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Modality And Effectiveness Of Delivering Physics Instruction Through Mobile Teaching As An Alternative Teaching-Learning Tool In The New Normal: Basis For Enhancing Responsiveness of Faculty in the SUCs

APRIL AURA A. CACHO
Ph,D Northern Iloilo State University Lemery Campus
aprilauracacho@gmail.com

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Abstract— *This descriptive research determined the modality and effectiveness of delivering physics instruction as an alternative tool in the new normal. The results served as basis for determining the responsiveness of the Faculty in the State and Universities and Colleges in Northern Iloilo. Results revealed that most of the faculty were using a combination of modular and online learning modality. The faculty sent modules and followed up through online discussion, and also sent and retrieve modules through online, utlized several devices such as cellphone, laptops and tablets. Likewise, faculty conducted lessons through online twice a week, and the time allocated for the discussion depended on the allocated schedule provided by the program chairs. Moreover, the flexible learning was evaluated by the faculty as moderately effective and absorption rate of the learners were also described as less than 50%. Learners performance according to the faculty was described as satisfactory, through this they preferred to have a mobile school to visit different houses of the learners for monitoring and follow up. The faculty were also willing to be assigned as mobile teachers however, the limitations identified were more on the sustainability of the project in terms of financial aspect, facilities and manpower. Faculty were willing to serve on the best of their capacity and time however, if in terms of financial support if noted to be up to the limit, faculty would decide to eventually not to participate. Finally, the learning modality preferred in terms of mobile learning had a great impact to the learners and the community as well.*

Keywords: *effectiveness, learning modality, mobile teaching****.***

INTRODUCTION

This year's pandemic had alarmed the whole country in which the most affected agency are the schools both from elementary, secondary, tertiary and even up to graduate education. The impact had brought several adjustments and adaptive measures in order to ensure quality and education is still prioritized. Despite the hang ups and the threats, education in all parts of the world continue to source out measures on how to capture the interest of the learners without being fearful of what is happening around them.

Teachers in all levels had their initiatives to cater the needs of the learners and with the support of the parents.

In such, the educational center utilizes teaching on the online mode and to adapt teachers and students to this new reality: videoconferencing software was used to avoid social disconnection, students were disoriented, ignorance of new tools had to be overcome to teach classes, and the evaluation systems need to be redesigned. The pandemic revealed the shortcomings of educational institutions, mainly about the infrastructures and the training of teachers in the Information and Communication Technology (ICT) tools. However, it also meant improvements. The teachers were trained in new

online methodologies and showed interest in learning new teaching tools in the face of the new reality and challenges that arose.

To answer undelighted questions and queries of the parents, on how education can be conducted, several ways were planned and done. Thus, the institutions come up of learning modalities in the new normal, to respond to the educational needs of the learners. Academic freeze was proposed but that was contradicted for the reason that learners had to earn the expected knowledge and assimilated the target competencies for them to become professionals and responsible citizens of the country.

Blended learning or flexible learning was properly introduced and gradually adapted. With this, learners adjusted on their own ways. That is why, this research study basically looked into how the teachers and learners went through with the process and what challenges and feedbacks arise during the implementation (Domingo, M. G., & Garganté, A. B. (2016)

In as much that the primary purpose is to deliver the knowledge, values and skills to the learners, the tertiary institutions ensure the utilization of different modalities, and through this research investigation it can be outrightly determined its effectiveness in terms of its impact and benefits to the learners and the teachers. Thus, this study.

Methodology

This investigation of describing the modality and effectiveness of delivering instruction through mobile teaching is as an alternative teaching-learning tool in the new normal as basis for enhancing responsiveness of faculty in the SUCs. There were 105 faculty members utilized in the study who were further grouped into sex and department. A researcher-made questionnaire was utilized to gather the data. The selection of the faculty were done by purposive sampling through visiting the campus during the schedule of delivery of modules. The first 15 faculty members who were present during the time of the administration of the study was considered in the selection of the respondents.

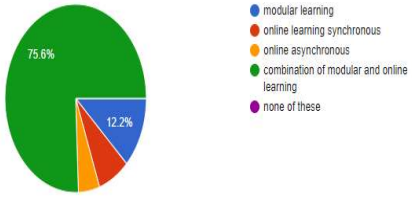
Table 1. Profile of the Respondents

Category	f	%
Sex		
- Male	32	30.47
- Female	73	69.53
Department		
- General Education	78	74.28
- Professional Education/Core Faculty	27	25.72

The study was conducted within the seven campuses of Northern Iloilo Polytechnic State College namely, Ajuy Campus, Barotac Viejo Campus, Batad Campus, Concepcion Campus, Estancia Campus (Main), Lemery Campus and Victorino Salcedo Sara Campus.

Results

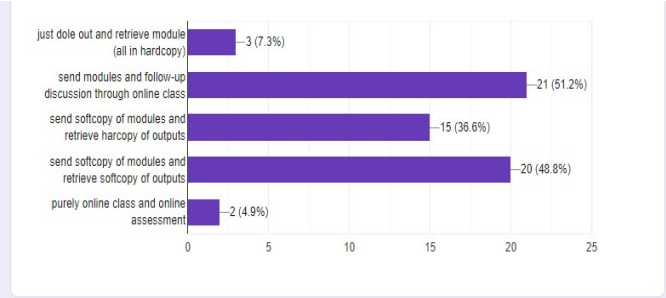
1. What modality do you use in delivering instruction during this pandemic?



The results revealed that 75.6% utilized both modular and online learning or the so-called blended learning modality, 12.5% utilized modular learning; 7.3% used online synchronous learning and 4.9% used online asynchronous learning.

According to Alvarez, Abel V. (2020), blended learning in the growing demand for blended learning possesses problems and challenges that are noteworthy to investigate, specifically in emerging higher education institutions, which hinder effective and efficient delivery of teaching and learning.

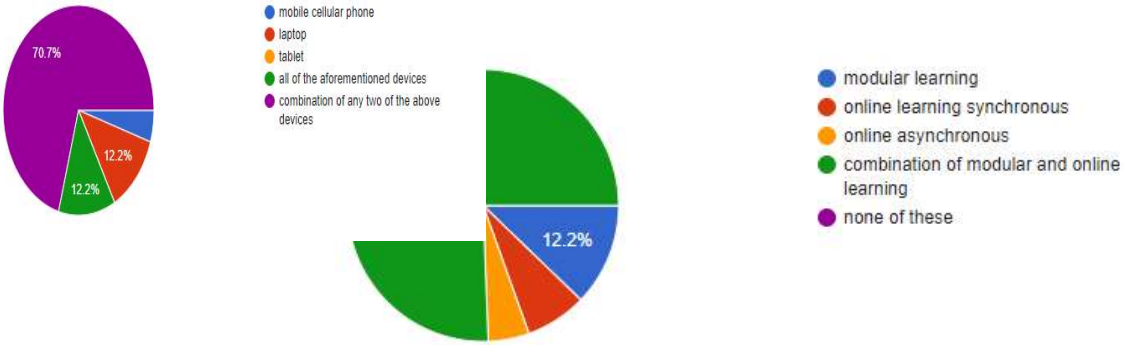
2. What teaching strategy do you usually use in your chosen modality? (Please check all that apply)



achers were able to implement the chosen modality during the ndents sent modules and followed up discussion through online class, 36.6% by them sent modules in softcopy and retrieved softcopy of the outputs, 36.6% of them sent softcopy of the modules and retrieved hardcopy of outputs; 7.3% just doled out and retrieved modules all in harcopy and 4.9% purely online class and online assessment.

As supported by the study of Aldosemani et al. (2018), it can be construed that ICT is not confined to its functions of delivering high quality data, but it also offers a platform for using variety of instructional tools. This can be further applied and made significant for distance learning, such as in the case of blended-based approach (Rivera, 2017).

3. What teaching device/s are you using?

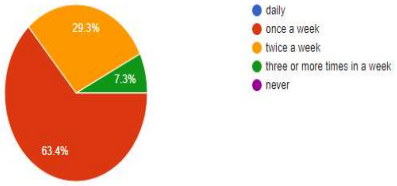


As per investigation made, 70.7% were utilizing more than two devices or a combination of different technological devices like tablet, cellular phone, etc. 12.2% signified that they used laptop and tablets, and only 4.9% used mobile cellular phones.

Contradictory to the results in the survey made by Libero, et al (2020), the cell phone, now the most widely used medium in Asia, has major educational implications. Most users, however, do not realize the cell phone's potential for education, nor even for the communication functions for which it was originally designed. Most educators still see the computer and the cell phone as unrelated devices, and the tiny cell phone more as a personal accessory,

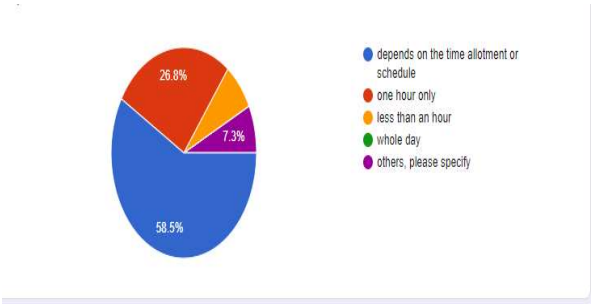
especially for young people. However, in the case of the institution most of the faculty had been using both the combination several devices.

4. How frequent do you deliver/discuss your lesson to your students?



As shown in the above results, 63.4% deliver or conduct discussion once a week, 29.3% did it twice a week, 7.3% three or more times in a week. It can be noted that the success of e-learning and blended learning can largely depend on students as well as teachers gaining confidence and capability to participate in blended learning (Hadad, 2007). This implies that teachers and learners had to have regular meet up and communication even it is still on flexible be it online or modular in nature to achieve the expected learning to be assimilated by the learners.

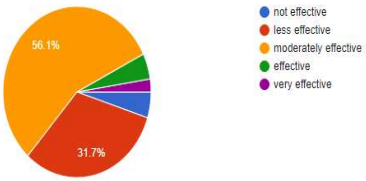
How long would you usually spend in discussing the lesson?



During the conduct of the discussion during the online class or even limited face to face, the faculty spent considerable time such that 58.5% depended on the time allotment or schedule, 26.8% conducted one hour only, 7.3% conducted less than an hour or through daily transactions like messenger or calls.

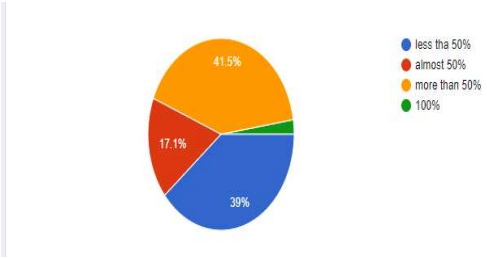
Studies comparing blended learning with traditional face-to-face have indicated that learners perform equally well in blended learning and their performance is unaffected by the delivery method (Kwak, Menezes, & Sherwood, 2013). In another study, learning experience and performance are known to improve when traditional course delivery is integrated with online learning (Stacey & Gerbic, 2007).'

6. How do you find delivering instruction this pandemic?



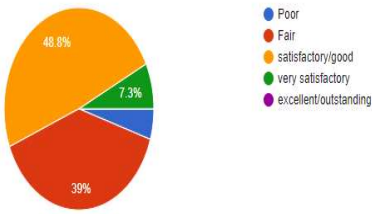
Being confined on the challenges brought about by the pandemic, the respondents evaluated that 56.10% that the delivery of the instruction as moderately effective, 31.7% described it as less effective, 4.9% effective and not effective and 2.4% only described it as very effective. According to CHED (2020), in the delivery of instruction, flexible learning is learning interventions and delivery of programs with the consideration of the learner's unique needs, that may or may not involve the use of technology. In the Philippines, DL is being offered in two forms: online distance learning (ODL) and modular distance learning (MDL). But most parents and students would prefer ODL, considering and hoping that the interaction between students and the teacher can ensure learning. Further supported by Gautam (2020) that the disadvantages of online learning: technology issues, sense of isolation, teacher training, and managing screen time. When she mentioned technology issues, she meant more than just computer or gadget complexity; she also meant poor internet connection. With the pandemic and DL imposed on all students, the quality of internet connections was tested. Sadly, not all students have access to a strong internet connection. Intermittent connectivity may also lead to poor quality of online learning. This may be detrimental to the teaching and learning process.

7. How would you rate the absorption rate of the learners?



In the absorbance of learning during the learning modality preferred by the learners, the faculty also noticed how the students were able to grasp the lessons, thus, the evaluation on the absorption rate was 41% more than 50%, 39% was less than 50% absorptive rate, 17.7% almost 50% and 2.4% only rated that absorption rate was 100%. In the context of online learning, user satisfaction is described as the degree to which online learning students realize satisfaction in their sole decision to depend on such services and how effectively they fulfill their requirements [Roca JC, Chiu CM, Martínez FJ, 2006].

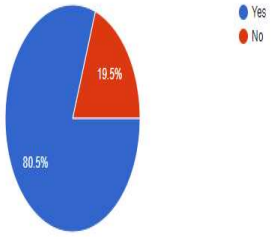
8. How would you evaluate the performance of the learners?



One of the learning impacts of COVID -19 was that the performance of the learners became different as compared to their performance during the traditional face to face classes, that is 48.8% was described as satisfactory, 39% fair performance, 7.3 % had a very satisfactory performance and only 4.9% was poor.

With this, Bijeesh (2021) also mentioned the disadvantages of DL by mentioning the tendency for high distraction. Because students are not in the classroom and are in the comfort of their homes, distractions can't be avoided and may be torn between classes and the desire to listen to music, sleep, or do something else. This can result in poor performance of the students. This challenges teachers to make their lessons engaging, to motivate their students to focus on the lesson.

9. If ever given a chance to deliver instruction through mobile school/vehicle, would you recommend this to reach

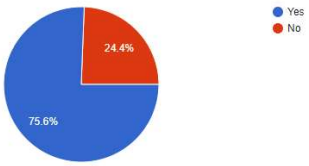


out learners?

Through the discovery and implementation of the learning modality, most of the respondents answered yes to utilize mobile school or vehicle whihc was 80.5% while 19.5% disagreed and did not recommend the use of technology in learning.c According to Crompton et al. (2016), research on t evolved rapidly with the advent of smart handheld devices. Mobile learning or m-learning is an emerging trend of digital arning even before the outbreak of the pandemic.

The research conducted by Jin and Sabio (2018) showed that most learners in chosen public high schools explored meaningful opportunities to utilize mobile devices for a range of learning tasks beyond the classroom environment

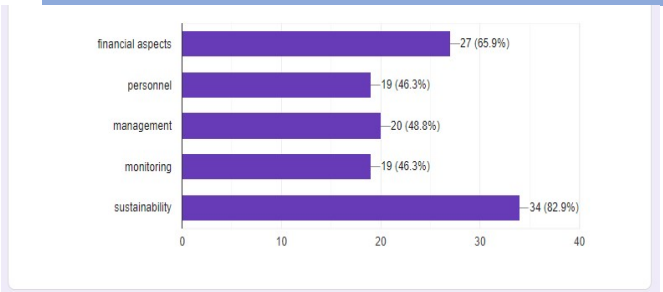
10. Are you willing to be one of the mobile teachers?



ed learning modality, 75.6% agreed and only 24.4% do not want

In higher education, m- learning plays a central role in creating modern instructional methodologies for students (Bombaes, 2018). He posited that perceived ease of usage, perceived usefulness, enjoyment, creativity, and teachers' influence are the main determinants of the student's attitude towards m-learning. He further added that most of thenational university students utilize m-technology actively

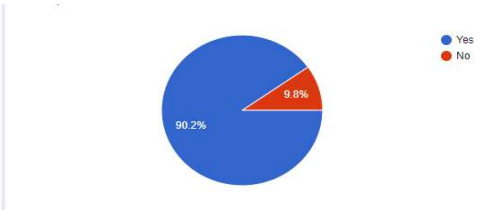
11. What do you think are some limitations of developing a mobile school or vehicle? Check all that apply.



In the new normal, the acceptancec of the newest learning modality is dp hard for the clientele. With this, several factors may hamper its acceptance and so much with its implementation. However, the researchers identified that among the challenges and limitations, 82.9% considered thay sustainability was the greatest challenge, then financial aspects as 65.9%, management (46.8%), monitoring and personnel aspects comprised the 46.3%. Some of these limitations and constraints apply to specific situations and devices. For example, it has been pointed out that mobile devices of different sizes might encourage learning in different ways (Huang et al., 2012).

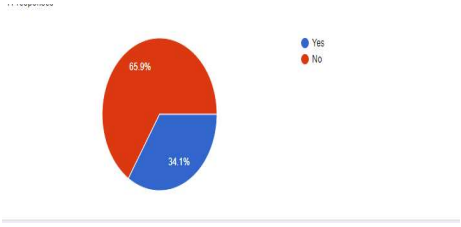
Examples of functions through which mobile devices can improve learning include sharing of data and information, accessing relevant information, reading relevant documents, giving a presentation, discussing and brainstorming, and working in an appropriate place through mobile applications (Domingo & Garganté, 2016).

Do you think, this would give positive impact to the community?



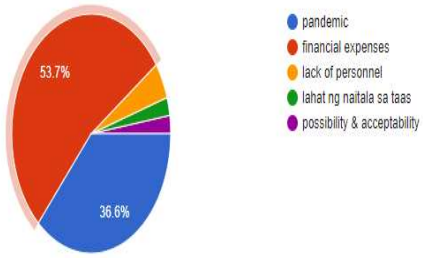
The respondents agreed that with perseverance, 90.2% said yes and 9.8 % said no. Despite the great development of smart phone programs and applications, and the wide-spread of these devices among students, their use for the educational purposes remains weak.

13. Are you in favor of spending your money just to materialize this purpose?



With this, most the respondents answered 85.9% and 34/1% disagreed to spend money for such purpose.v Many countries, the Philippines included, have shifted from classrooms to online education through online learning platforms. Even governments have promoted mobile learning as an efficient way through which students continue learning. This push has allowed online learning platforms to flourish

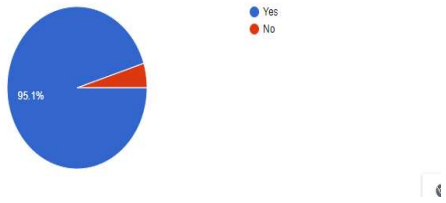
14. What do you think might hinder the implementation of this project?



In the conduct of the traditional face to face learning,as compared to this mobile learning, limitations in its implementation were described such that 53.7% financial aspects, 36.6% due to pandemic, 4.9% lack of personnel, 2.4% for possibility and acceptability which was the same lack of experience.

Although mobile learning is known as a learning channel among people who have technology readiness, the use of this channel requires appropriate infrastructure and the educators to have basic instructional skills (UNESCO, 2011). Many countries, such as China, Singapore, Taiwan, or Malaysia, have been preparing their infrastructure and supporting the use of mobile devices in various domains of the education sector (UNESCO, 2012

15. Do you think that this project be accepted by the community?



The rapid development of mobile technology and higher education student and faculty ownership of mobile devices with Internet access have expanded communication methods, opportunities for collaboration, access to traditional learning, and access to information resources. Innovations in cell phones and other devices allow students to have mobile access to academic email, library staff, podcasts, videos, Internet information resources, course documents, and peer collaboration on projects (Wentzel, P., van Lammeren, R., Molendijk, M., de Bruin, S., & Wagtendonk, A. (2005).

References

1. Alvarez, Abel V., J (2020) Learning from the Problems and Challenges in Blended Learning: Basis for Faculty Development and Program Enhancement. Asian Journal of Distance Education, v15 n2 p112-132 2020
2. Aldosemani, T., Shepherd, C. E., & Bolliger, D. U. (2018). Perceptions of instructors teaching in Saudi blended learning environments. TechTrends, 63(3), 341–352. DOI: http://dx.doi.org/10.1007/ s11528-018-0342-1

3. Rivera, J. H. (2017). The blended learning environment: A viable alternative for special needs students. Journal of Education and Training Studies, 5(2), 79-84. DOI: http://dx.doi.org/ 10.11114/jets.v5i2.2125
4. Libero, R. M. (2020). The effect of teacher characteristics, beliefs, relations with students, and in-service education on student science achievement. Unpublished doctoral dissertation, Texas Technology University.
5. Hadad, W. (2007). ICT-in-education toolkit reference handbook. InfoDev. from
6. http://www.infodev.org/en/Publication.301.html. Retrieved 04 Aug 2015.
7. Kwak, D. W., Menezes, F. M., & Sherwood, C. (2013). Assessing the impact of blended learning on student performance. Educational Technology & Society, 15(1), 127–136.
8. Gaulam, K. A. (2020). Evaluating teacher effectiveness as evidenced by the professional development and appraisal system and Texas assessment of knowledge and skills.
9. Unpublished doctoral dissertation, Texas A&M University.
10. Stacey, E., & Gerbic, P. (2007). Teaching for blended learning: research perspectives from on-campus and distance students. Education and Information Technologies, 12, 165–174. Faculty's and Students' Perceptions of Online Learning During COVID-19
11. Bijeesh, N.A. (2021). Advantages and disadvantages of distance learning. Retrieved from https://www.indiaeducation.net/online-education/articles/advantages-and-disadvantages-of-distancelearning.html
12. Roca JC, Chiu CM, Martínez FJ. Understanding e-learning
13. continuance intention: An extension of the Technology Acceptance Model. Int J Hum Comput Stud 2006; 64: 683–696.
14. Crompton, H., Burke, D., Gregory, K. H., & Gräbe, C. (2016). The use of mobile learning in science: A systematic review. Journal of Science Education and Technology, 25(2), 149-160. https://doi.org/10.1007/s10956-015-9597-x
15. Jin, W., & Sabio, C. J. (2018). Potential use of mobile devices in selected public senior high schools in the city of Manila Philippines. International Journal of Learning, Teaching and Educational Research, 17(4), 102-114. https://doi.org/ 10.26803/ijlter.17.4.7
16. Bombaes, A. (2018). Student's intentions to use m-learning: An empirical perspective from the Philippines. Business and Economic Research, 8(1), 68-83. https://doi.org/10. 5296/ber.v8i1.12305
17. Domingo, M. G., & Garganté, A. B. (2016). Exploring the use of educational technology in primary education:
18. Teachers' perception of mobile technology learning impacts and applications' use in the classroom.
19. Computers in Human Behavior, 56, 21–28. http://doi.org/10.1016/j.chb.2015.11.023
20. UNESCO Turning on mobile Learning in Asia (2012) Retrieved from
21. http://unesdoc.unesco.org/images/0021/002162/216283e.pdf
22. **Wentzel, P., van Lammeren, R., Molendijk, M., de Bruin, S., & Wagtendonk, A. (2005). Using mobile technology to enhance students' educational experiences. Educause Qu**