

Educating Educators on Substance Use: Insights from the Blended Approach

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ABSTRACT: The school-based drug prevention training program under study is about the combined use of an online learning format and a traditional face-to-face session. This study aims to identify the factors that facilitated or impeded the successful implementation of a hybrid learning approach. Twelve faculty and staff members at a university completed the e-course, which was designed to last 10 weeks and was delivered via the HeK platform. The in-person class, on the other hand, was designed and implemented by the master trainers. Results show a significant, moderate increase in participants' scores from the pretest to the post-test. The data from the FGDs highlighted the advantages and limitations of the online course combined with a face-to-face session.

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1 INTRODUCTION

The acceleration of the adoption of online learning during the pandemic has given prevention training providers an opportunity to explore, expand, and enhance their repertoire. Online learning became a necessity for continued service and an important deterrent to the ever-difficult problem of drug abuse worldwide. As training programs shifted to an online avenue, there were many adjustments that had to be implemented, and evaluating the programs in an online context became essential.

The Colombo Plan, through the Drug Advisory Programme (2021), was among the early institutions that extensively adopted the online approach with mixed modalities for imparting basic knowledge and evidence-based drug interventions. Prior to the pandemic, it developed several tracks and serial modules, known as the Universal Treatment Curriculum and the Universal Prevention Curriculum on Substance Use Disorder. As a result, it was able to roll out this e-training to many practitioners and professionals around the world, including the Philippines. The training module implemented in this study adopted the Colombo Plan's UPC (Universal Prevention Curriculum), which covered both in-person and online learning materials for school-based faculty and administrative staff.

Review of literature

The question of whether an online training program is a viable method in continuing education has been addressed by numerous recent studies (Gegenfurtner et al., 2020; Hosseini et al., 2021; John et al., 2020). Though participant satisfaction still leans towards face-to-face or in-person training programs, the levels are arguably close (Ebner & Gegenfurtner, 2019; Gegenfurtner et al., 2020; Yo et al., 2021). In addition, the study by Combs et al. (2021) suggests that participants may experience a dip in the quality of delivery in online training compared with face-to-face training. Several studies support the notion that modeling, practice, role-playing, and immediate performance feedback in a safe and supportive training environment enhance the effectiveness of training programs (Durlak & DuPre, 2008; Fixsen et al., 2009; Sterling-Turner et al., 2001). Unfortunately, these methods are very difficult to implement in online programs while still retaining the distinct advantages of face-to-face training. There are merits to the online modality, though. The study of Melgar et al. (2022) suggests that trainees appreciate the flexibility given by online learning and the personalization of the learning process. Aside from flexibility, online training also offers easy access to vast amounts of information through the Internet and may offer an economic advantage, since travel is no longer required (Champion et al., 2013; McKinney, 2017; Sen et al., 2020).

The implementation of prevention programs for school-based professionals offers a direct and impactful way to reach youth from practical and developmental standpoints (Wagner et al., 2004; Fishbein & Sloboda, 2023). According to Fishbein and Sloboda (2023), prevention is a socialization process that operates at the macro- and micro-level systems of society. At the microsystems, parents and teachers are essential socialization

agents who could be trained by prevention professionals. Since most youths spend most of their days at school, teachers and school staff are in an environment that would allow them to apply preventive measures for substance abuse or directly intervene if needed. Hence, making sure that prevention training programs are effective and impactful for school-based professionals could translate to better outcomes for the youth that they interact with at school. The study of Becker et al. (2014) suggests that providing evidence-based prevention training for teachers through online and in-person coaching, in other words, a blended approach, can be as effective as an in-person workshop.

Several studies have been cited (Rallis & Rossman, 2003) for using a mixed-methods approach to evaluate an innovative program as early as two decades ago. The two ways of doing mixed methods inquiry may be conducted from either a pragmatic or a dialectical position (Green, 2022; Rocco et al., 2003). The pragmatic position calls for a method that best meets the practical demands of an inquiry and its research question. The dialectical approach, on the other hand, articulates philosophical assumptions in data collection and interpretation. The use of quantitative and/or qualitative approaches in evaluation was emphasized to be useful in adult education and training (Ansari et al., 2023; Merriam & Simpson, 2003; Sui & Yang, 2023; Yo et al., 2021). It has been observed that many researchers now use a pragmatic approach, or whatever is appropriate for their studies, rather than relying on a single method (Morse, 2003).

By combining two very different modalities, a blended or in-person modality offers access to the strengths of online and face-to-face training, i.e., a flexible, engaging, and self-paced method of presenting knowledge and an opportunity to put that knowledge and those skills in practice (Griffin et al., 2022).

Be that as it may, there is no clear formula or combination yet that can be considered the best practice for blended learning. With the broader aim of contributing to the body of knowledge that will inform best practices, the purpose of the present study is to examine the training experiences of school-based participants transitioning from in-person training to a blended or hybrid format.

2 METHODS

Research Design

The research design used in this study is a mixed-methods design, in which a quantitative measure of knowledge was administered before and after a blended course, and focus group discussions were conducted to evaluate participants' overall learning experience. The combination of different research strategies aims to broaden the dimension of research and obtain a more complete picture of human behavior and experience (Morse, 2003). The introduction of different strategies in mixed methods design, such as a qualitative FGD, can collect data that would not otherwise be obtainable by using quantitative measures alone. Rallis and Rossman (2003) also stated that, historically, mixed methods have been used to evaluate interventions and answer formative, process, descriptive, and

implementation questions. It is more pragmatic in its approach because it addresses multiple, diverse questions that cross paradigmatic boundaries.

Method of Delivery

The prevention course adopted the online Universal Prevention Curriculum Core Course for Practitioners (UPC-P) (<https://colombo-plan.org/dap-courses/>) with the permission and support of the Colombo Plan Drug Advisory Programme. The Modular Object-Oriented Dynamic Learning Environment (Moodle) was used through the Heal the Knowledge (HeK) learning system.

The course under evaluation utilized a blended learning strategy (also known as hybrid learning), in which in-person teaching is combined with online activities. Blended learning is a hybrid form of learning that employs mixed-mode or technology-mediated instruction (<https://www.learnworlds.com/blog/elearning/blended-learning/>).

The distinct parts of the blended approach adopted by this study comprise synchronous live plenary sessions and an asynchronous set of individualized online activities. In addition to the orientation and guidelines, more than five synchronous plenary sessions (180 minutes per session) and an additional day of in-person lectures and exercises were held. The in-person synchronous plenary sessions combined the co-facilitator's real-time online presentation with the lead instructor's in-person facilitation.

On the other hand, the course was structured so that participants could work independently through asynchronous sessions and complete the modules via the HeK site. They could view recorded lecture videos, study additional materials, and complete assignments. However, due to some technical difficulties, the use of the HeK was put on hold. Consequently, Google Classroom, a learning management system, was used by participants to study the training materials and complete assignments, and additional in-person meetings were held to replace the recorded lectures at the HeK. The resource team was composed of two UPC Global Master Trainers and a Technical Support Officer from the Philippines.

Course Content

The course is primarily designed for professionals in school, work, and community settings to provide knowledge, skills, and basic competencies in substance use prevention. The Core Course comprises 10 modules covering key areas of prevention science and its practical application. It begins with an introductory module outlining course objectives (Module 1), followed by foundational topics in psychoactive substance pharmacology (Module 2) and core themes of the Universal Prevention Curriculum (Module 3). Modules 4 and 5 establish the theoretical framework by exploring the definitions, principles, and leading theories of evidence-based (EB) prevention interventions. Module 6 details the derivation of EB standards using the UNODC International Standards on Drug Use Prevention. The

practical competencies are addressed in Modules 7, 8, and 9, which focus on the implementation cycle, professional skills, and ethical guidelines. Finally, Module 10 serves as a capstone, guiding learners to integrate their knowledge into real-world practice and design long-term professional development plans.

The Quantitative Method

Participants

A total of 17 participants from the host university were enrolled in the course. The participants were recruited through the endorsement of the Vice President for Higher Education and an invitation to the heads of offices and units to nominate participants. The expected 30 slots were not filled due to conflicts with summer classes and other career obligations among target participants. Of the 17 registered participants, 5 were unable to complete the course due to personal reasons and competing responsibilities. In the final sample of 12 participants, ages ranged from 20 to 49 years, of whom 8 were female. Three were faculty members, while the rest were administrative and counseling staff.

Instruments

The pre-test questionnaire consisted of 30 four-point Likert-scale items on the course content across the ten modules. The same set of questions was asked in the post-test questionnaire.

The five items in the satisfaction survey were related to the instructor's competence, accessibility, and facilitation skills.

Both instruments were pre-developed by the authors of the course modules.

The Qualitative Method

Participants

Four faculty participants participated in the first FGD, while three academic staff members participated in the second FGD. The participants were recruited through an invitation. The criteria for participation are that the participant should have completed all learning modules and should have answered both the pre-test and post-test questionnaires. They signed a consent form before the FGD began.

Instrument

The FGD guide questions developed by the researchers revolved around five questions: (1) A background about the self, (2) course content, (3) learning experiences with the HeK platform, (4) learning experiences with the in-person classes, and (5) recommendations. The discussion was mainly guided by the principles for conducting an FGD, as outlined by Creswell and Creswell (2023). The discussion was conducted in English and Filipino and lasted approximately 60 minutes.

Procedures

Two FGDs were conducted on separate dates following the completion of the course. The first group was labeled Group A, and the second Group B. Participants from Group A were thus coded as A1, A2, etc., and those from Group B as B1, B2, etc.

The discussion was conducted via Zoom and facilitated by the lead investigator of this study. The session was recorded with the permission of the discussants. Two graduate students in Psychology transcribed the recorded discussion and assisted in developing a code book. The coding procedures followed the steps outlined in a manual by Saldana (2021).

3 RESULTS

Quantitative results

The 30-item pre- and post-tests were administered and scored. In general, pretest scores were lower, ranging from 13 to 22, compared to posttest scores, which ranged from 20 to 24. The pretest mean score is 17.92, while the posttest mean score is 21.67.

A non-parametric test was used to test the difference between the pre and post-test measures in a single group (Salman, 2024). There was an increase in participants' scores from the pretest ($M = 17.92$, $SD = 2.69$) to the post-test ($M = 21.67$, $SD = 1.43$). The mean increase in the scores is 3.75. A Wilcoxon signed-rank test was recommended for small sample sizes ($n=12$) where the assumptions are less stringent (Gravetter et al., 2021; Pallant, 2007). The Wilcoxon signed-rank test indicated a significant difference between the pretest and posttest scores, $z = -2.71$, $p = .007$.

The course satisfaction results showed that the participants were highly satisfied with the course ($M = 3.64$, $SD = 0.21$) and the instructor ($M = 3.95$, $SD = 0.04$). The average rating score per item ranged from 3 to 3.83 for the first part (course) and from 3.92 to 4 for the second part (instructor). The highest score per item is 4.0. The item that had the highest average score was *The course assignments supported independent learning* ($M = 3.83$). As far as instruction is concerned, the items that had the highest average scores were *My instructor answered my questions in a timely manner* ($M = 4$) and *My instructor provided clear answers to my questions* ($M = 4$).

Qualitative results

Two FGDs were conducted. The first FGD was conducted with school staff participants, and the other with faculty members. The analyses of the transcripts were combined because the interview questions followed the same structure. The questions were framed to inquire about the school-based participants' experiences of transitioning to a blended method. All quotes presented in Table 1 were translated into English. Four major themes emerged from the group discussion, namely the contextualization of video lectures, the time frame of video lectures, the HeK platform, and the blended learning method.

The FGD results focused on the advantages and limitations of the virtual modules and the plenary synchronous class meetings (see Table 1). The value of individual pacing in asynchronous learning was received positively. Primarily, videos could be reviewed multiple times. It also affords the participant the flex-

ibility to speed up the videos. One participant appreciated the HeK platform for the push notifications that were sent whenever personal thoughts were shared. The captions or subtitles also helped speed up the module. The duality of visual and auditory functions on the platform enhanced the learning experience.

However, the participants felt that recorded lectures should use more locally relevant and relatable examples to deepen understanding of substance prevention theories and concepts. The content, as they claimed, should be more contextualized to local situations to keep the passive listener more engaged. It appears that the key ingredient in virtual learning is establishing connections between concepts and real examples on the ground.

Another major challenge expressed by participants is sustaining their attention, as lengthy video lectures were seen as time-consuming. Some video lectures lasted for around 22 minutes. It was suggested that time spent watching videos could be made more efficient by providing lecture summaries supported by research-based materials. The participants reported having multiple activities at school and at home, all competing for their time. Fast-forwarding the recorded videos or taking the cue from the subtitles were the resulting viewing behaviors. Another difficulty mentioned was that some exercises were not considerate of the time required to complete them.

The role of a blended method, which combines in-person sessions with the online modules, was highly appreciated. The physical presence of the instructor and co-participants helped in creating a learning environment that felt real and exciting. It compensated for the coldness and loneliness of the virtual learning experience. It brings to life the participants' insights and learning as a group. Additional input from the instructor also helped a lot in improving understanding of some of the more difficult concepts.

Table 1 | Themes: Qualitative evaluation of blended learning approach

Superordinate Themes	Subordinate Themes	Quotes
Contextualization of course lecture videos	Need for relatable content and examples with a Filipino connection	<i>"I think it's really the content that is not contextualized. That's what I was saying earlier that it's too conceptual... and it does not give enough examples that we can relate to." (A4)</i> <i>"I was thinking that if the lecturer in the video is Filipino, they can also give examples that are contextualized to the participants themselves. So I think that would be more efficient you know, merging the two: having a Filipino lecturer and at the same time they have concrete examples [in our context]." (A3)</i>
	Lecturer speaks too slow	<i>"My problem with the Filipina, I think, I assume the woman is Filipina, is that she speaks slow. You know, Doc, the effect on me, to be honest with you, I get irritated when she's just the one talking. To the point that I don't listen to her, I fast-forward the video." (B1)</i>
Time Frame of Video Lectures	Challenged to sustain attention throughout lengthy video lectures	<i>"Actually, this is where I realized that this is how our students probably feel when we give long videos. I tend to zone out in the middle of the video." (A4)</i>
	Participants sped up long video lectures due to time constraints with work and challenges in time management	<i>"But I'm also thankful for the summary. I think that is what I rely on for most of the modules... I become restless when I am just watching videos... I think the videos were too long." (A4)</i>
	Sped up videos required more effort to focus and process the content	<i>"So what I do, I fast forward it sometimes. It's just that if you fast-forward it, you need to have full attention. Because if not, you won't get it because he/she speaks fast. When it is weak, it's okay even though you are in chat with someone along the way, this is allowed. What's also good about the video is when you hear and read it, for me I'm able to remember more because I'm able to read what the speaker is saying there in the video." (B2)</i>
In-person meetings	Online lectures are made clearer through face-to-face meetings	<i>"But when (course instructor) scheduled a face-to-face class or discussion, it made me understand what the video lectures meant." (A2)</i>
	Face-to-face meetings have an environment conducive to camaraderie and enjoyable learning	<i>"[We] had very light interactions. One thing that helped is that we know each other already and then another factor is that we are from the same age group, our ages are not so far from one another. So we understand each other during discussions." (A4)</i>
	Close monitoring of facilitators	<i>"Very important as well for the facilitators to play a factor. I think (course instructor) and (technical support staff), were really doing a great job giving us those. It was also important that they were prompting us, reminding us, they don't leave us especially when there are deadlines, there are schedules. I think that's one thing that really reinforced the facilitators' side so at least there is assistance." (B3)</i>

4 DISCUSSION

This study proposed evaluating the transition to delivering a substance use prevention program designed as an online asynchronous module, while accommodating limited time for synchronous sessions. Substance use prevention professionals benefited greatly from the program developers' efforts to address the challenges of the traditional face-to-face approach during the pandemic by developing an individually paced online learning method.

The use of the blended method led us to important realizations about its practical application to a cohort of educators. First, this special group brings with them experience where they were exposed to both synchronous and asynchronous methods

characteristic of the blended approach during the pandemic. Through the blended approach, the online learning technology gave them the opportunity for independent, self-paced learning not offered by a traditional lecture approach. The more traditional in-person approach to teaching this small group of academic staff and teachers helps participants be more cognitively and physically present (Garrison & Vaughan, 2008) while facing familiar faces in a less intimidating, safer atmosphere. In general, with some adjustments, recent studies support these observations by reporting very positive outcomes and potential advantages in blending the in-classroom structure with a technology-based learning approach, both in student education and professional development (Bhadri & Patil, 2022; Rietig, 2023; Singh et al., 2021).

The platform introduced participants to a learning method that perfectly fit their learning style and employment situation, but the perceived quality of the content and presentation was not adequate to fully engage them on a topic of national relevance. In response to issues such as substance abuse, instructors and developers need to understand technological developments and advances (Ansari et al., 2023) to teach this course. Also, we learned from this research that there is an apparent need to integrate the strengths of in-person and online teaching to achieve a significant or transformative learning experience (Garrison & Vaughan, 2008; Green, 2022).

The subject area of substance use is a topic that hardly enters the conversation in this academic community in spite of the perception that the drug problem is a potential threat to student's well-being. There was a general perception that content delivered through the platform was found to be too theoretical and needed more locally grounded principles or localized examples. We found similar observations from previous webinars with international participants working in government and NGO institutions (Melgar et al., 2022). There is always a challenge in achieving e-learning outcomes that closely match the learning process in a live classroom environment (Anderson, 2008; Combs et al., 2021). On the other hand, Garrison and Vaughan (2008) strongly opined that a blended approach should be given a chance to be reexamined and redesigned to meet the ideal goals of a meaningful learning experience that encourages dialogue, reflection, or debate. The insights we gained from this study firmly support this view. We are facing the challenge of a blended or mixed-methods strategy amid a growing and ever-present digital and AI environment, to which potential learners are frequently exposed.

In an academic setting, the results of the study uniquely call for a more advanced treatment of the subject matter because the basic principles were familiar and easy to learn. This implies that some principles need not be lectured on at length. Amidst this circumstance, the role of the in-person approach is critical in complementing a standardized internet-based material. In this regard, the instructor elevates the discussion of a topic to a higher cognitive level.

The in-person aspect of the blended approach gave participants a more in-depth appreciation of the substance use problem, firstly through the deeper explanations provided by a highly competent instructor, and secondly, through providing time for discussing local issues directly related to substance use. The interaction among learners and instructors, question and answer, and real-time discussion are some of the advantages of an in-person classroom, which covers the weaknesses of an electronic delivery system (Griffin et al., 2022).

Previous studies have shown that online courses demand higher self-discipline and adaptation among learners (Gelles et al., 2020; Gorbunovs et al., 2016). Ironically, for a flexible and individually paced course, time was identified as a barrier. A flexible virtual format has to compete with school activities, class schedules, household chores, rain and floods, emails, social networking, text messaging, and YouTube. The in-person classroom, by contrast, structures the learning session, in which the

physical presence of participants is expected and required at an appointed time and day. Time and attention could be controlled. Flexibility is markedly reduced, but performance is maximized.

5 CONCLUSIONS

The landscape of learning has evolved significantly, prompting trainers to adapt flexibly to technology and adjust the traditional delivery of learning content and processes. The blended learning method challenges us to marry the advantages of the online course on the HeK platform with the traditional in-person classroom approach. While technology is not perfect at the time of the study, it can soon evolve from occupying a secondary role to a co-leading role in a classroom. At present, the rationale for using the online course and in-person plenary sessions depends on the environmental circumstances surrounding the participants and the learning culture in a university.

The essentials of teaching through either method must be kept in mind (Garrison & Vaughan, 2008). These include presence through close monitoring and mentoring of facilitators; contextualized content; efficient use of time; and productive interaction among participants.

There are specific recommendations on the next steps as framed by the findings of this evaluative and formative research and the experiences of international experts. An evidence-based approach on how program developers and instructors should combine these methods for effective teaching is recommended (Singh et al., 2021). A need to further refine the blended program by engaging in ACAD or Activity-Centered Analysis Design (Green, 2022), a detailed SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, or a fishbone analysis (Singh et al., 2021) are some recommendations that stakeholders and course developers should follow through.

Ethics approval and consent to participate

Formal ethics approval was not required for this study because this special workshop for faculty and staff was treated like any new academic course whereby no ethical clearance is required in order for it to be conducted for as long as this is approved by the school administration. The formal approval and endorsement by the Administration of this activity implicitly means that the workshop curriculum is aligned with the goals and mission of the university. Evaluation of such activity is embedded in the curriculum.

Invitations to prospective participants stipulates the nature of commitment and course-related responsibilities of participants. A walk-through orientation was held for all the participants who decided to join voluntarily.

This determination was made by the faculty and research investigator whose previous studies with similar objectives and methodology were published by the Adiktologie journal.

Informed consent

Written informed consent was obtained from all participants prior to participation. They were oriented on the content, process and assessment procedures of the workshop. Participants taking part in the focus groups also consented to audio recording and to the use of anonymized quotations for research and publication purposes.

Consent for publication

A consent for publication was obtained from Colombo Plan Drug Advisory Program through the Program Manager. A copy of the manuscript was sent to the latter.

Data availability

Data are available from the corresponding author upon reasonable request and where relevant, subject to ethical, legal, confidentiality, or data-protection restrictions.

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Competing interests

The authors declare that they have no competing interests.

Authors' contributions

Melgar: Conceptualization, Methodology, Writing original draft, Supervision
 Agbayani: Data Curation, Writing—Review & Editing
 Usman- Co-writing original draft, Data Analysis
 D. Rabajante- Methodology, Editing, Project administration, Funding acquisition
 R. Rabajante- Project administration
 Nufable: Data curation, Review of Literature
 All authors reviewed and approved the final version of the manuscript.

Declaration of generative AI and AI-assisted technologies

Generative AI or AI-assisted technologies were not used in the preparation of the manuscript.

Trial, study, or review registration

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