

PEDAGOGY

for Online Learning

Theory and Practice

Rodrigo M. Velasco
Ruel F. Ancheta
Chinaza Solomon Ironsi
editors



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Preface

During this unprecedented time, almost all educational institutions have shifted from traditional learning to online learning. When the COVID-19 hit the world, online teaching was no longer an option but a necessity. Due to government restrictions and other related protocols, schools, colleges, and universities opted to deliver academic instructions into online to ensure that students still receive quality learning they deserve. Online learning is a tool in which teaching and learning process still become student-centered, innovative and flexible. However, online learning can also become a disadvantage as there are many challenges associated with online teaching and learning. This e-book offers the different perspectives on online learning: framework, learning experiences both on students and teachers and its associated future management.

The introductory part of this book gives an overview and framework of online learning. It provides technical discussions of learning management systems and teaching and learning modalities used in online learning. It serves as guide in the development of the appropriate learning management system and modality relevant to the capacity and necessity of the academic institutions. The authors shared their actual experiences in the development and management of the systems and programs in online learning.

Part 2 of the book contains the efficacy of online learning experience as per the students' perspective. It highlights the attitude of students towards distance learning at the peak of

the pandemic termed as ‘behavioral Coronaphobia.’ This part also highlights the expectations of high school and higher education students on online learning and teacher-created videos as a tool in the online learning. The authors shared the results of their studies on the actual experience of their students which unveiled the various positive and negative facets of online learning.

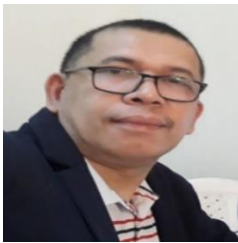
In part 3, the efficacy of online learning as per teachers’ perspective is presented. This part highlights the experience of the rural science teachers and the school administrator during the new normal in education. Recommendations outlined on this part serve as bases for further analysis in terms of online teaching-learning implementation. Meanwhile, the future of online learning is outlined in part 4, which can be a basis for further review. The model contained in the paper can be particularly applied in higher education where online platform may be adapted for long in the post-pandemic new normal.

This e-book offers major research results on the conduct and implementation of online teaching and learning in the context of COVID-19 pandemic. It provides a unique perspective on the research issues regarding the effects of online learning from many experts in this field.

Let us learn from the various personal experiences and perspectives of the researchers from various fields of specialization!

About the editors

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The Japanese Students' Behavioral Coronaphobia

Hiroko Kanoh

Introduction

In the first half of 2020, most of the universities had all distance learning classes. Some of the first-year students had just entered the university, living alone for the first time far away from their parents with no opportunity to make friends as all classes were taught remotely as soon as they entered. Under such circumstances, some students, who strongly desired face-to-face classes, appealed for them on Twitter with the hashtag #大学生の日常も大事だ ("The daily life of a university student is also important"). Some are even asking for a full or partial refund of tuition, giving the impression that universities that offer distance learning have it easy. On the other hand, some faculty members have also exchanged opinions on the Internet, with 20,000 people joining a Facebook group for sharing wisdom and information on what university faculty members should do in the wake of the COVID-19 suspension of classes, and various discussions were held on the tools and methods of distance learning. Tips on how to create on-demand videos and how to discuss in the breakout room of Zoom were discussed with enthusiasm. Looking at the posts in the Facebook group, some faculty members seemed to be enjoying the distance learning, while others expressed grief, saying that they spend more than 10 hours every day to create on-demand videos and only get 3 hours of sleep every day when conducting Zoom classes.

The author mainly conducted real-time distance learning using Zoom and a textbook that had planned to use from the syllabus. In the beginning, concerns were raised about the ownership of PCs and internet connection, but with more than 90% of the students owning both a PC and internet connection, there were no psychological problems in terms of the environment (Kanoh, 2020). Considering that some students were temporarily unable to participate in the

class due to problems with their Internet connection, all the classes are recorded and made them freely available for viewing for about a week after the end of the class until the next week's video was uploaded. In addition to the hourly recorded videos, on-demand videos containing content taught are created that students can watch repeatedly while pressing the pause button at their own pace, such as the orientation, which include grading methods, and how to set up add-ins. On top of creating these videos, teachers also check submissions of students.

According to a survey on faculty members, the time spent preparing for classes increased by 14 hours per week during the COVID-19 pandemic while the time spent using the Internet increased by 14 hours per week. As a result, their research time has decreased by 7 hours per week, and their time for sleep, leisure, exercise, and television has also decreased. On the other hand, not all students wanted to take face-to-face classes. Some of the students were unable to go out and hence were lonely. In Japan, there is no lockdown nor restrictions such as fines for going out, so in reality, anyone who wants to go out can do so at any time. For instance, one of the students was so afraid of getting infected that he could hardly leave his room at the boarding house. He was so weak in body and mind that he was afraid to go to the ophthalmologist even if his eyes were bad, and he was afraid even when his parents recommended him to see a psychotherapist. He was not a student with a tendency to withdraw but a member of the baseball team in high school who was very active. Besides the fear of the virus, the "infodemic" of information on the Internet probably added to the stress, with many people who must have been frightened, albeit to varying degrees.

According to Dubey (2020), "coronaphobia" as a phenomenon created a large number of fearful people everywhere in society. He suggests interventions for positive patients, and health care providers. In other studies, coronaphobia is defined as an excessive triggered response of fear of contracting the virus causing COVID-19, leading to accompanied excessive concern over physiological symptoms, significant stress about personal and occupational loss, increased reassurance and safety seeking behaviors, and avoidance of public places and situations, causing

marked impairment in daily life functioning (Arora et al., 2020). The triggers involve situations or people involving probability of virus contraction, such as, meeting people, leaving house, travelling, reading the updates or news, falling ill or going for work outside. And they show the three elements of coronaphobia (Arora et al., 2020).

Physiological: The fight or flight response of fear is triggered, on being exposed to antecedent event. Constant worry can cause symptoms such as palpitations, tremors, difficulty in breathing, dizziness, change in appetite, and sleep (Wang et al., 2020).

Cognitive: Fear of virus would involve preoccupation with threat provoking cognitions (Chakraborty & Chatterjee, 2020), e.g. ‘I will die if I contract the virus, ‘I will not be able to go to my job and will be unemployed’; ‘My family is under danger and they may die’. The cognitions may further trigger emotional responses, like sadness, guilt, and anger.

Behavioral: In order to prevent the consequences, individuals engage in avoidance behaviors. There is marked fear of using public transportation, touching any surface, being at open places (markets, beaches, stadiums) and at enclosed places (hotels, shopping malls, movie theatres, indoor stadiums), attending any public gatherings, and standing in queue (Tanner, 2020). The individual fears and/or avoids situations like meeting people or overindulges into health-related safety behaviors (like washing hands). Reassurance behaviors such as constantly checking body vitals, confirming absence of illness, self-medicating or rechecking sanitation perpetuates fear (Li et al., 2020), leading to phobia. Besides, the zoonotic origin of the virus (Andersen et al., 2020), may further lead to the fear of having exotic meat-based food. Though the fear is realistic, it can disturb the overall quality of everyday functioning of the individual.

There is a study investigating effect of coronaphobia on smoking habits through telephonic and face-to-face interviews with the patients during the outbreak, and inquired about the changes in their smoking habits (Ozcelik & Yilmaz Kara, 2020). Furthermore, scales focusing on physical symptoms such as dizziness, sleep disturbances and tonic immobility etc., have been

developed (Lee, 2020). However, these studies has not proposed a specific method to measure “behavioral coronaphobia”. In this paper, it was attempted to propose a specific measure for “behavioral coronaphobia” and use it to analyze the relationship between coronaphobia and the attitudes of university students toward distance learning.

Methodology

A survey was conducted among 239 university students from 6 universities, with a response period from July 15th to August 31st, 2020. Due to the impact of COVID-19, the end of the first semester was different depending on the university. As the responses were asked at the end of classes from the previous semester, the response period lasted one and a half months. As for the faculties, the faculty of science and engineering was classified as science-related, the faculty of humanities and law as liberal arts, and the rest as others.

For survey items related to teaching methods, the responses relate on how many teaching methods were used in classes taken by the students during the six months. Furthermore, students were asked to rate their level and comprehension satisfaction of the class using a six-point scale from "1 low" to "6 high" for each teaching method. For attitudes toward distance learning, students were asked to rate based on a 6-point scale from "1–not applicable" to "6– applicable". IBM SPSS Statistics, Version 24 was used as the statistical analysis software, and a description field is also provided in addition to the multiple-choice items.

A part of this study has been reported in Kanoh (2021), but this is a continuation study of details that have not yet been analyzed. In this paper, the main analysis and report focus on the relationship between “the attitude of Japanese students toward distance learning” and the following “Behavioral Coronaphobia” 14 items (abbreviated as "the BeC scale") to assess coronaphobia. These items were extracted through discussions with 37 students in the “Introduction to Quantitative Analysis” class.

- 1) Going out to crowded places
- 2) Going out to a restaurant
- 3) Seeing people who are not wearing a mask
- 4) Riding public transportation
- 5) Meeting with people who came from areas with a large number of infected people
- 6) Meeting with people from other prefectures.
- 7) Seeing a crowded place
- 8) Approaching a crowded area
- 9) When having to pass a person up close
- 10) Receiving a courier or mail in person
- 11) When seeing news about the increase in cases
- 12) When no hand sanitizing is available at the stores.
- 13) When someone is sneezing or coughing
- 14) When touching something that must be used repeatedly, such as a supermarket cart

Findings and Discussion

Behavioral Coronaphobia

The mean and standard deviation of the 14 items are shown in Table 1, and the correlation coefficient is shown in Table 2. Cronbach's coefficient alpha was used to calculate the internal consistency coefficients of the items included in the questionnaire ($\alpha=0.96$). The large number of items with an average of 4 or higher indicates that many students were afraid of Covid-19.

The mean value for “Seeing a crowded place” was the highest and showed a high correlation with all the items from 1 to 6, indicating that the students were all afraid of being crowded. From Table 2, we see moderate or high correlations among the items except for 10. Since receiving a courier or mail in person is an inevitable occurrence of daily life and a short action, they did not feel fear, resulting in a low correlation with the other items. Therefore, all items except 10) were added together and named the “BeC index” (M=60.12, SD=17.53).

Table 1

Mean and standard deviation of Behavioral Coronaphobia

	M	SD
	4.84	1.541
	4.45	1.489
	4.42	1.636
	4.55	1.564
	4.74	1.631
	4.16	1.561
	4.28	1.616
	4.71	1.519
	3.98	1.532
	3.26	1.518
	4.45	1.545
	3.86	1.607
	4.45	1.569
	3.98	1.627

Table2

Correlation of Coronaphobia

	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)	14)
1)	1													
2)	.785**	1												
3)	.725**	.687**	1											
4)	.795**	.718**	.746**	1										
5)	.806**	.686**	.765**	.795**	1									
6)	.656**	.652**	.674**	.674**	.789**	1								
7)	.667**	.623**	.669**	.630**	.691**	.677**	1							
8)	.845**	.724**	.746**	.803**	.826**	.700**	.775**	1						
9)	.502**	.624**	.593**	.539**	.552**	.592**	.640**	.560**	1					
10)	.244**	.416**	.344**	.327**	.287**	.403**	.436**	.287**	.640**	1				
11)	.668**	.618**	.638**	.635**	.655**	.651**	.654**	.662**	.512**	.375**	1			
12)	.486**	.500**	.593**	.507**	.535**	.544**	.617**	.548**	.640**	.564**	.621**	1		
13)	.657**	.606**	.676**	.653**	.729**	.667**	.650**	.731**	.579**	.401**	.598**	.572**	1	
14)	.478**	.531**	.545**	.542**	.532**	.552**	.571**	.518**	.680**	.587**	.539**	.640**	.624**	1

** Pearson's correlation coefficient is significant (both sides) at the 1% level.

BeC index and attitude toward distance learning

An analysis of variance was conducted on the BeC index and attitude toward distance learning. As a result, the higher the BeC index value, the more likely one thinks, “Distance learning will continue for a while” ($F(5) = 4.334(p < .01)$) [Figure 1]. The higher the BeC index, the more likely one thinks, “ Distance learning allow me to concentrate on my studies” ($F(5) = 1.892(p < .1)$) [Figure 2]. The higher the BeC index, the more likely one thinks, "I think it is appropriate to earn credits in distance learning” ($F(5) = 2.867(p < .05)$) [Figure 3]. The higher the BeC index, the less likely one thinks, "I want to take classes in a classroom” ($F(5) = 2.138(p < .05)$) [Figure 4]. The higher the BeC index, the more likely one thinks, "As long as the COVID-19 pandemic continues, distance learning should continue” ($F(5) = 4.631(p < .01)$) [Figure 5]. The higher the BeC index, the less apathetic the person tended to be ($F(5) = 1.915(p < .1)$) [Figure 6]. For the gender differences, the BeC index was higher for women than for men ($F(2) = 8.425(p < .001)$). There were no significant between the BeC index and “I like distance learning”, “I hate distance learning”, “I can't understand the class in distance learning”, “Study does not continue in distance learning”, “Not tied to study time” (N.S.).

Figure 1

“Distance learning will continue for a while” and BeC index

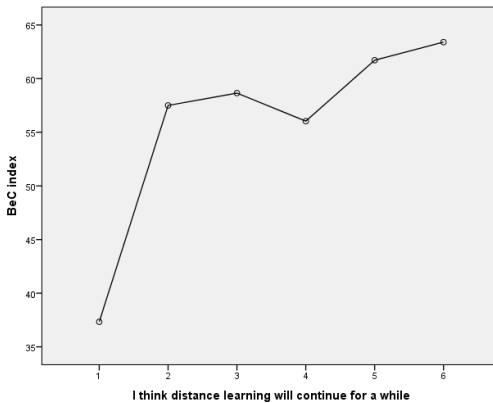


Figure 2

"Distance learning allows me to concentrate on my studies" and BeC index

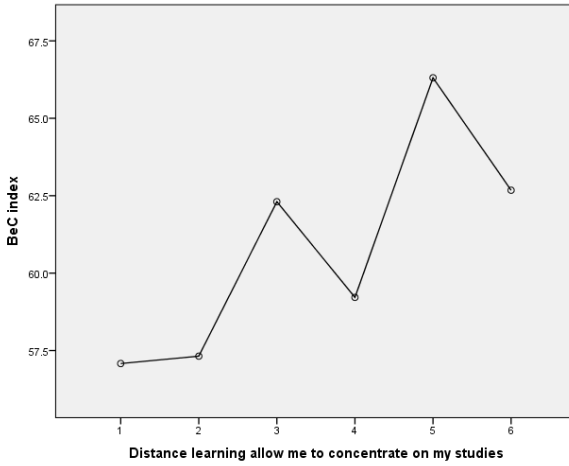


Figure 3

"I think it is appropriate to earn credits in distance learning" and BeC index

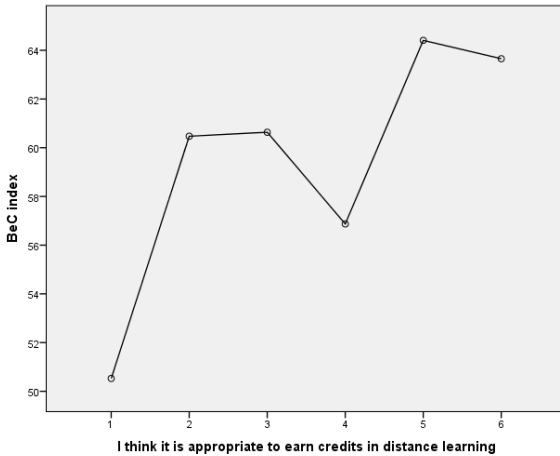


Figure 4

"I want to take classes in the classroom even if COVID-19 pandemic continues" and BeC index

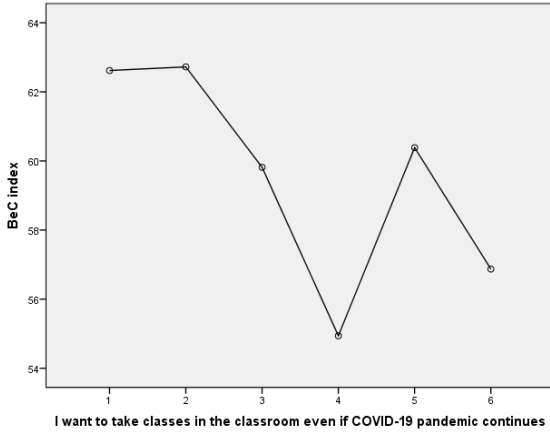


Figure 5

"As long as the COVID-19 pandemic continues, distance learning should continue" and BeC index

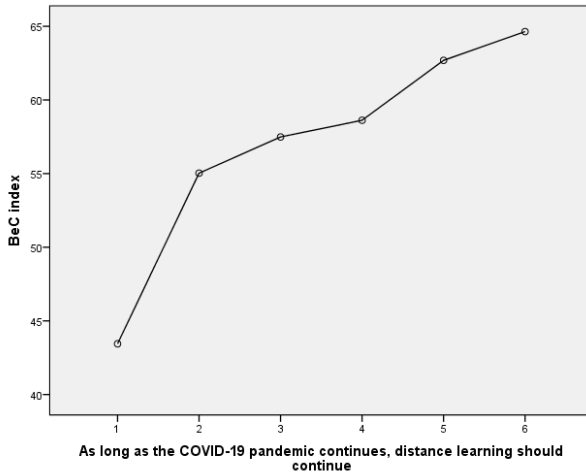
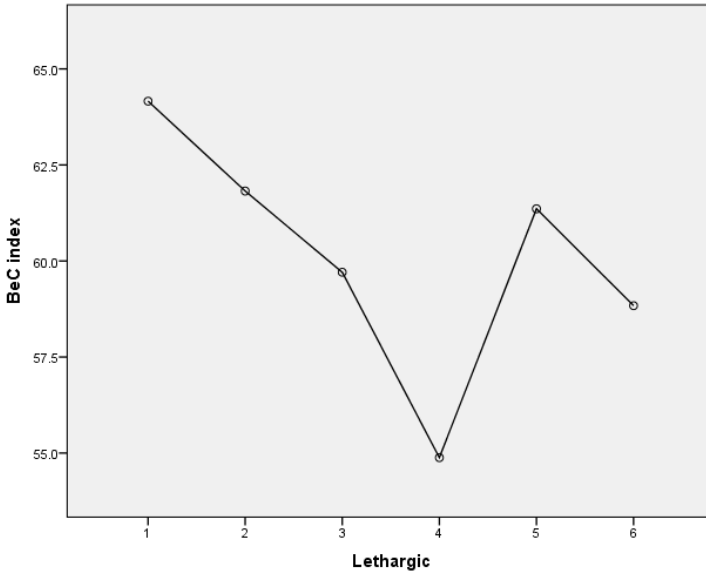


Figure 6

"Lethargic" and BeC index



The comprehension scale and the satisfaction scale

Next, the total of the questions on the comprehension of distance learning was used as the comprehension scale ($\alpha=.879$). There was no correlation between the comprehension scale and the BeC index (N.S.). In addition, the total of the questions about satisfaction with distance learning was used as the satisfaction scale ($\alpha=.905$). There was no correlation between the satisfaction scale and the BeC index (N.S.). Between the comprehension scale and the satisfaction scale, a high correlation a found($r=.876$). The correlation coefficients in items with high correlation are shown in Table 3 and Table 4.

Table 3

Correlation coefficient of the comprehension scale

	Text materials (books, PDFs, PowerPoint without sound)	On-demand teaching materials (PowerPoint with sound)	On-demand teaching materials (video)	Interactive class (ZOOM, MEET, etc.)	LMS (Webclass, Googleclass, etc.)	Brainstorming tools (jamboard, etc.)	Group work (breakout room, SLACK channel, etc.)
Text materials (books, PDFs, PowerPoint without sound)	1						
On-demand teaching materials (PowerPoint with sound)	.611**	1					
On-demand teaching materials (video)	.638**	.769**	1				
Interactive class (ZOOM, MEET, etc.)	.515**	.563**	.581**	1			
LMS (Webclass, Googleclass, etc.)	.622**	.615**	.637**	.575**	1		
Brainstorming tools (jamboard, etc.)	.427**	.512**	.473**	.521**	.616**	1	
Group work (breakout room, SLACK channel, etc.)	.450**	.527**	.531**	.671**	.571**	.719**	1

** Pearson's correlation coefficient is significant (both sides) at the 1% level.

Table 4

Correlation coefficient of the satisfaction scale

	Text materials (books, PDFs, PowerPoint without sound)	On-demand teaching materials (PowerPoint with sound)	On-demand teaching materials (video)	Interactive class (ZOOM, MEET, etc.)	LMS (Webclass, Googleclass, etc.)	Brainstorming tools (jamboard, etc.)	Group work (breakout room, SLACK channel, etc.)
Text materials (books, PDFs, PowerPoint without sound)	1						
On-demand teaching materials (PowerPoint with sound)	.674**	1					
On-demand teaching materials (video)	.702**	.770**	1				
Interactive class (ZOOM, MEET, etc.)	.516**	.530**	.623**	1			
LMS (Webclass, Googleclass, etc.)	.665**	.634**	.648**	.544**	1		
Brainstorming tools (jamboard, etc.)	.380**	.480**	.459**	.367**	.514**	1	
Group work (breakout room, SLACK channel, etc.)	.464**	.484**	.495**	.655**	.582**	.685**	1

** Pearson's correlation coefficient is significant (both sides) at the 1% level.

Conclusion

This paper attempted to propose a specific scale for “Behavioral Coronaphobia” and analyzed the relationship between the scale and the attitudes of university students during the pandemic toward distance learning. The results showed that the higher the BeC index value, the more likely students wanted to continue distance learning and the more likely they tended to concentrate on their studies. To go out for a trial class, they have to put on make-up, dress up, and pay attention to the eyes of their peers. The students feel that they can concentrate more on their studies with distance learning since they can concentrate on their classes at home in relaxing clothes without worrying about the eyes of others. Female students tend to wear more make-up and pay more attention to their appearance, which may have led to the higher BeC index value for them than male students. However, there were some students, both male and female, who said that they preferred distance learning.

According to a survey by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) on the status of support for students affected by COVID-19 (surveyed from January 18 to February 10, 2021), the total number of university students who dropped out in 2019 was 1.22%, while in 2020 it was 0.97%, a slight decrease. For first-year college students only, the number of dropouts decreased from 1.02% in 2019 to 0.76% in 2020, with dropouts on loans slightly decreasing. Every university has a certain number of students who have enrolled but are unable to attend classes due to shut-in syndrome. If they cannot attend classes, they will not receive credits and will eventually have to withdraw from the university. However, these students can now attend classes from home through distance learning, which may have stopped them from dropping out.

In fact, the higher the BeC index value, the more likely one thinks that giving credits for distance learning is reasonable and the less likely one wants to take classes in a classroom. For people with high a BeC index value, who have difficulty going out, and who do not like to go out, distance learning seemed to be a lifesaver. Therefore, the higher the BeC index, the more likely one thinks

that distance learning should be continued as long as the COVID-19 pandemic continues, with distance learning expected to be established as a form of teaching in the future. In addition, those who scored higher on the BeC index tend to be less apathetic, suggesting that there is some compatibility with the teaching method. For those who are motivated only by meeting other people, a certain number of classes in a classroom may be necessary.

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