



Academic and Health Insecurities of Indigent Students during Pandemic: Study on Adaptive Strategies under Learning Constraints

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Abstract

The academic community was ravaged by COVID-19 in many ways, and particularly impacted the lives of the indigent learners in higher education. This study aims at assessing the academic and health insecurities of the indigent students in Zamboanga City State Polytechnic College. A comprehensive validated survey questionnaire on learning and health were adapted for the study. A total of 66 indigent students were purposively selected for the study. After the rigorous statistical treatments, the results showed that the respondents have a high willingness and intent to go to school despite the pandemic; they had high value for their education. Nonetheless, they had reservations because they had moderate digital competence and the cost of online education. It was further revealed that female indigent students had more fear and anxiety amidst the pandemic compared to their male counterparts. Their academic adaptive strategies were the use of online learning modalities and modular distance education. Health insecurities of the respondents included worries, apprehension, borderline anxiety, and depression. Their adaptive strategies were the use of open communication with others, complying with the health protocols, and following the guidelines set by the government. This research is critical for making learning and health policies for the academe and mitigating the impact through fact-based processes.

Introduction

Efforts to curtail the spread of COVID-19 in many parts of the world led to the temporary shutdown of educational institutions, and the suspension of classes resorting to a remote learning model of delivery. In a report by UNESCO, at the end of April 2020, educational institutions were shut down in 186 countries. This affected approximately 74% of the total enrolled students in the world (Ahn & McEachin, 2017). In many countries, schools have been closed since the beginning of March

2020, while in countries such as China and South Korea, face-face classes were canceled in January 2020 (Attanasio, Blundell, Conti, & Mason, 2020). In Malta, Portugal and Ireland the formal education system will not re-open in 2020, whereas in Denmark, Germany, France, Greece, Poland, sections of the formal education system have been progressively re-opened from April to May to enable assessment and certification, depending on medical advice for de-confinement. UNESCO (2020) estimates that close to 900 million learners have been

affected by educational institutions' closure.

This study purports to investigate the adverse impact of this global pandemic among indigent students specifically on their academic and health insecurities during this unprecedented global pandemic. COVID-19 has impacted all levels of the education sector globally and affected the vulnerable profile of the industry. While these closures intend to prevent the spread of the virus within institutions and prevent carriage to vulnerable individuals, these closures have had widespread socioeconomic implications (Burgess, 2020). In the Philippines, some assistance was offered to the indigent students in typical situations for the first two to three months. However, due to limited resources in the schools and the supporting agencies, the needed assistance was no more rendered to students from low-income families leading to social isolation and school dropout rates.

According to Doepke & Zilibotti (2019), the pandemic has also impacted childcare costs for families with young children. There is also a wide disparity among populations with a higher income as they can access technology to ensure education continues digitally during social isolation. In Dubai, 13,900 people have signed a petition to decrease independent school fees by 30 % as parents struggle to source these funds amidst recent pay cuts reaching as high as 50%, and high costs of living (Huber, Günther, Schneider, Helm, Schwander, Schneider, & Pruitt, 2020).

Child Fund International (2020) reveals that “the effects of poverty on students could lead to lifelong struggles for students who don't receive a full education”. People living in poverty may stop going to school, but instead to work, which leaves them without the literacy and numeracy skills needed to further their careers. In turn, their children end up in a similar situation years later, with little income and few options.

As one of the largest state higher education institution in the Western Mindanao region of the Philippines, Zamboanga City State Polytechnic College (ZCSPC) has profiled indigent provincial and island students who were stranded in the middle of the health crisis as the health authorities imposed strict lockdowns causing them more academic and health woes.

In the context of a pandemic, schools have resorted to creative measures to keep classes running outside the classroom (Abad, 2020), as COVID-19 is much more than a health crisis. Aldama (2020) iterates that after this pandemic, the gap between the rich and the poor will remain. Therefore, adjustments done by

universities for continuing teaching through online resources are an impressive solution. Nonetheless, the situation also unearths the reality that income and social inequality breeds digital inequality. When indigent and poor students return to school, the poor will have to make up for the lessons they missed, since they were not able to attend the online classes. “In the 21st century, virtual learning and online classrooms have become the new normal for formal education, therefore, access to a personal computer and a reliable internet connection could be an advantage. Students who do not have access to computers and the internet will find it difficult to cope with the new normal.” (Aldama, 2020).

Objective

The present study aims to understand indigent learners' insecurities in the face of the COVID-19 pandemic; precisely the academic and health concerns in Zamboanga City State Polytechnic College. The study also extends to analyzing different adaptive strategies of poor students, and appropriate interventions to aid existing discrepancies in the new version of regular education and make suggestions on policy for better delivery of an academic response to the most affected profile of the sector.

Conceptual framework

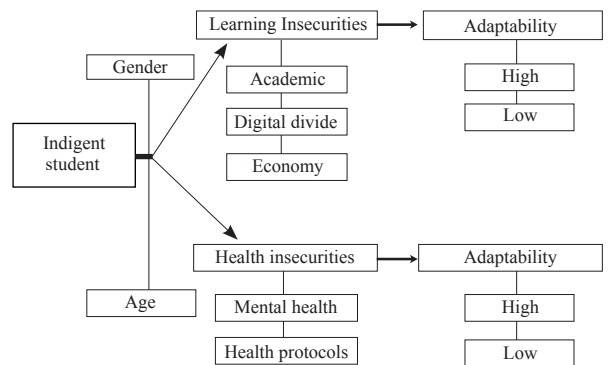


Figure 1 Conceptual framework

Research methodology

1. Population and samples

The study involved indigent students of Zamboanga City State Polytechnic College who were stranded during the community quarantine brought by the COVID-19 pandemic. The sample consisted of 66 respondents purposively sampled from among the stranded students because of their indigent profile.

2. Research instruments

This study used a descriptive quantitative design. It employed a comprehensive survey tool, providing statistical outcomes. Data is explained and interpreted in a descriptive, comparative and narrative form. Two research instruments were adapted and used to gather the data. The first instrument was an original instrument, Academic Insecurity Questionnaire and the second instrument used was the HADS (Hospital Anxiety and Depression Scale) by Zigmond & Snaith (1983). The two research instruments were standardized. The Academic Insecurity Questionnaire was validated by three experts and had a reliability test of (0.935 Chronbach's alpha). The HADS by Zigmond & Snaith (1983) is considered standard for the general medical population of patients to measure anxiety and depression levels. Ethical guidelines were well observed. Participants were fully informed regarding the objectives of the study while they were reassured that the data collected are completely confidential. There was no physical harm which may endanger the respondents for the entire duration of the study.

3. Collection of data

The researcher secured permission and clearance from the institutional heads and Dean of Students Affairs before the administration of the survey questionnaires. All participants were given a letter of consent and agreed to take part in this research. Upon the agreement between the authorities and researcher, a schedule was set to conduct the study. The entire study lasted from March 2020 to July 2020. Questionnaires were administered to the respondents and retrieved two weeks later. The retrieval rate was 100 %

4. Data analysis

Data gathered were analyzed by frequency distribution, Mean, Standard Deviation for all descriptive data. The Level of insecurities was analyzed with ANOVA, while the significant differences between variables were analyzed with the t-test.

Results

1. Question 1: What are the learning insecurities of indigent students?

Table 1 provides the results of the learning insecurities of indigent students. The results show that the students were willing to enroll (Mean = 3.14); they had high digital competence (Mean = 2.89). their level of access to the online resource was high (Mean = 3.38), and their ability to afford internet connectivity was

moderate (mean = 2.78).

Table 1 Learning insecurities of indigent students

Learning insecurities	Mean	Remarks
Willingness and Intent to enroll	3.14	High
Digital Competence	2.89	High
General Online Resource	3.38	High
Cost to Online Connectivity	2.78	Moderate

2. Question 2: What are the health insecurities of indigent learners?

Indicated in Table 2 are the results of the health insecurities of the indigent students. It could be observed that the students' level of worries and apprehensions on the global pandemic was very high with a mean of 3.43. On their emotional status, the level was 3.19 indicating a vulnerable emotional state. They also showed sleeping problems with a mean of 2.95.

Table 2 Health insecurities of indigent learners

Health insecurities	Mean	Remarks
Worries and apprehension	3.43	Very High
Emotional status	3.19	High
Sleep patterns	2.95	High

Table 3 HEALTH: Results on hospital and anxiety depression scale

HADS		f	Score	Remark
Anxiety	Male	413	9.83	Borderline abnormal
	Female	273	10.92	Borderline abnormal
	Overall	686	10.24	Borderline abnormal
Depression	Male	381	9.07	Borderline abnormal
	Female	251	10.04	Borderline abnormal
	Overall	632	9.43	Borderline abnormal

Table 4 3 shows that when hospital and anxiety depression scale responses were group according to gender, both male and female respondents in both categories of anxiety and depression are considered borderline abnormal cases. Female respondents showed higher levels of anxiety and depression as compared to male respondents in both anxiety and depression scales. This finding is explained by Cyranowski, Frank, Young, & Shear (2000), describing that the prevalence of major depression and anxiety is higher in women than in men; in 2010 its global annual prevalence was 5.5 % and 3.2 %, respectively, representing a 1.7-fold greater incidence in women (Baxter, Scott, Ferrari, Norman, Vos, & Whiteford, 2014). In Canada, the prevalence of depression and anxiety was 5.0% in women and 2.9 % in men in 2002, and increased to 5.8 % and 3.6 %, respectively, in 2012 (Pearson, Janz, & Ali, 2015).

3. Question 3: What are the strategies of indigent learners to adapt from academic and health insecurities?

In Table 4, the data on the adaptability of the indigent students are given. It should be observed that on general adaptability with regards to online learning, the respondents had a mean score of high (2.82). Similarly, their preference for the use of online platforms for studies initiated self-learning, module learning modality, Mix Modalities, Communication Adaptability were high with mean scores of 2.98, 3.02, 3.09, 3.21, and 2.81, respectively. However, Online Learning Modality and Mental Health Adaptability had moderate adaptabilities with mean scores of 2.38 and 2.80, respectively.

Table 4 Strategies indigent learners adapt for the academic and health insecurities

Adapting strategies	Mean	Remarks
General adaptability on online learning	2.82	High
Online platform as a preference in the new normal	2.98	High
Initiated self-learning	3.02	High
Module learning modality	3.09	High
Online learning modality	2.38	Moderate
Mix modalities	3.21	High
Mental health adaptability	2.80	Moderate
Communication adaptability	2.81	High
Health a daptability and compliance	3.36	High

4. Question 4: Is there a significant difference in the learning and health insecurities among the indigent students when grouped according to gender?

Shown in Table 5 are the results of the significant differences among the respondents when grouped by gender. The results revealed that irrespective of the gender, their adaptive strategies for variables such as academic insecurity, academic adapting strategies, types of learning modalities, health insecurity, and health adapting strategies did significantly differ at 0.05 %

Table 5 Significant difference in the learning and health insecurities among the indigent students when grouped according to gender (*Significant at the 0.05)

Variables	Mean	t	Sig.	Remarks
Academic Insecurity	3.01	0.155	0.317	Not significant
Academic Adapting Strategies	3.12	-0.721	0.307	Not significant
Types of Learning Modalities	2.89	0.062	0.692	Not significant
Health Insecurity	3.33	-1.926	0.0765	Not significant
Health Adapting Strategies	2.98	-0.59	0.64	Not significant

In Table 6, the results on the significant differences among the respondents when grouped by age are provided. For variables such as academic insecurity, academic adapting strategies, types of learning modalities, and

health insecurity on significant differences were noticed between both male-female respondents.

Table 6 The significant difference in the learning and health insecurities among the indigent students when grouped according to age (*Significant at the 0.05)

Variables	Mean	t	Sig.	Remarks
Academic insecurity	3.01	0.398	0.028	Not significant
Types of learning modalities	2.89	-0.127	0.566	Not significant
Academic adapting strategies	3.115	0.2911	0.445	Not significant
Health insecurity	3.317	-0.5365	0.439	Not significant
Health adapting strategies	2.975	0.177	0.203	Not significant

Discussion

1. Question 1: What are the levels of learning insecurities of indigent students?

Despite the COVID pandemic, the indigent students had a high (with a mean of 3.14) willingness intention to enroll in school. This means that the respondents placed more importance on their education, were not willing to let temporal hindrances to deter them for succeeding. This finding is supported by a study conducted by UNESCO (2020) that students around the world have shown how much they want to keep learning, and persist with their lessons under difficult circumstances on various occasions, and that this is no exception. García, Weiss, & Engdahl (2020) add that indigent students have high regard for learning and cope with existing interventions presented by different institutions to build and provide quality education even during a pandemic.

On digital competence, the results are affirmed by the study of Cullen (2001). The researcher asserts that when classes transition online, students belonging to indigent groups lose out because of the cost of necessary digital devices and data plans. The feeling of insecurity is supported by Niemela's theoretical model (1997) on the insecurity. This model highlights that young people experience insecurity when faced with external realities, such as socio-economic ill-being, and risk that comes with an expense. According to Moroni, Cheti, & Tominey (2020), the possibility of indigent students not being able to afford the expense of online school distorts their pursuit of education.

The results of respondents having online platforms showed a mean interpretation of high, implying that over 70 % of the indigent students had social media and email accounts. It could be inferred that some of the students had real problems communicating via social media and emails. Kentnor (2015) claim that one of the most pronounced trends in higher education

over the last decade has been the strong growth in distance education through online coursework. They further theorized that while the rise of online distance education has expanded learning opportunities for all students, it is often most attractive to non-traditional students; in this case, the indigent learners tend to be adversely affected.

For the cost of online connectivity, the mean score was 2.78 with an interpretation of moderate. This highlights that the respondents' ability to afford the cost of online learning was average, implying that in the long term, they might not be able to afford it. Richard (2020) explains that the rising cost of online education hits low-income families the hardest. Nonetheless, the students were willing to spend on their education. This is in line with Lee (2014); in his study, he concluded that low-income families have a preference towards online connectivity and that this effect is even more pronounced for households earning less than \$20,000.

2. Question 2: What are the health Insecurities of indigent learners?

On worries and apprehension, the respondents exhibited very high concerns. They had worries about the possibility of being affected by the COVID virus, provision for their families, and what might happen to their families. The results could be directly linked to recent studies conducted in assessing psychological issues related to the global development of the coronavirus disease (Torales, O'Higgins, Castaldelli-Maia, & Ventriglio, 2020). Cyranowski, Frank, Young, & Shear (2000) reported that 83% of young respondents agreed that the pandemic worsened pre-existing mental health conditions, mainly due to school closures, loss of routine, and restricted social connections.

Likewise, the study conducted by Gupta (2020) concluded that the present measures to prevent the spread of the coronavirus (COVID-19), like the control on the mass movement, and extreme stay-at-home quarantine protocols created an environment that fosters anxiety and fear. The results of this study revealed that female respondents showed higher levels of anxiety (male = 9.83 %, female = 10.92) and depression (male = 9.07, female = 10.04) compared to male respondents in both anxiety depression scales. This finding is explained by Cyranowski, Frank, Young, & Shear (2000), describing that the prevalence of major depression and anxiety is higher in women than in men; in 2010 its global annual prevalence was 5.5 % and 3.2 %, respectively, representing a 1.7-fold greater incidence in women (Baxter, Scott, Ferrari, Norman, Vos, & Whiteford, 2014).

In Canada, the prevalence of depression and anxiety was 5.0 % in women and 2.9 % in men in 2002, and increased to 5.8 % and 3.6 %, respectively, in 2012 (Pearson, Janz, & Ali, 2015).

3. Question 3: What are the strategies of indigent learners to adapt from academic and health insecurities?

The results on general adaptability on online learning indicated that the respondents adjusted moderately to online course learning, doing class sessions online, performing online quizzes. This implies that the students were not yet competent in the use of online learning tools, however, they were willing to put in their best, and therefore enrolled. This finding is parallel to the report of Choy (2002); Means, Toyama, Murphy, Bakia, & Jones (2010) that online learning enrolments increased despite the introduction of online modalities in second-year college where a larger proportion of the students were non-traditional students. This explains the positive disposition of indigent learners in their quest to pursue their studies amidst challenges (Meyer, Meissel, & McNaughton, 2017).

With regards to the online platform as a preference in the new normal, this reflects the beliefs of the students that online education is the best approach to education amidst the pandemic. Literature suggests that students who prefer online learning positively influence their learning outcomes. This could partly explain why indigent students' enrollment did not significantly decrease.

On the level of Self-initiated Learning became the norm of the day. Noticeably, the results showed that the respondents read online books or articles and listened to radio or TV channels for news about the pandemic; they also talked to friends for relevant information. Mullings (2019) explains the rise and prominence of self-independent learning. The author remarks that high self-directed learning stems from institutions and educators to promote independent learning skills. This is also rooted in the finding of the Education Endowment Foundation (EEF), iterating that self-regulated, independent learning has a high impact on pupils' progress for a very low cost, and enables institutions to navigate curriculums and instructions to adopt as an approach to holistic education.

It was clear that that the respondents preferred printed module distance learning than online schooling during the pandemic; preferred doing tasks on a printed module than doing it online; preferred the quality of learning or skills properly evaluated when done through

a printed module than when performed online; and that the quality of learning outputs was better through printed modules than with online platforms.

Fischer (2020) affirms that there is a preferred pattern for face-to-face learning over the online learning, succumbing to the idea that there are learners who will be able to learn better in different modalities such as face-to-face for teaching and learning. Gabol (2020) also described that several students and faculty members of different universities in Pakistan expressed their reservations to schools transitioning online. Accordingly, students living in remote areas raised their concerns on their inaccessibility to online resources, and teachers raising their complaints because of the online teaching system's inefficient quality of instruction.

It was very clear that mix modalities had the highest preference among all the three learning modalities. In a survey conducted by EDUCAUSE Center for Analysis and Research (ECAR) in the year 2017, it was reported that in the last four years, the number of students who prefer Blended Learning, an educational model that incorporates different learning and teaching models has been increasing. Consequently, students' interest in blended learning increased.

The respondents talked to other people about experiences and feelings concerning the pandemic to gather more information in order to learn more and had a conversation with psychologists if they had the chance to give them a better mindset. Nolin (2010) asserts that all coping approaches when there is a pandemic are influenced by interpersonal communication. Meanwhile, social support acts as a resource for coping with stressful conditions.

On health adaptability and compliance, the respondents wore personal protective equipment like masks when going outside their homes. They practiced proper handwashing, listened regularly to health updates about the pandemic, consciously avoided areas crowded with people. This was reflected in respondents having a high regard for a check-up or screening when they had fever or cough, avoiding people who did not follow health protocols, following the guidelines in the implementation of the enhanced community quarantine and agreeing on the implementation of ECQ. According to Cherry (2020), the Asch Conformity Experiments demonstrate how people conform in communities, stating that social exposure and practice affect how a person complies with a particular practice. In terms of obedience to government protocols and guidelines, Stanley Milgram's famous and

controversial obedience experiments revealed the power of authority could be used to get people to obey, which makes it easier to understand why all responses in this category were high.

4. Question 4. Is there a significant difference in the learning and health insecurities among the indigent students when grouped according to gender and age?

When the respondents were grouped by gender, there were no significant (0.05 level) differences observed in their level of health insecurities. This means that gender did not significantly determine how indigent students were able to deal with health insecurities. Similarly, the age of the respondent did not significantly determine their health adaptive strategies. It could be inferred that the respondents coping mechanisms during the pandemic was influenced by their age. Asserted by Aldama (2020), the author iterates that after this pandemic, the gap between the rich and the poor will remain and so the learning and health insecurities will go on for as long as the learners are indigent.

5. Question 5. What are the possible interventions that can enable learners to adapt and withstand these insecurities?

5.1 Academic insecurities

Intervention: In an attempt to formulate interventions that could enable the indigent learners to overcome learning challenges or insecurities, the study suggests the creation of a blended curriculum that uses both modes of teaching, more extensive with online approaches and promotes self-independent learning. The study suggests the creation of a curriculum that uses the mixed model and promotes better self-initiated learning.

5.2 Health insecurity

Intervention: The study suggests the proper dissemination of educational information for students. Lack of awareness creates fear and anxiety, and their high health insecurities. Students should be well educated on the preventive measures and monitored for compliance with preventive policies. Based on the findings of the study, it could be concluded that the COVID pandemic brought a high level of academic and health insecurities among indigent students. Nonetheless, the students developed some adaptive mechanisms to overcome the crises to pursue their education.

The indigent students were willing to enroll in the incoming academic school year; however, this willingness was with reservations brought by the insecurities of indigent learners with their moderate digital competence and the cost of online education.

Suggested intervention strategies consist of remote online learning and mix modalities - mix modalities or blended learning stems.

The results showed that the prevailing health insecurities brought by the pandemic were worries and apprehensions because of the pandemic, emotional anxiety, and depression tendencies. Female respondents have higher tendencies to anxiety and depression as compared to male indigent respondents, though not significantly different. This result should be considered for further study to investigate the effect of the insecurities to gender-based profiles in relation to indigent learners.

On the preferred health adaptive strategies of indigent students, positive remarks were seen in the communication adaptability of learners and the health protocol and compliance. Results explain that indigent learners can adapt to pandemic continuous communication and interaction with family and friends. They were also able to overcome their health insecurities as a result of government policies as a response to the pandemic, and the number of people who follows these guidelines and regulations.

Finally, gender and age did not have any significant influence on the respondents' academic and health insecurities.

Suggestions

Higher education institutions should employ remote learning, as it is one of the most preferred modes of learning of indigent students and is extended by different literatures to be the most suitable approach to continue education as response to the pandemic. Schools should adapt blended learning approaches in education in the incoming academic school year. Because of academic insecurities of students to digital competence and the cost of online connectivity, using a mixture of both traditional and online learning caters to the limited resources of indigent students. Schools should promote conversational curriculums in schools under the new normal. Teacher at the same time should be aware of these insecurities to fit in their strategies in teaching and learning principles.

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