analysis

The questionnaire was administered in the first semester of the academic year 2020-2021 at Universiti Malaysia Pahang. After getting the administrator's approval, the students were required to finish an online reading comprehension assignment, then answer the questionnaire in 30 minutes based on their real feelings and attitudes toward online reading. The reading assignment administered before the questionnaire survey aimed to help students to be aware of their real feelings and attitudes in online reading context, instead of their perceived feelings. After the questionnaire distribution, students were required to write their full names, gender, faculties, student matric numbers and year of study. Then, students need to choose a response to each of the items.

The data from the survey were analyzed by Statistical Package for Social Sciences (SPSS). Descriptive statistics involving mean and standard deviation were employed to figure out how self-efficacious, motivated and anxious they felt toward online reading. Independent samples t tests were run to determine the difference in terms of self-efficacy, motivation and anxiety between male and female students. Correlation analyses were run to explore the relationship between self-efficacy, motivation and anxiety toward online reading.

## 3. Results and Discussion

### 3.1. Results

As described above, ORAAS was 4-point Likert scale. For the items on the categories of self-efficacy and motivation, the result 'strongly agree' was given the score of 4, the result 'agree' given 3, and so on. However, the items on the category of anxiety were reverse-coded to show more positive dispositions. Therefore, the total score of ORAAS reflects the participants' overall profiles of their affective attributes, i.e., higher scores indicate more positive affective attributes (self-efficacious, motivated and less anxious), and lower scores represent less positive attributes (anxious, less self-efficacious and less motivated). The scoring of ORAAS is shown in Table 1 below.

Table 1. The Scoring of ORAAS Scale

No	Option	Score self-efficacy	Score Motivation	Score Anxiety
1	Strongly Agree	4	4	1
2	Agree	3	3	2
3	Disagree	2	2	3
4	Strongly Disagree	1	1	4

Table 2 showed the descriptive statistics of all 23 items of ORAAS, as reported in Table 2, most of the items were above the mid-point 2.5, the neutral point between positive and negative

dispositions, indicating most of the students generally had relatively positive dispositional attributes toward online reading.

Table 2. Descriptive Statistics of ORAAS items

Items	Mean	Std. Deviation	Category
1. I felt confident that I can read online texts smoothly and efficiently.	2.96	0.58	Self-efficacy
2. I felt confident that I can use online tools and functions to facilitate my reading/searching when using search engine.	3.01	0.61	Self-efficacy
3. I felt confident I can locate target information when reading online texts.	2.90	0.52	Self-efficacy
4. I felt confident evaluating the credibility and quality of new online information I searched.	2.78	0.62	Self-efficacy
5. I felt confident synthesizing useful information from various pages I searched to form my understanding.	2.88	0.62	Self-efficacy
6. I felt confident trouble shooting problems related to online reading.	2.66	0.64	Self-efficacy
7. I felt confident my proficiency in online reading was adequate.	2.69	0.74	Self-efficacy
8. I felt once I start reading/searching information online, I cannot stop because I want to find the answers.	3.02	0.76	Motivation
9. I felt I would rather read online than read a printed material during free time.	2.75	0.92	Motivation
10. I think students who are really good at online reading/searching have more chance to succeed.	3.13	0.71	Motivation
11. I felt everyone should know how to use the computers, Internet, online reading platforms etc.	3.57	0.52	Motivation
12. I felt being able to read online for learning and searching is important to me.	3.42	0.52	Motivation
13. I believe online reading has made learning more interesting.	3.13	0.63	Motivation
14. I felt online reading for learning and research is beneficial because it saves people time.	3.25	0.65	Motivation
15. I believe online reading/searching makes it easier to get useful information.	3.35	0.54	Motivation
16. I think when reading online for academic purposes, I can find useful information much faster than I can when I use a book.	3.43	0.55	Motivation
17. Online reading for academic purposes made me feel nervous.	2.24	0.82	Anxiety
18. I felt helpless when tasked with online reading/research.	2.68	0.76	Anxiety
19. I felt it is easy to get lost when I am reading online for learning and searching.	2.56	0.74	Anxiety
20. I worried that I cannot read online texts as well as others can.	2.32	0.92	Anxiety
21. I felt like avoiding online reading for academic purposes.	2.87	0.79	Anxiety
22. I felt anxious about using online tools and functions related to online reading for academic purposes.	2.67	0.85	Anxiety
23. I felt anxious about using the Internet and search engines for academic purposes.	2.75	0.88	Anxiety

As described in Table 3, the participants scored 2.84 on the category of self-efficacy, 3.22 on the category of motivation, and 2.59 on the category of anxiety, all above the mid-point 2.5, proving that most of the ESL tertiary students had relatively positive affective attributes toward online reading. Among the three affective categories, motivation was the highest with mean score 3.22, while anxiety was the lowest with mean score 2.59.

Regarding the difference of affective attributes between male and female students, the descriptive statistics of male and female students were calculated, and independent samples t tests were run and reported in Table 3. Generally, male students scored lower than female peers on motivation and anxiety, but higher on self-efficacy, though no statistically significant differences existed among these affective attributes.

Table 3. Independent samples t-test results of gender differences in ORAAS

	overall	Male	Female	t	P	Mean Difference	Std. Error Difference
<b>self-efficacy</b>	2.84	2.86	2.82	.48	.64	.04	.07
<b>motivation</b>	3.23	3.18	3.26	-1.2	.22	-.08	.08

	overall	Male	Female	<i>t</i>	<i>P</i>	Mean Difference	Std. Error Difference
anxiety	2.59	2.57	2.63	-.55	.58	-.06	.12

Bivariate correlational analyses were run to examine the correlation of three affective attributes with one another, as reported in Table 4, self-efficacy, motivation and anxiety were significantly correlated with one another, as items of anxiety were reverse-coded, the results demonstrated that a student who felt more self-efficacious toward online reading tended to be less anxious, and a student who felt less motivated toward online reading tended to be more anxious, vice versa.

Table 4. Correlations between the factors within ORAAS

		self-efficacy	motivation	anxiety
self-efficacy	coefficient	1	.435**	.392**
	Sig. <i>p</i>		.000	.000
motivation	coefficient		1	.426**
	Sig. <i>p</i>			.000
anxiety	coefficient			1
	Sig. <i>p</i>			

\*\* . Correlation is significant at the 0.01 level.

\* . Correlation is significant at the 0.05 level.

### 3.2. Discussion

Descriptive statistics about affective attributes indicated that, the overall dispositions displayed by the students were relatively positive, i.e., generally the students were relatively self-efficacious, motivated and less anxious toward online reading for academic or study related purposes, the results were in alignment with the findings in previous studies, e.g., Shang (2016) found that the majority of students expressed positive feelings and attitudes towards hypertext reading.

Moreover, as described above, the students were relatively self-efficacious toward online reading, indicating that students had relatively strong beliefs about their capabilities to succeed in online reading for academic or study related purposes. The results were similar to findings from Asriati et al., (2018) in the print reading settings, which found most of the students displayed good level of self-efficacy on reading. Meanwhile, motivation was the most positive attribute among the three affective categories. As stated by Putman et al., (2020), interest and value are the two significant elements of motivation, revealing that tertiary ESL learners generally have interest in online reading, and value the importance of online reading for academic success. Furthermore, anxiety was the lowest attribute among the three affective categories, but it was still above the neutral point between positive and negative emotions, consistent with findings in the traditional print reading settings, e.g., Lu & Liu (2015) observed that more than half of the tertiary EFL students did not display anxiety when reading English.

With regard to the gender differences, compared with the mean scores of female peers, the male students scored slightly lower on motivation and anxiety, and slightly higher on self-efficacy, although no statistically significant differences were observed among these affective attributes, similar to the findings in Ghonsooly & Loghmani (2012), which showed there was no gender-based difference in both reading strategy use and reading anxiety. A study by Shang (2016) also revealed that females gave more positive feedback to use the hypertext system compared with males, although no significant differences were found. But another study by Ahmadian & Pasand (2017) found males had higher self-efficacy than females, and the difference was significant. Further studies are recommended to examine the gender differences among affective attributes toward online reading.

Correlational analyses indicated that self-efficacy, motivation and anxiety significantly correlated with one another, revealing that a student who felt more self-efficacious toward online reading tended to be more motivated and less anxious, a student who felt more motivated toward online reading tended to be less anxious and more self-efficacious, and a student who felt more anxious toward online reading were more likely to be less motivated and less self-efficacious, vice versa. The results were aligned with the findings in Ghonsooly (2010), which found that there was a negative and significant correlation between the students' reading self-efficacy and their reading

anxiety. Studies in other academic fields instead of reading have also shown the similar outcome, e.g., Zhang & Wang (2020) found mathematics interest, self-efficacy were positively and significantly correlated with one another, meanwhile they were all negatively and significantly correlated with anxiety toward mathematics.

The present study revealed ESL tertiary students' overall profile of affective attributes in the online reading context, and teachers are suggested to take into consideration of affective attributes to language lessons. Furthermore, numerous studies in academia have shown the effects of one single affective attribute on reading comprehension in the traditional print reading settings, however, when it comes to online reading context, much less has been explored, showing the need for further research to explore the effects of affective attributes on the online reading comprehension performance.

#### 4. Conclusion

The present study explored tertiary ESL students' affective attributes toward online reading, gender differences, as well as the correlation between self-efficacy, motivation and anxiety in the online reading context. The conclusions from the study:

1. Tertiary ESL learners had relatively positive dispositions toward online reading.
2. Even though compared with female students, males scored slightly lower in motivation and anxiety, and slightly higher in self-efficacy, no statistical significances were found between male and female students among these attributes.
3. Self-efficacy, motivation, and anxiety displayed by tertiary ESL learners in the online reading context were significantly correlated with one another.

#### Acknowledgment

I would like to extend my profound gratitude to my main supervisor Dr. Chiam Kee Swan, and my co-supervisor Dr. Hafizoah Kassim for their precious input throughout the duration of my study. I am also greatly indebted to Center for Modern Languages of Universiti Malaysia Pahang for support and assistance in many aspects of this study,

#### Declarations

- Author contribution** : Dong Kangxing: initiated the research ideas, instrument construction, data collection, analysis, and draft writing; Chiam Kee Swan & Hafizoah Kassim revised the research ideas, literature review and data presentation.
- Funding statement** : None.
- Conflict of interest** : The authors declare no conflict of interest.
- Additional information** : No additional information is available for this paper.

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