

International Journal of Sciences: Basic and Applied Research (IJSBAR)

International Journal of
Sciences:
Basic and Applied
Research
ISSN 2307-4531
(Print & Online)
Published by:
LENERS.

ISSN 2307-4531 (Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

Local Callages and Universities Faculty Needs

Local Colleges and Universities Faculty Needs Assessment: A Study Toward Proposed Faculty Program

Franco A. Quodala^{a*}, Rowena G. Dela Cruz^b, Elena E. Presnedi^c, Emily V. Acero^d

^{a,b}Research and Extension Office, Pamantasan ng Lungsod ng Muntinlupa, University Road, Poblacion, Muntinlupa City 1776, Philippines

^{a,d}Office of the University President, Pamantasan ng Lungsod ng Muntinlupa, University Road, Poblacion,

Muntinlupa City 1776, Philippines

^aEmail: francoquodala@plmun.edu.ph

^bEmail: rowenadelacruz@plmun.edu.ph

^cEmail: elenapresnedi@plmun.edu.ph

^dEmail: emilyacero@plmun.edu.ph

Abstract

To devise with a proposed faculty program, this study assessed the faculty needs of local colleges and universities in the Philippines. With a total of 47 ALCU (Association of Local Colleges and Universities) members, who participated in this study, a descriptive research utilizing the IPO (Input-Process-Output) framework was conceptualized. It was found out that LCUs (Local Colleges and Universities) are in-need of further evaluation especially when it comes to budget, trainings and development. The demand for assessment is to ensure capability of faculty and staff in analyzing their efficiency and effectiveness in the synchronous and asynchronous classes. The current pandemic affected the stability and growth of the institution. Therefore, it is highly recommended that key points in the development and enhancement should be taken into consideration, such as faculty and staff trainings, technological and physical infrastructure, and with equal importance also to the status of the moral and mental health of teachers and students.

Keywords: Colleges; Universities; Faculty; Students; Needs Assessment; Pandemic.

* Corresponding author.

1. Introduction

The effects of COVID-19 have been felt over the world since the beginning of 2020 [1]. President Duterte announced that travel restrictions will be put in place in Metro Manila after health authorities raised the highest COVID-19 alert level [2]. From March to May last year, parts of the Philippines endured an extremely strict lockdown called ECQ (Enhanced Community Quarantine), where people had to remain home, not use transport, have regulated food provisions and get used to a stronger police presence [1]. To continue with its mandate of providing relevant and innovative learnings, Higher Education Institutions (HEIs), both public and private, had adjusted to the new situation where face-to-face interaction and mass gatherings are prohibited [3]. With this, faculty members in higher education institutions are one of the most affected sectors of this pandemic. As reported by Reference [4] of CNN Philippines, the Philippine Association of State Universities and Colleges (PASUC) estimated that 1,099 contractual faculty members from 70 SUCs will be displaced and will lose their jobs amid school closures and the shift to a new kind of schooling and (even regular and full-time faculty members are affected due to the availability of electronic gadgets). Some of the major challenges the institutions are experiencing such as slow internet for both faculty and students; lack of electronic gadgets for online mode of learning or classes such as computer, laptop and mobile phones. This post challenge to many faculty members especially on training for flexible learning, and some of them to stop enrolling in the graduate studies in SY2020 - 2021.

Local universities and colleges nationwide were not exempted on the above issues and challenges among higher education institutions. As reported, there are 103 Local Universities and Colleges (LUCs) recognized by CHED [5].

With the above mentioned scenario among the LUCs, this proposal has been drafted to ease the impact of the current economic and health crises among contractual faculty members on higher education institutions. The House of Representatives approved on final reading the Bayanihan to Arise as One bill (Bayanihan 3) Through Bayanihan 3 subsidy, it will augment to the allocated budget by the local government units for their respective local colleges and universities [6].

2. Statement of the Problem

The aim of this research is to provide assistance for LUC's faculty and personnel who are diversely affected by the pandemic in adapting to flexible learning modality. Specifically, this seeks to determine the following:

- 1. What are the profile of the respondents in terms of:
 - 1.1. Regional demography,
 - 1.2. Educational background, and
 - 1.3. Personal access to technology and internet connectivity?

- 2. What are the profile of the institutions in terms of:
 - 2.1. Institution's access to internet connectivity,
 - 2.2. Percentage of faculty access to gadget,
 - 2.3. Percentage of faculty access to reliable internet connection,
- 2.4. Percentage of students' access to gadget,
 - 2.5. Percentage of students' access to reliable internet connection,
 - 2.6. Teaching mode delivery,
- 2.7. Availability of Learning Management System (LMS), and
 - 2.8. Availability of Institution to Digital/Online Library/Resources?
- 3. What are the training needs assessment of faculty on flexible learning?

3. Conceptual Framework

This section shows the conceptual framework of the study. It was developed to give meaning to the study and would likely be the basis of proposed faculty program.

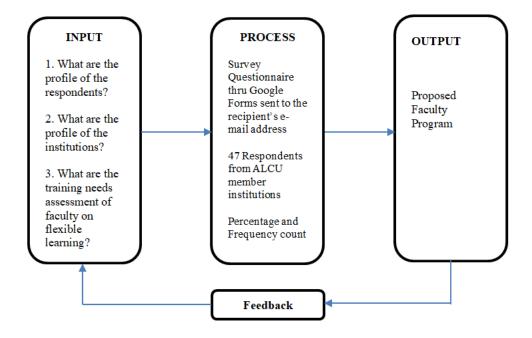


Figure 1: Conceptual Framework of the Study

Figure 1 shows the paradigm of the study. The input box presents the data needed in providing answers to statements of the problem. An arrow is pointed to the right to show process or procedure in data gathering. Another arrow is directed from process to output. After careful analysis of the process, the researchers plan to propose a faculty program that will be used to answer the concerns written in the statements of the problem.

4. Materials and Methods

From a total of 103 LUCs, only 47 member schools submitted the Institutional Needs Assessment form (done in Google Form) thru their respective Google Mail. Since this is the conveniently available pool of respondents [7] and at the same time this is the "convenient" source of data for researcher [8], convenience sampling method was employed in the used of this study. This research covers only the faculty needs in this prevailing situation. It plans to effectively create a program that will suit the academic needs of the faculty in the coming academic year for synchronous and asynchronous online classes in terms of gadget, internet connectivity and trainings. Other needs not mentioned are not covered in this study.

5. Discussion and Results

The succeeding tables convey the results of the study.

- 1. What are the profile of the respondents in terms of:
 - 1.1. Regional demography,

Table 1: Regional Demography of the Respondents

Region	Frequency	Percentage
NCR	11	23.4 %
IV-A	10	21.3 %
III	10	21.3 %
X	5	10.6 %
V	4	8.5 %
VI	3	6.4 %
XI	2	4.3 %
IV-B	1	2.1 %
VIII	1	2.1 %
Total	47	100 %

The table above shows that the highest percentage is from National Capital Region (NCR) with 11 of 47 respondents or 23.4%. The two lowest percentage are from Region IV-B and Region VIII with 1 of 47 respondents each or 2.1%. Next in the list are the following: Region IV-A with 10 of 47 respondents or 21.3%,

tie with Region III with 10 of 47 respondents or 21.3%; Region X is 5 of 47 respondents or 10.6%; Region V is 4 of 47 or 8.5%; Region VI is 3 of 47 respondents or 6.4%; Region XI is 2 of 47 respondents or 4.3%. Since NCR is the most densely populated region [9], it has also the number of LCUs [10].

1.2. Educational background, and

Table 2: Number of Faculty with Master's Degree

Total Number of Faculty	Frequency	Percentage
0 - 10	6	12.8 %
11 - 20	14	29.8 %
21 - 30	9	19.2 %
31 - 40	5	10.6 %
41 - 50	1	2.1 %
51 above	12	25.5 %
Total	47	100 %

The table above indicates the number of faculty with Master's Degree in the LCUs. The most number of faculty with master's degree is from 11 – 20 faculty with 14 of 47 respondents or 29.8 %. And the lowest is from 41 – 50 faculty with 1 of 47 respondents or 2.1%. Reference [11] enumerated 5 reasons why teachers should pursue a master's degree in education. These are improving teaching skills, increased chances for better pay, greater opportunities, improved job stability and develop a specialty (ibid). It is evident that faculty members of LCUs are improving by means of pursuing graduate school. In this present period, earning bachelor's degree isn't enough. For many educators, aside from self-fulfillment, it is a sign of dedication in the chosen field.

Table 3: Number of Faculty with Doctorate Degree

Total Number of Faculty	Frequency	Percentage
0 - 10	32	68.1 %
11 - 20	7	14.9 %
21 - 30	5	10.6 %
31 - 40	1	2.1 %
41 - 50	2	4.3 %
51 above	0	0 %
Total	47	100 %

The table above presents the number of faculty with Doctorate Degree in the LCUs. The most number of faculty with doctoral degree in the LCUs is in the range from 0 - 10 with 32 of 47 respondents or 68.1 %. And the

lowest is from 51 and above with 0 of 47 respondents or 0 %. Reference [12] mentioned in "The Atlantic Newsletter" that they have far more classroom experience and deeper knowledge of their content than most graduates from education programs. Earning doctoral degree has more additional skills required. However, this could allow them to stand out as expert or leader in their respective field. Hopefully, by this study, university and college administrators could encourage their faculty members to pursue doctoral degree thru scholarships.

1.3. Personal access to technology and internet connectivity?

Table 4: Access to Technology and Internet Connectivity

Access to Technology and Internet Connectivity	Frequency	Percentage
YES	45	95.7 %
NO	2	4.3 %
Total	47	100 %

The table above identifies the access to technology and internet connectivity. The number of respondents who said YES is 45 of 47 or 95.7% and NO is 2 of 47 or 4.3%. Higher Education Institution (HEIs) across the world cancelled face-to-face teaching, close campus facilities, and displace staff and students to work and learn from home [13]. Digital technologies were introduced to teach students from homes to continue with education and overcome mental stress and anxiety [14]. By this period, people and organizations all over the world had adjusted to new ways of work and life [15].

Moreover, Reference [16] reported four findings in her research entitled, "Student Experiences with Connectivity and Technology in the Pandemic." The conclusions include many students struggle with reliable internet access, but those with unstable housing situations struggle the most; students have limited options away from home for an internet connection, and even then they may need to get creative; nearly all students have access to a reliable device (primarily a laptop) for school, but not all devices can handle the demands of remote learning; and finally, most students prefer to troubleshoot device issues themselves instead of tapping their institution's technology support services for assistance.

2. What are the profile of the institutions in terms of:

2.1. Institution's access to internet connectivity,

 Table 5: Institution's Internet Connectivity

Strength in Internet Connectivity	Frequency	Percentage
Very Strong	8	17.0 %
Strong	18	38.3 %
Moderate	14	29.8 %
Weak	7	14.9 %
Total	47	100 %

The table above presents the strength in internet connectivity. Respondents identifies "Strong" with 18 of 47 respondents or 38.3% and "Weak" with 7 of 47 respondents or 14.9%. Internet connectivity is one of the many essentials when it comes to online learning. This post challenge to parents, teachers and students. Now a day, internet connectivity expenditure is one of the budget to be included not only in the family but also to the organizations. The growing concern of internet connectivity has posted as national issue. According to Philippine News Agency, the Duterte administration provided an improved connectivity and even free internet [17]. In this study, 21 LCUs have moderate to weak internet connections. Hence, this is an open doorway to improve and upgrade the internet connectivity to extend the effectiveness and efficiency of teachers in the conduct of their classes.

2.2. Percentage of faculty access to gadget,

Table 6: Percentage of Faculty Access to Gadget

Percentage of Faculty	Frequency	Percentage
20% and below	1	2.1 %
21% - 40%	4	8.5 %
41% - 60%	3	6.4 %
61% - 80%	6	12.8 %
81% - 100%	33	70.2 %
Total	47	100 %

The table above shows the percentage of faculty access to gadget. The highest in the list is in 81% - 100% with 33 of 47 respondents or 70.2% and the least is in 20% and below with 1 of 47 respondents or 2.1%. For the sake of continuous learning, teachers should be adaptable to the new normal teaching method by means of including this set-up in their day to day activities. It will be a big problem on the part of the educator if they will not engage into virtual classes as the demand was dictated by the current pandemic. Meanwhile, the Duterte Administration believed that improving ICT will promote Filipinos' quality of life while addressing many challenges that make it difficult to do business in the Philippines [18].

2.3. Percentage of faculty access to reliable internet connection,

Table 7: Percentage of Faculty Access to Reliable Internet Connection

Percentage of Faculty	Frequency	Percentage
20% and below	3	6.4 %
21% - 40%	5	10.6 %
41% - 60%	4	8.5 %
61% - 80%	16	34.0 %
81% - 100%	19	40.5 %
Total	47	100 %

The table above presents the percentage of faculty access to reliable internet connection. The highest in the list is in 81% - 100% with 19 of 47 respondents or 40.5% and the least is in 20% and below with 3 of 47 respondents or 6.4%.

Given that the faculty has access to gadget but if there is no reliable internet connection, it would be detrimental to hold classes as well. Reference [19] stated that improvements in internet levels and growing the number of firms connected to the internet, in the first place, would enhance overall productivity. Though there are asynchronous and modular classes in the absence of online learning, but other methods of teachings will be hampered by lack of internet connection such as presentation, checking, grading and access to other modalities such as Google Classrooms, FB Live, Zoom and MS Teams.

2.4. Percentage of students' access to gadget,

Table 8: Percentage of Students' Access to Gadget

Percentage of Students	Frequency	Percentage
20% and below	5	10.6 %
21% - 40%	6	12.8 %
41% - 60%	13	27.7 %
61% - 80%	12	25.5 %
81% - 100%	11	23.4 %
Total	47	100 %

The table above shows the percentage of students' access to gadget. The highest in the list is in 41% - 60% with 13 of 47 respondents or 27.7% and the least is in 20% and below with 5 of 47 respondents or 10.6%.

The holding of synchronous and asynchronous classes to students posted an issue for this will be another dilemma on the part of parents to prepare students to a new normal way of education. In an effort to ensure the school needs of our learners not to be neglected, parents should adjust as well, especially that gadgets' prices surge because of the big demand on the onset of the pandemic. Reference [20] said that irrespective of their brands, prices of desktops and assembled computers have increased. Moreover, he also noted a cost rising to sky are webcams and other tools for online classes and office works. In addition, mobile devices such as smartphones are a great help because of their multiple functions especially in learning nowadays [21].

With this, Philippine government intended to assist its partner Local Government Units (LGUs) facilitate ICT-enabled education especially during the COVID-19 pandemic. They said that gadgets, which were turned over by the LGUs to student beneficiaries, enhance the delivery of services to the education sector – a mandate that Department of Information and Communications Technology (DICT) fulfills [22].

2.5. Percentage of students' access to reliable internet connection,

Table 9: Percentage of Students' Access to Reliable Internet Connection

Percentage of Students	Frequency	Percentage
20% and below	9	19.2 %
21% - 40%	8	17.0 %
41% - 60%	14	29.8 %
61% - 80%	11	23.4 %
81% - 100%	5	10.6 %
Total	47	100 %

The table above presents the percentage of students' access to reliable internet connection. The highest in the list is in 41% - 60% with 14 of 47 respondents or 29.8% and the least is in 81% -100% with 5 of 47 respondents or 10.6%.

Among ASEAN (Association of Southeast Asian Nations) countries, the internet connection of the Philippines is in the second slowest and ranks 110th worldwide [23]. This is because of the lack of competition in the internet connectivity market [24]. Consequently, it would be burdensome to our students especially that some of them are using data limit to hold online or virtual classes. They still need the internet to do supplemental research [25]. Not to mention the examinations and assignments they have to prepare as part of their requirements. The study of Reference [26] stated that most of the students had difficulty complying with the learning activities and requirements due to limited or no internet connectivity. In other words, their greatest challenge was linked to their learning environment at home, while their least challenge was technological literacy and competency [27].

2.6. Teaching mode delivery,

Table 10: Teaching Mode of Delivery

Mode of Delivery	Frequency	Percentage
Pure Online	6	12.8 %
Pure Modular	2	4.3 %
Flexible Learning	35	74.4 %
Others	4	8.5 %
Total	47	100 %

The table above reveals the teaching mode of delivery. Flexible learning got the highest rating with 74.4% or 35 of 47 respondents. The least mode of delivery is pure modular with 4.3% or 2 of 47 respondents who selected this item.

When asked about the inclusion of "Others", respondents included blended learning, flexible learning, modular and online learning such as google classroom, mixed of online and module submissions, synchronous and asynchronous, through messenger group chat, and combination of different flexible learning modalities.

On May 21, 2021, Commission on Higher Education (CHED) Chair Prospero de Vera III said that "flexible learning will be the new norm" [28]. Commissioner De Vera mentioned this during his presentation at the "Educating our Children in the New Normal" webinar organized by the Center for Strategy, Enterprise and Intelligence. He added that there's no going back to the traditional full-packed face-to-face classrooms. The commission has adopted the policy that flexible learning will continue in school year 2021 and thereafter [29].

2.7. Availability of Learning Management System (LMS), and

Table 11: Availability of Learning Management System (LMS)

LMS	Frequency	Percentage
YES	28	59.6 %
NO	19	40.4 %
Total	47	100 %

The table above conveys the availability of Learning Management System (LMS). Out of 47 respondents, 28 selected that they have LMS with 59.6% and the rest of the respondents with 19 or 40.4% selected NO.

Meanwhile, those who selected YES, they specified their LMS thru the use of Facebook social learning groups, Google classroom and Canvas, Google Suite, Edmodo, Zoom, Microsoft, Moodle Classroom, BPC E-learning.

2.8. Availability of Institution to Digital/Online Library/Resources?

Table 12: Availability of Institution to Digital/Online Library/Resources

Digital/Online Library/Resources	Frequency	Percentage
YES	28	59.6 %
NO	19	40.4 %
Total	47	100 %

The table above shows the availability of the Institution to Digital/Online Library/Resources. Out of 47 respondents, 28 selected that they have access to digital/online library/resources with 59.6% and the rest of the respondents with 19 or 40.4% selected NO. For the continuous implementation of education, universities and colleges should have a solid and stable access to these timely resources as they are most needed not only by our learners but our teachers as well. It is a call to LCUs to avail of Digital/Online Library/Resources in the improvement of online materials in the preparation of lessons. This is also a repository of wealth of knowledge, information and educational resources.

3. What are the training needs assessment of faculty on flexible learning?

The training needs assessment of faculty on flexible learning are itemized in table 13.

Table 13: Training Needs Assessment on Flexible Learning

Training Needs Assessment on Flexible Learning	Frequency	Percentage
Technology Enabled Training	16	22.2 %
Automated Grading System	11	15.3 %
Learning Management System	7	9.7 %
Module Writing	5	6.9 %
Curriculum and Instruction Training	6	8.3 %
Computer Literacy for Older Faculty Members	5	6.9 %
Physical well-being and mental health during pandemic of students and teachers	6	8.3 %
Leadership and management during the new normal	5	7.0 %
Teaching strategy in the new normal	3	4.2 %
Construction of online platforms aside from FB	2	2.8 %
Research Related Seminar / Research Ethics	4	5.6 %
Financial management	1	1.4 %
GAD trainings	1	1.4 %
Total	72	100 %

The above table is the summary of the Training Needs Assessment on Flexible Learning, wherein respondents identified the widest possible training needs of their institution. It can be identified that the highest in the list is technology enabled training with 16 of 72 responses or 22.2% as identified by the 47 respondents.

Adoption from the new normal has brought extraordinary challenges and has affected the educational sectors, and no one knows when it will end [30]. Both participants, students and faculty should be knowledgeable on these modalities because they are the foremost available resources in times of pandemic. It will not be feasible if they are not around [31]. Meanwhile, in a study by Reference [25], one student mentioned that "school is just a matter of compliance now. It's not about learning." In this pandemic period, students and faculty faced numerous of challenges such as slow internet connection, gadget's skyrocketed prices, power outages, work suspension and mental health issues.

Additionally, the research of Reference [32] found out that staff members agreed that the technological skills of giving the online courses increased the educational value of the experience of the college staff. Another one is the research of Reference [33] wherein students appreciated the software and online study materials being used to support online education. However, the students felt that online education is stressful and affecting their health and social life.

6. Conclusions and Recommendations

From the discussions above, it is evident that LCUs are in-need of further evaluation especially when it comes to budget, trainings and development. The demand for assessment is to ensure capability of faculty and staff in analyzing their efficiency and effectiveness in the synchronous and asynchronous classes. The current situations affect the stability and growth of the institution. Therefore, it is highly recommended that key points in the development and enhancement should be taken into consideration, such as faculty and staff trainings, technological and physical infrastructure, and with equal importance also to the status of the moral and mental health of teachers and students. From the study, it can be noted that there are three needed items in the implementation of this study such as gadget and internet connectivity, continuing education and trainings. Although, high cost in the implementation could be one of the largest barriers in technological investment but its significance to the improvement of our educators and students could go a long way in their work and academic success.

Acknowledgement

The authors of this paper would like to extend their warmest gratitude to the ALCU members, their President, Faculty and Staff who participated in the survey.

References

- [1] FutureLearn (2021). Lockdown Extension in the Philippines: How is Education Being Affected? (retrieved from: https://www.futurelearn.com/info last June 5, 2021).
- [2] CNN (2020). Metro Manila to be Placed on 'Lockdown due to COVID-19. (retrieved from: https://cnnphilippines.com/news/2020/3/12/last June 5, 2021)
- [3] The Head Foundation, (2020). The Philippines COVID-19 and Its Impact on Higher Education in the Philippines. (retrieved from: http://headfoundation.org/2020/06/04/covid-19 last June 4, 2021).
- [4] C. Modesto (2020). Over 3,000 Contractual Staff to be Displaced, around 50,000 Might Not Enroll in State Universities and Colleges due to Pandemic. CNN Philippines (retrieved from: https://cnnphilippines.com/news/2020/9/10/contractual) last June 4, 2021).
- [5] https://unifast.gov.ph/pdf/hei.pdf (retrieved last July 5, 2021)
- [6] F. Cervantes (2021). House Approves P401-B Bayanihan 3 (retrieved from: https://www.pna.gov.ph/articles/1142204 last July 22, 2021)
- [7] QuestionPro. (2021). Convenience Sampling: Definition, Applications, Advantages, Method, and Examples. (retrieved from: https://www.questionpro.com/blog/convenience-sampling last June 4, 2021)

- [8] P. Lavrakas (2008). Convenience Sampling. Research Methods. Sage DOI: https://dx.doi.org/10.4135/9781412963947.n105
- [9] https://www.dti.gov.ph/regions/ncr/profile (retrieved last July 12, 2021)
- [10] https://www.alcucoa.org.ph/members (retrieved last July 12, 2021)
- [11] M.A. Llego (2021). 5 Reasons Why Teachers Should Pursue a Master's Degree in Education. Teacherph. (retrieved from https://www.teacherph.com/ last November 08, 2021).
- [12] L. McKenna (2013). Why Aren't More Ph.D.s Teaching in Public Schools? The Atlantic. The Atlantic Monthly Group.
- [13] J. Cullinan, D. Flannery, J. Harold, et al. The disconnected: COVID-19 and disparities in access to quality broadband for higher education students. Int J Educ Technol High Educ 18, 26 (2021). https://doi.org/10.1186/s41239-021-00262-1.
- [14] M. Chatterjee, S. Saha, and M. Jha (2020). Transitioning Classes into Electronic Gadgets: Life of Student in Lockdown. DownToEarth.
- [15] R. De, N. Pandey, and A. Pal (2020). Impact of Digital Surge during COVID-19 Pandemic: A Viewpoint on Research and Practice. National Center for Biotechnology Information. U.S. National Library of Medicine. DOI: 10.1016/j.ijinfomgt.2020.102171
- [16] D. Gierdowski (2021). Student Experiences with Connectivity and Technology in the Pandemic. Research report. Boulder, CO: EDUCAUSE.
- [17] R. C. Dela Cruz (2021). Improved Connectivity, Free Internet Under Duterte Admin. Republic of the Philippines. Philippine News Agency. (retrieved from https://www.pna.gov.ph/articles/1148087 last October 27, 2021)
- [18] J. Giray (2021). Information and Communications Technology. Philippines-Country Commercial Guide. International Trade Administration. USA.
- [19] A. Azcarraga and P. Peña (2019). Technology and Automation as Sources of 21st-Century Firm Productivity: The Economics of Slow Internet Connectivity in the Philippines. DLSU Research Congress 2019. De La Salle University, Manila, Philippines.
- [20] N. Baaga (2020). Prices of Gadgets Soar as Internet Services Witness Snags. The Tribune. (retrieved from: https://www.tribuneindia.com last November 9, 2021)
- [21] J.M. Asio, et. al. (2021). Internet Connection and Learning Device Availability of College Students: Basis for Institutionalizing Flexible Learning in the New Normal. Studies in Humanities and

- Education. Vol. 2, Issue 1:56-69. https://she.sabapub.com. DOI: 10.481585/she.v2i1.224.
- [22] https://www.pna.gov.ph/articles/1150802 retrieved last November 9, 2021.
- [23] D. Porcalla (2020). Philippines Internet 'Second Slowest in ASEAN, ranks 110th Worldwide. The Philippine Star. (retrieved from https://www.philstar.com/headlines/2020/12/28/2066612 last November 16, 2021).
- [24] R. Salac, Y. Kim (2016). A Study on the Internet Connectivity in the Philippines. Asia Pacific Journal of Business Review. Vol. 1, Issue 1, Pages 67-88. https://doi.org/10.20522/APJBR.2016.1.1.67
- [25] A. Santos (2020). In the Philippines, distance learning reveals the digital divide. Heinrich Boll Stiftung. Brussels. European Union.
- [26] F. Dayagbil, D. Palompon, L. Garcia, and M. Olvido. (2021). Teaching and Learning Continuity Amid and Beyond the Pandemic. Frontiers in Education. https://doi.org/10.3389/feduc.2021.678692
- [27] J. Barrot, I. Llenares, and L. del Rosario. (2021). Students' Online Learning Challenges During the Pandemic and How They Cope with Them: The Case of the Philippines. SpringerLink. Education and Information Technologies. 26, 7321-7338.
- [28] and [29] B. Magsambol. (2021). CHED: There's No Going Back, 'Flexible Learning Will Be New Norm' (retrieved from https://www.rappler.com/nation/ched-says-flexible-learning-new-norm last November 19, 2021)
- [30] J. Tria (2020). The COVID-19 Pandemic through the Lens of Education in the Philippines: The New Normal. International Journal of Pedagogical Development and Lifelong Learning, 1(1), ep2001. https://doi.org/10.30935/ijpdll/8311
- [31] N. Guadalquiver (2020). The New Normal in the Philippine Education System. ResearchGate. (retrieved from https://www.researchgate.net/publication/344595606 last July 12, 2021) as cited in (Barreiro, V., 2017)
- [32] M. Zalat, M. Hamed, S. Bolbol. (2021) The experiences, challenges, and acceptance of e-learning as a tool for teaching during the COVID-19 pandemic among university medical staff. PLoS ONE 16(3): e0248758. https://doi.org/10.1371/journal.pone.0248758.
- [33] P. Chakraborty, P. Mittal, M. Gupta, S. Yadav, A. Arora. (2020). Opinion of Students on Online Education During the COVID-19 Pandemic. Human Behavior and Emerging Technologies. Wiley Online Library. https://doi.org/10.1002/hbe2.240.