Research Article

e-TuroMo: A Valuable Virtual Community Service Project for Schools Amid COVID-19 Pandemic

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ABSTRACT

The COVID-19 pandemic has forced schools to adopt online teaching and other alternative delivery modes of education. Since this is an unforeseen happening, most learning institutions are not ready for this transition. This gives birth to a virtual community service project named "e-TuroMo." In this paper, we describe the e-TuroMo project and assess its relevance. An open-ended questionnaire was distributed to gather feedback from the respondents. The project aims primarily to help schools as they try to shift from traditional classes to online teaching. It offers free services such as webinars for teachers, a course creator account on the e-TuroMo Moodle site, consultation, and technical assistance in establishing a Learning Management System (LMS). Through this project, 51 respondents have created initial online courses as an output of the webinars. Consultation sessions on online course design, delivery, and assessment were provided to some respondents. Two schools availed of technical assistance in the setup of their LMS. The respondents acknowledged the services offered by the project as timely, relevant, and valuable to their work as teachers. Overall, the results showed high admiration and approval for the project. Cost-effective software, efficient structuring of webinars based on literature, and a stable internet connection for both the organizer and participants are deemed essential when implementing a virtual community service project similar to this case.

Keywords: *Virtual community service project, Webinar, Online teaching and learning, Moodle, Teacher digital skills*

Introduction

The pandemic brought by the Coronavirus disease 2019, popularly known as COVID-19, has seriously affected people's lives. Various governments worldwide have issued protocols on physical distancing and movement control for their citizens to prevent the spread of the virus. In the Philippines, Proclamation No. 922, series of 2020, was issued on March 8, 2020, declaring a state of public health emergency throughout the country (Presidential Communications Operations Office, 2020). This was followed by several stay-at-home orders known as community quarantines with varying restriction levels.

The Philippine education sector was affected by the COVID-19 pandemic when the government ordered the closure of schools. It should be recalled that the government mandated that face-to-face classes are not allowed in March 2020, just a few more weeks before the end of classes/semester. The Department of Education (DepEd), which governs the public elementary, junior, and senior high schools in the country, issued DepEd Order No. 12, series of 2020, adopting a basic education learning continuity plan and further stressing that no face-to-face classes are allowed until the government deems it safe (Department of Education, 2020). Likewise, the Commission on Higher Education (CHED) issued CHED Memorandum Order (CMO) No. 04, series of 2020, prescribing the guidelines for the implementation of flexible learning. These transition plans can also be seen in studies abroad conducted by Reyes et al. (2020) and Scull et al. (2020).

With these developments, schools are compelled to adopt online learning and other alternative modes of instruction delivery for the continuity of the learning process. However, most schools are caught off guard because technologies for online classrooms are not in place. Moreover, teachers lack knowledge and skills in online instruction design, delivery, and assessment. These concerns must be addressed when implementing a distance learning environment (Béché, 2020).

Having these in mind, the authors have conceptualized and implemented a virtual community service project dubbed "e-TuroMo." This project intends to aid schools in promoting continued access to education even during this challenging time of the pandemic. The project is believed to be timely and called for due to the abrupt effects of the COVID-19 pandemic on the education sector.

The Project

The word e-TuroMo, when spoken in the Filipino language, means "teach it." This project is designed to cater to public schools by providing them with a free Learning Management System (LMS), training of teachers, consultation, and technical assistance on the delivery of online instruction to learners during the COVID-19 pandemic. Conceptualized and still being implemented from April 2020 to the present, it is considered one of the early project responders to the need of schools and teachers to shift from traditional face-to-face instruction to online teaching.

The project offers services, namely webinars related to online teaching, a teacher/course creator account on the e-TuroMo Moodle site, consultation, and technical assistance in establishing a Moodle LMS. Since this is a virtual community service project, all services are free and delivered to the respondents remotely, avoiding physical contact at all times. In most cases, the authors interacted with teachers and some school officials who attended as learners during webinars and consultations.

A monthly paid Virtual Private Server (VPS) offered by a known company was used to implement the project. Subscriptions to the VPS started in May 2020 and are still ongoing. The VPS was installed with Linux Ubuntu as its operating system, WordPress as the content management system, and Moodle as the Learning Management System (LMS). These are open-source software chosen because they are economical (Poserne, 2009 & Hameed, Fakhir and Ahmed, 2022); powerful (Pearce, 2020); secured (Fragulis et al., 2021); efficient (Kusbeyzi, Hacinliyan and Aybar, 2011); and useful (Namestovski, Takács and Arsović, 2012).
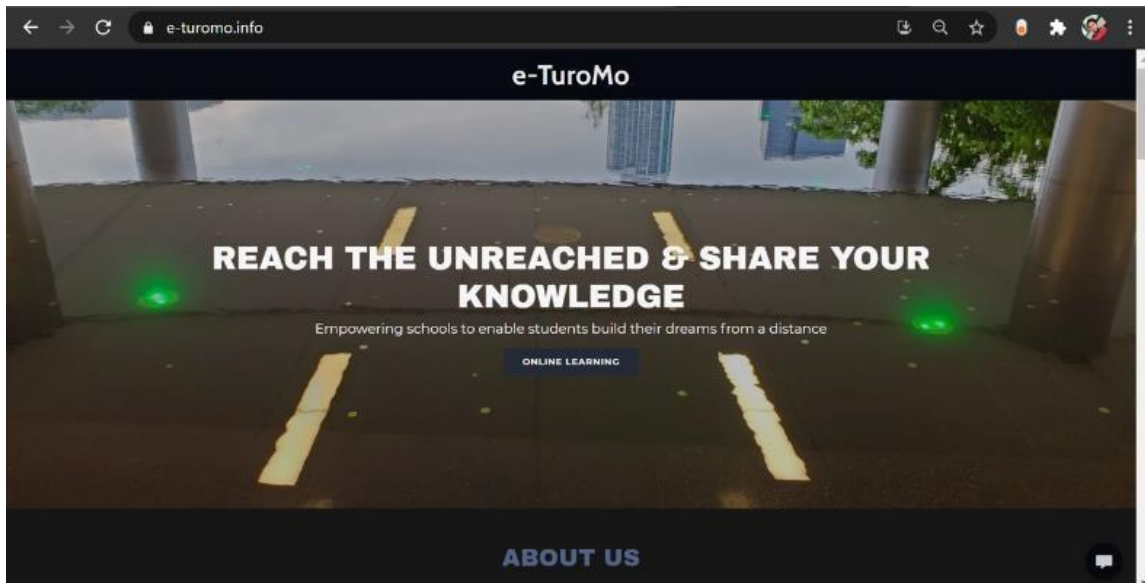
Figure 1. e-TuroMo Page

The website e-TuroMo was created to disseminate information about the project. This page contains information about the project, the services offered, links to the virtual classroom and Facebook page, and scheduled webinars and events. Interested educators/schools can pick their desired webinar schedule and register for the event. This page was forwarded to friends and former students of the authors who are employed as teachers and officials in the target schools via Facebook Messenger. Figure 1 shows the e-TuroMo page accessible on the website address www.e-turomo.info.

Specific services offered were (1) training of teachers, (2) a Teacher/Course Creator account in the e-TuroMo Moodle site, (3) consultation on topics about online course design, delivery, and assessment, and (4) technical assistance in the setup and establishment of Moodle LMS. These were rolled out virtually to the respondents from June to September 2020.

There were five (5) webinars included in the e-TuroMo project. This is shown in Table 1, together with the corresponding description and number of times conducted. Gegenfurtner and Ebner (2019, p. 2) defined a webinar as: "a seminar that happens online over the Internet rather than offline in a traditional classroom." Each webinar had a duration of 4 hours, inclusive of lectures and hands-on exercises. Webinars were done via Google Meet. Participants were limited to a maximum of 15

for each webinar. For the webinars Moodling with Moodle Parts 1 and 2, participants were given a free Teacher/Course Creator account in the e-TuroMo Moodle LMS established for this project. Participants used their accounts to create the initial online course they would deliver at the opening of classes. The webinars conducted align with the practical training offered by Almusharraf and Khahro (2021). Resource speakers for the webinars were the authors and two invited experts in e-learning.

Correspondingly, knowledge of the social presence theory has influenced this undertaking. As defined by Rourke et al. (2007, p. 50), social presence deals with "the ability of the learners to project themselves socially and affectively into a community of inquiry." It is believed that when learners can freely voice their concerns and interact with the teacher and co-learners, the learning process will be more meaningful and effective. Thus, the goal of this project in teaching the teachers is to establish a positive social presence in an Internet-mediated environment.

Table 1. e-TuroMo Webinars

Title	Description	Number of Times conducted
Moodling with Moodle – Part 1	Topics under this webinar include Moodle basic concepts, navigation, adding activities/resources, creating quizzes/examinations, adding and enrolling users	4
Moodling with Moodle – Part 2	Topics included in this webinar are using variousMoodle plugins, badges, gradebook, configuring settings of assignments, forums, and quizzes	2
Moodling with Moodle – Part 3	Topics include server security tips, configuring enrolment, email messaging, file management, and log reports	1
Enhancing Students' Online Learning Experience through Interactive Presentations	Topics include creating interactive PowerPoint presentations, using Kahoot!, Quizizz, and H5P	1
Developing Alternative/Flexible Assessments usingTech Tools	Topics include alternative assessment strategies, pros and cons of alternative strategies, objective and assessment alignment, rubrics, and some tech tools used in the assessment	1

Meanwhile, foreign studies about teacher training and universities' responses to the COVID-19 pandemic reported by Donitsa-Schmidt and Ramot (2020), Osman (2020), and Reyes, Talbot, and Quezada-Parker (2020) serve as worthy references for the project. These are further augmented with insights from Hsu and Wang (2008) and Zoumenou et al. (2015) that stipulated significant ideas in the conduct of webinars and Perifanou, Economides and Tzafilkou (2021) that enumerated numerous digital tools that teachers can use. Moreover, the practical guide to evaluating community projects by Taylor et al. (2005) serves as a relevant resource.

To sum up, this paper aims to assess the experiences of the project's beneficiaries as teachers.

Methods

The study utilized the qualitative research design to explore and analyze the experiences of the participants of the study.

Table 2 shows the distribution of respondents who availed the e-TuroMo services. A total of 51 respondents from eight schools were recorded for this study. The schools are located in Batangas, Tanauan, and Mandaluyong. Forty-three out of 51 respondents are basic and higher education teachers, while the remaining eight are school officials. Two schools availed of technical assistance in establishing their Learning Management System. To uphold confidentiality, the authors did not mention any name of the school in this paper. All services listed were delivered remotely using Internet-mediated communication.

Taylor et al. (2005, p. 2) noted that: "evaluation can help you to learn from your experience." Recognizing this statement, the authors evaluated the project to determine how it helps schools and teachers. In doing this, initial course pages created by the respondents in the e-TuroMo Moodle LMS were accessed and described. An open-ended questionnaire was used as the main instrument for gathering data for this study.

Table 2. Distribution of the Respondents that availed of the e-TuroMo services

e-TuroMo Services	No. of Respondents/ Schools* that availed of theservices	Percentage
Webinars		
Moodling with Moodle – Part 1	51	100.00
Moodling with Moodle – Part 2	30	58.82
Moodling with Moodle – Part 3	15	29.41
Enhancing Students' Online Learning Experience through Interactive	15	29.41
Presentations using Tech Tools	15	29.41
Developing Alternative/Flexible Assessments		
Teacher/Course Creator Account	51	100.00
Consultation	10	19.61
Technical Assistance	2*	--

The questionnaire contents were the product of readings from several literature related to the study and refined by the authors. Two experts in education checked the questionnaire to ensure its validity. Clear instructions and informed consent procedures were incorporated to protect participants' rights and ensure ethical conduct throughout data collection.

The preliminary questions in the questionnaire dealt with the respondent's name of school/employer, position/designation, and age. Specific questions asked were: (1) What do you like most about the services you availed of and why?; (2) What do you like least about the services you availed of and why?; (3) What problems/challenges did you encounter during the webinar and/or other services of the e-TuroMo project?; (4) Did you apply what you learned in the webinar and/or the services you availed of in your actual teaching job? If the answer is yes, please provide specific details. If the answer is No, please provide the reason/s; (5) How beneficial was the e-TuroMo project to you and your school? (6) Will you recommend this project to your colleagues?; and (7) Please share any other thoughts, feelings, experiences, or suggestions for improvement about the e-TuroMo project. The questionnaire was encoded using Google Forms, and the link was shared with the respondents. A follow-up interview via phone was conducted with some respondents to fully ascertain their answers to the questionnaire.

Result and Discussion
Initial Courses Created by the Respondents

There are 51 initial online courses classified as basic education and tertiary courses created by the respondents. Some of these courses are Fundamentals of Programming, Mathematics in the Modern World, English 6, and Technology and Livelihood Education, to name a few. The created courses are the output of the webinars conducted, and the respondents are now using some of them in their actual online classes. Table 3 shows the specific online courses created by the respondents.

In their courses, respondents include resources in the forms of books, files, and Uniform Resource Locator (URL) as well as activities in the forms of assignments, quizzes, and forums with varying frequencies. These types of resources and activities in Moodle can also be seen in the work of Badia, Martin and Gomez (2019). This shows that the respondents have learned what is taught in the webinars. Since not all teachers from a specific school attended the webinars, respondents are advised to share their knowledge with their colleagues. Figure 2 shows screenshots of sample online courses created by the respondents.

Table 3. Online Courses Created by the Respondents

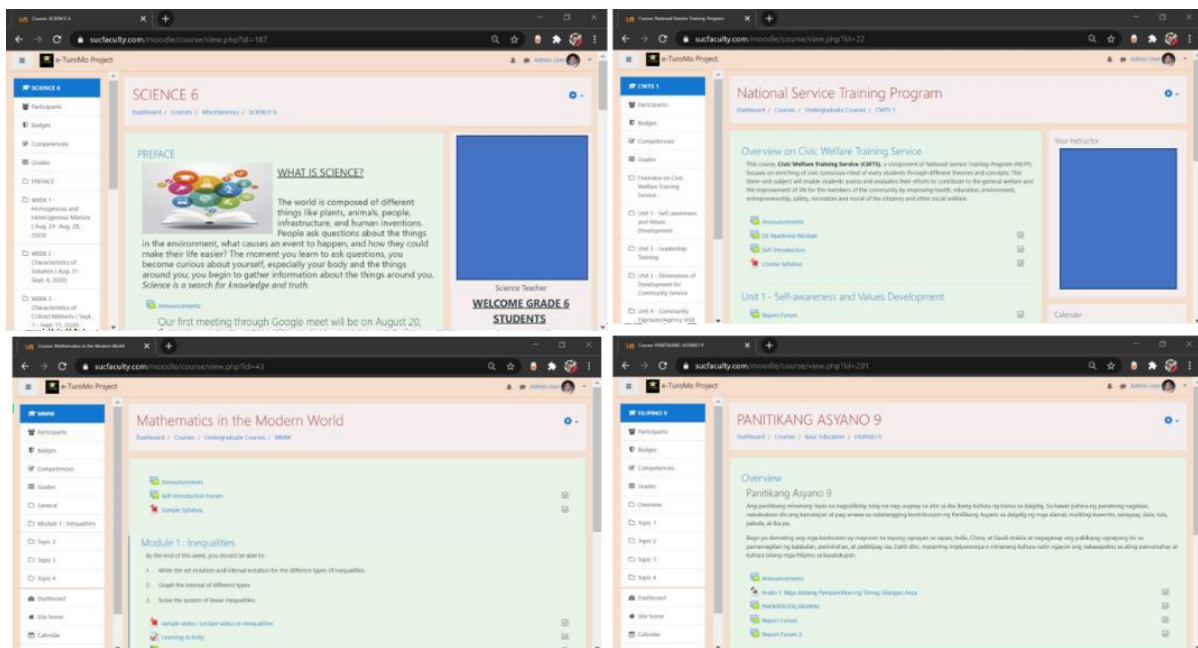| Level of courses	Name of courses
Basic Education (36)	Computer Systems Servicing*, Web Development, Cookery, Geometry, Information & Communication Technology, General Science, General Chemistry, Media & Information Literacy, Edukasyon sa Pagpapakatao, Computer Programming, Application of Media in the 21st Century, General Biology, MotherTongue*, Integrated Language Arts, Filipino 7, English 2, English6, English 10, English 9, MAPEH 7, Mathematics 9, Araling Panlipunan 8, Technology and Livelihood Education 8 and 10, MAPEH 10, Araling Panlipunan, Science 6, Science 7, Science 9, English 7, English 8, Mathematics 7, Mathematics 4, Grammar 101
College (15)	Intermediate Programming, Mathematics in the Modern World, Principles of Communication Systems, Structural Design 1, Environmental Science and Engineering, Engineering Management, Mechanics of Materials, Differential Calculus, Theory of Architecture 1, Electronics Circuits Analysis and Design, Web Systems and Technologies, Electromagnetics, Signal Processing and Fundamentals, Architectural Visual Communication 2, Electrical Machines 1, National Service Training Program, Design Project 2

Figure 2. Sample online courses created by Respondents

Perceptions of the Respondents on the e-TuroMo Services

The first question prompt asked to the respondents is: what do you like most about the services you availed of and why?

Most respondents cited specific learnings relevant to their jobs as teachers. They focused their responses on the webinars they had attended. Their answers exhibited high satisfaction with the webinars. Hence, the steps in conducting webinars enumerated by Semingson (2020) that this paper followed have been instrumental in this event.

Meanwhile, respondents tried their free Teacher/Course Creator account on the e-TuroMo Moodle site to practice their learning.

As they did this, they found Moodle LMS easy to use and valuable, similar to previous works by Chua and Archog (2018) and Theohari (2019). Some of the actual responses are presented below.

"What I liked the most was the webinar on creating lessons, activities, and quizzes. This is very useful to me as a teacher in designing my online course. I also like the part in the webinar in which a teacher can see students' progress through visuals and analytics."

"The new knowledge and understanding regarding this platform are instrumental in delivering my lessons and instructions."

"I had learned several ways to create assessments creatively and to interact with my students using the platform."

"Moodle is new to me, and I felt excited as I navigated it."

"I like the app/online platform itself because of its friendly features."

"I like most the webinar entitled 'Developing Alternative/Flexible Assessments using Tech Tools.' This allows us to facilitate a secure online examination by restricting students' access to other materials while the examination is ongoing. Through this webinar, we were taught how to mitigate the problem of cheating."

"Developing alternative or flexible assessments using Tech Tools is the webinar I like the most. Given that it enhances my technical skills, it also broadens my understanding of using different Tech Tools that can be utilized in assessing students' performance."

"I like the webinar entitled Enhancing Online Interactive Presentations Using Tech Tools because the lectures and demonstrations are beneficial in our day-to-day activity as a teacher."

Several respondents highlighted the project's free services, which appeal to all teachers and school officials.

"I like all the services, from the webinars to the Moodle account, consultation, and technical assistance, because they are all free. A perfect project in this challenging time."

"I appreciate the quick response of the proponents of the project in addressing the immediate need of educators during this pandemic when I availed the e-TuroMo Project services. The free webinar provides comprehensive discussion and hands-on activities, especially for participants with no Moodle accounts/subscription."

"We have received technical assistance from creating and setting up our VLE, up to the web training, and continuous tech support. Without e-TuroMo, we would have spent so much for our online LMS."

"Through e-TuroMo, we could avail ourselves of free training and gain knowledge and skills on Moodle site administration that we can adopt once we establish our own LMS."

Three respondents applauded the way the webinars/services are delivered. The adapted best practices for conducting a webinar, as cited by Zoumenou et al. (2015), contribute to the project's success.

"I like the way the resource speaker delivered the webinar. He's very patient with us, especially in the hands-on part of the webinar."

"I admire how the webinars are organized from the speaker to the agenda topics."

"I like the consultation session they gave our school, particularly the technical assistance and support via Messenger even after office hours."

On the second question prompt, what do you like least about the services you availed of and why? Forty-nine respondents answered *"None."* This shows that the majority of the respondents are content with all the services offered by the project.

On the other hand, two respondents made remarks as shown.

> *"The third part of the Moodling with Moodle. This is for techy guys."*
>
> *"During the hands-on session, I noticed that we can't upload a file of more than 5MB."*

The first remark came from an elementary teacher who was not well-versed in using educational software and tools. She is right. The third part of the Moodle webinar may not apply to a classroom teacher. The webinar is designed for those who will be in charge of the administration, management, and control of the school's Moodle LMS.

For the second remark, respondents are advised in the webinar to upload their files larger than 5 MB to a cloud storage solution provider such as Google Drive or Dropbox. Only the URL link pointing to the course materials/resources should be put on their course site. Chua and Archog (2018) also used this strategy in the testing phase of their virtual classroom to save storage space.

For the third question prompt, what problems/challenges did you encounter during the webinar and/or other services of the e-TuroMo project? Two respondents complained about the unstable internet connection they experienced during the webinar session. Hsu and Wang (2008), Chavez (2021) and Komolafe et al. (2022) also listed this kind of problem in conducting webinars and online learning. This may be caused by insufficient internet bandwidth, which is regarded as one of the barriers to using ICT (Singhavi & Basargekar, 2019).

> *"There were times that I was disconnected in the Google Meeting. I don't know if it was the speaker's Internet connection or mine."*
>
> *"Most of the time, it is the intermittent connection which is also a problem (somehow) of other participants."*

Overall Perception of the Respondents on the e-TuroMo Project

In the same way, the authors assessed how beneficial the e-TuroMo project was using the preceding question prompts.

Did you apply what you learned in the webinar and/or the services you availed of in your actual teaching job? If the answer is yes, please provide specific details. If the answer is No, please provide the reason/s.

Forty-eight respondents answered that they had applied the learnings/services they obtained from the e-TuroMo project. This is clear evidence that the project is appropriate and valuable. Below are some remarks made by the respondents.

> *"Yes, all the techniques and strategies in creating and developing our courses in the Moodle LMS are applied and are very useful."*
>
> *"Yes. I have already applied what I learned from the webinars I attended. I am currently utilizing the platform for my classes."*

The project advocates the "train the trainer" concept. It is good to know that the respondent shares the knowledge with colleagues and students, as seen in the comment below.

> *"Yes. I became part of our department's technical support group that assists faculty members and students using Moodle. I was able to extend help and share what I have learned from the e-TuroMo Project's webinar."*

One respondent shows a continued interest in the Moodle platform, as seen in his remark below.

> *"I could apply everything taught during web training, like course creation, posting of activities, quizzes, etc. Although I haven't gone much deeper in site administration, I'd like to explore this area."*

On the contrary, three respondents revealed that the learning they got was not applied due to the circumstances of the learners. It is implied that their learners face a similar situation in the study of Reyes, Talbot and Quezada-Parker (2020), in which laptops and internet connections are lacking. Likewise, Prasojo et al. (2019) highlighted that unstable

electricity, lack of Information Communication Technology (ICT) infrastructures, and cost need to be addressed by school stakeholders when implementing this kind of endeavor. Meanwhile, Lizares (2018) discovered that the Philippines has a high cost but slow internet connection compared to Asia-Pacific countries. These all contribute to the problem of access to online learning.

"I couldn't use this platform because of the type of learners we have. Aside from using modules, the messenger is also our easiest means of giving instructions to our learners because it's more accessible for them."

"No, because we pursued modular distance learning."

"No. It is not applicable in our place and learners. Not all students can access this education platform because of lack of gadgets, specifically smartphones, laptops, and tablets, as well as the high price of internet connection."

In addition, one respondent expressed contentment with the webinars even though his school utilizes a different LMS. This is because the e-TuroMo webinars are designed to provide not only specific skills in using Moodle but also useful generic concepts in delivering online instructions.

"Although we are using Google Classroom as LMS, the webinars given by e-TuroMo are still applicable. I'm using the Stream section of Google Classroom as a counterpart of the discussion forum in Moodle. Plus, the webinars on enhancing presentations and alternative assessments are useful in conducting my online classes."

For the fifth question prompt, how beneficial was the e-TuroMo project to you and your school? Respondents agreed that the e-TuroMo project is beneficial to them as educators. Some responses are given below.

"It's beneficial and timely because of the current situation brought about by the pandemic."

"It is very helpful, especially to the current situation that we have now."

"I believe that it has been one of the solutions to address the current situation of the education system in our country. As we shifted to online distance learning, the e-TuroMo project supports teachers and administrators in providing quality education through e-learning. Ultimately, the services offered were helpful to an instructor like me."

Similarly, some respondents expressed appreciative remarks about the project. They stressed that it is timely, significant, and useful. Moreover, it helped them make a decision regarding the selection of their school LMS. Below are some specific statements from the respondents.

"e-TuroMo definitely paved the way for our school to cope with one of the major challenges in delivering education to our students in this time of the pandemic - through their web training and continuous technical assistance."

"The e-TuroMo project was very beneficial to me and to our school. We are now using Moodle as our school's LMS. The webinars provided by the project helped a lot."

"The project is beneficial. Because of this project, we have tried the Moodle LMS platform for free. Moodle features are convincing. Thus, we have decided to adopt this LMS in our school operation. Thanks for the technical assistance."

"It is beneficial, especially during the planning of our LMS and implementation of flexible learning. It will remain to be the foundation and ground of the development and establishment of our university LMS along with its administration."

Even respondents from schools that are not yet implementing online learning expressed favorable views on the project.

"If we are allowed to use it in our school, it will benefit the teachers and students because of its features and accessibility."

"The e-TuroMo project has helped a lot because when the time comes to use online platforms in our school, it will be easy for me to do it with what I have learned from the e-TuroMo project."

As for the sixth question prompt, will you recommend this project to your colleagues? All respondents are willing to recommend the e-TuroMo project to their friends and colleagues. The effectiveness of the instructor (Blau et al., 2017) and administrative services (Martínez-Argüelles & Batalla-Busquets, 2016) are pointed out to be the key indicators in the willingness of students to recommend an online course they have taken. The webinars can be treated as an online course in which the mentioned indicators are integrated. That is why positive responses came from the respondents, which show that the project is effective and highly valued.

In the last question prompt, please share any other thoughts, feelings, experiences, or suggestions for improvement regarding the e-TuroMo project. Respondents' remarks expressed deep appreciation for the project and its organizers.

"Overall, this project is excellent and very helpful. Thank you so much."

"I'm happy and thankful for the new knowledge and skills I've gained from the webinar."

"e-TuroMo is very helpful. We owe a lot to the organizers, from providing consultation and training to our faculty members, including extended assistance at night."

"I feel grateful to have experienced the training provided by the e-TuroMo Project." "A one-of-a-kind experience. Thank you for this opportunity."

"I'm grateful that I attended this webinar. Congratulations to the organizers!"

Likewise, two respondents commended specific components of the project.

"It taught me the basics of Moodle."
"The free account is awesome. I hope it will last forever."

Moreover, several respondents recognized and admired the proponents' efforts behind the project in this challenging time.

"Thank you so much to all kind-hearted educators who created the e-TuroMo Project. You are one of the few groups immediately responding to the need to assist the teachers and schools by providing free training and technical assistance related to online learning. May you continue to grow and improve the project regarding the services provided and the number of people served. God bless you all."

"This project is great. It helps us to reach out to our students even though we are experiencing a pandemic."

"This is very helpful, especially during this pandemic."

On the other hand, some respondents provided suggestions for improving the project, as seen below. These suggestions have all been considered and recommended for future projects along this line.

"May I suggest increasing the number of participants per training, going live or broadcasting it, if possible, via Facebook or YouTube to reach a large number of participants? Thumbs up to the authors of this project."

"Increase the ability to upload larger files so that no file conversion should be done." "Please provide interactive videos for the tutorial on the different features of the Moodle platform."

Conclusion

This paper presents the e-TuroMo project, its background, components, services offered, and perceived value to schools and teachers. Well-designed webinars, personalized Moodle LMS, consultation, and technical assistance are needed to create a successful virtual community service project to help schools in this tough

pandemic time. Respondents have made positive remarks and expressed appreciation for the project. Schools have acknowledged that the project is relevant and beneficial to moving from face-to-face classes to online teaching.

Several specific insights are highlighted in this paper. Firstly, the use of software, namely, Linux Ubuntu, Moodle, and Google Meet, has significantly reduced costs for this project and the schools that decided to do the same. Secondly, structuring the webinars by integrating the best practices in the mentioned studies fosters meaningful learning for the respondents. Thirdly, in a virtual community service project like this, a stable internet connection is a must for both the proponents and beneficiaries. Neglecting this may hamper the continuous transfer of learning, which may result in the disorientation of the participants toward the project. Fourthly, creating instructional videos uploaded to YouTube or Facebook may save time on the part of the speaker, particularly in answering repeated questions from the participants of the webinar. Lastly, limiting the upload size of the LMS may create confusion for users. Thus, it is crucial to guide the users in real time and give them handouts while doing their hands-on exercises.

Schools are also advised to invest adequately in ICT infrastructure as one of the basic requirements for online teaching. Funds for this can be sourced through their local government, private entities, philanthropists, and successful alumni. Periodic retooling of teachers on topics like emerging technologies in teaching, alternative delivery modes, learning analytics, gamification, and the like is also recommended.

It should be noted that the e-TuroMo project does not address disadvantaged learners. Supporting them will require massive funds since electronic gadgets like laptops, tablets, mobile phones, and internet connection will be provided. Partnerships with organizations capable of such undertakings are needed for future projects in line with online teaching and learning. A good practice can be seen in Indonesia, wherein institutions of higher learning give monthly internet data packages to support students online learning from home (Budiman, 2020).

The virtual community service project described in this paper may serve as a model and inspiration for groups of individuals and other organizations interested in this topic. This paper depicts how ordinary citizens can utilize their expertise in online learning and personal resources to benefit the education sector. It is hoped that when schools and teachers receive support for this project, they will become better at providing our learners with continuous access to education amid the COVID-19 pandemic.

References

Almusharraf, N. M., & Khahro, S. H. (2021). Students' Satisfaction with Online Learning Experiences During the COVID-19 Pandemic. International Journal of Emerging Technologies in Learning, 15(21), 246-267. https://www.online-journals.org/index.php/i-jet/article/view/15647

Badia, A., Martín, D., & Gómez, M. (2019). Teachers' perceptions of the use of Moodle activities and their learning impact in secondary education. Technology, Knowledge and Learning, 24(3), 483-499.

Béché, E. (2020). Cameroonian responses to COVID-19 in the education sector: exposing an inadequate education system. International Review of Education, 66(5), 755–775. https://doi.org/10.1007/s11159-020-09870- x

Blau, G., Drennan, R. B., Karnik, S. & Kapanjie, D. (2017). Do technological and course-related variables impact undergraduates' perceived favorability and willingness to recommend online/hybrid business courses? Decision Sciences Journal of Innovative Education, 15(4), 349–369. https://doi.org/10.1111/dsji.12139

Budiman, E. (2020). Mobile Data Usage on Online Learning during COVID-19 Pandemic in Higher Education. International Journal of Interactive Mobile Technologies, 14(19), 4–17. https://www.online-journals.org/index.php/i-jim/article/view/17499

Chua, C., & Archog, J. (2018). Assessing Air Force officers' satisfaction on the use of

SOC Virtual Classroom: input to professional military education e-learning design and implementation. Electronic Journal of e-Learning, 16(2), 134-147.

Commission on Higher Education. (2020 September 02). CHED Memorandum Order Number 4 series of 2020 – Guidelines on the Implementation of Flexible Learning. https://ched.gov.ph/wp-content/uploads/CMO-No.-4-s.-2020-Guidelines-on-the-Implementation-of-Flexible-Learning.pdf

Department of Education. (2020, June 19). DepEd Order Number 12 – Adoption of the Basic Education Learning Continuity Plan for School Year 2020-2021 in light of the COVID-19 Public Health Emergency. https://www.deped.gov.ph/wp-content/uploads/2020/06/DO_s2020_012.pdf

Donitsa-Schmidt, S., & Ramot, R. (2020). Opportunities and challenges: Teacher education in Israel in the Covid-19 pandemic. Journal of Education for Teaching, 46(4),586-595.

Fragulis, G. F., Papatsimouli, M., Lazaridis, L., & Skordas, I. A. (2021). An online dynamic examination system (ODES) based on open-source software tools. Software Impacts, 7(100046). https://doi.org/10.1016/j.simpa.2020.100046

Gegenfurtner, A., & Ebner, C. (2019). Webinars in higher education and professional training: a meta-analysis and systematic review of randomized controlled trials. Educational Research Review, 28(100293).

Hameed, A., Fakhir, S., & Ahmed, S. (2022). Implementation Plan and Solutions to the Challenges Faced by Medical Faculty During COVID-19 Pandemic: Transition to the New Normal. Pakistan Armed Forces Medical Journal, 72(4), 1278.

Hsu, H., & Wang, S. (2008). The use of webinar tool (Elluminate) to support training: the effects of webinar-learning implementation from student trainers' perspective. Journal of Interactive Online Learning, 7(3) 175–194.

https://doi.org/10.1080/02607476.2020.1799708

Komolafe, A., Ijarotimi, O., Adetutu, O., Okunola, O., Ojo, T., Oyinlola, F., Olorunmoteni, O., Olodu, M., Agunbiade, O., & Otuyemi, O. (2022). Acceptability, appropriateness, and feasibility of webinar in strengthening research capacity in COVID-19 era in Nigeria. The Nigerian Postgraduate Medical Journal, 29(4), 288-295. https://doi.org/10.4103/npmj.npmj_167_22

Kusbeyzi, I., Hacinliyan, A., & Aybar, O. O. (2011). Open-source software in teaching mathematics. Procedia-Social and Behavioral Sciences, 15, 769-771.

Lizares, R. M. (2018). Assessment of the conduct, structure, and performance of the Philippine telecommunications industry. Philippine Management Review, 25.

Martínez-Argüelles, M. & Batalla-Busquets, J. (2016). Perceived service quality and student loyalty in an online university. International Review of Research in Open and Distributed Learning, 17(4).

Namestovski, Ž., Takács, M., & Arsović, B. (2012). Supporting traditional educational process with e-learning tools. Proceedings of the IEEE 10th Jubilee International Symposium on Intelligent Systems and Informatics, 461-464. https://doi.org/10.1109/SISY.2012.6339565

Osman, M. E. (2020). Global impact of COVID-19 on education systems: the emergency remote teaching at Sultan Qaboos University. Journal of Education for Teaching, 46(4), 463–471. https://doi.org/10.1080/02607476.2020.1802583

Pearce, J. M. (2020). Economic savings for scientific free and open-source technology: A review. HardwareX, 8(e00139).

Perifanou, M., Economides, A., & Tzafilkou, K. (2021). Teachers' Digital Skills Readiness During COVID-19 Pandemic," International Journal of Emerging Technologies in Learning, 16(8), 238-251. https://www.online-journals.org/index.php/i-jet/article/view/21011

Poserne, O. V. (2009). Comparing the webservers of the open source and the closed source operation systems. Proceedings of the 5th International Symposium on Applied Computational Intelligence and Informatics, 169-172. https://doi.org/10.1109/SACI.2009.513 6235

Prasojo, L. D., Mukminin, A., Habibi, A., Hendra, R., & Iqroni, D. (2019). Building quality education through integrating ICT in schools: teachers' attitudes, perception, and barriers: acces la success. Calitatea, 20(172), 45-50.

Presidential Communications Operations Office. (2020 March 08). Proclamation No. 922 – Declaring a State of Public Health Emergency Throughout the Philippines. https://www.officialgazette.gov.ph/downloads/2020/03mar/20200308- PROC-922-RRD.pdf

Reyes, L.Q., Talbot, C., & Quezada-Parker, K. (2020). From bricks and mortar to remote teaching: a teacher education program's response to COVID-19. Journal of Education for Teaching, 46(4), 472-483. https://doi.org/10.1080/02607476.202 0.1801330

Rourke, L., Anderson, T., Garrison, D. R., & Archer, W. (1999). Assessing social presence in asynchronous text-based computer conferencing. International Journal of E-Learning & Distance Education, 14(2), 50–71.

Scull, J., Phillips, M., Sharma, U., & Garnier, K. (2020). Innovations in teacher education at the time of COVID19: an Australian perspective. Journal of Education for Teaching, 46(4), 497–506. https://doi.org/10.1080/02607476.202 0.1802701

Semingson, P. (2020). Bridging distance: fostering digital community and student voice in real-time synchronous learning. The Journal of Faculty Development, 34(3), 121-127.

Singhavi, C., & Basargekar, P. (2019). Barriers perceived by teachers for use of Information and Communication Technology (ICT) in the classroom in Maharashtra, India. International Journal of Education and Development using Information and Communication Technology, 15(2), 62-78.

Taylor, M., Purdue, D., Wilson, M., & Wilde, P. (2005). Evaluating community projects: a practical guide. York: Joseph Rowntree Foundation.

Theohari, E. (2019). Analyzing the efficacy of Moodle towards in-service EFL teachers' development: the case of the HOU. Research Papers in Language Teaching and Learning, 10(1), 265–286.

Zoumenou, V., Sigman-Grant, M., Coleman, G., Malekian, F., Zee, Julia, M. K., Fountain, B. J., & Marsh, A. (2015). Identifying best practices for an interactive webinar. Journal of Family and Consumer Sciences, 107(2), 62–69.