

Effectiveness of Online Colloquia in Improving the Research Dissemination Skills of Graduate Students

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Article Info:

Received: 30 Dec 2022; Revised: 15 Feb 2023; Accepted: 13 Mar 2023; Available Online: 15 Mar 2023

Abstract

One of the significant problems in academe is the under-preparedness of graduate students for academic research dissemination. Hence, online research colloquia were designed, implemented, and evaluated along with their effectiveness in improving the research dissemination skills of graduate students. Action research was adopted for this study. A needs analysis was conducted through an online survey, revealing that most trainees are not yet thoroughly knowledgeable about the research process and dissemination strategies and techniques. To effect the necessary change, online colloquia functioning as an intervention strategy were implemented, involving 21 graduate student participants from a professional doctorate programme at a state university in the Philippines. This intervention took place in the form of 12-hour online colloquia that ran for four consecutive Saturdays. The intervention resulted in opportunities to learn new approaches in research conceptualisation and dissemination, allowed participants to collaborate with mentors in diversifying research dissemination strategies, and served as a springboard for the university's graduate school to adopt this innovative intervention as a regular and annual event. Online colloquia proved to be a necessary intervention that enabled students to incorporate research dissemination as an essential step in the research process. Hence, virtual online learning events as well as oral colloquia may be tapped to continuously provide better research knowledge and skills to graduate research students.

Keywords: *action research, graduate students, online colloquia, research dissemination, research publication, online learning*

1. Introduction

The lack of research dissemination skills among graduate students has led to many contemplations and institutional self-reflection on the scholarly competence, training needs, and innovative programmes for graduate students on research dissemination (Trainor & Graue, 2014; Song et al., 2010). In the Philippines, the Commission on Higher Education (CHED) even issued a memorandum encouraging the country's public and private schools to train graduate students to become equipped in various research dissemination activities (Commission on Higher Education, 2019). However, such policy has not been imposed as a requirement across the country as master's and doctoral students can still graduate despite lacking research dissemination outputs. Research dissemination remains a discretionary requirement and, as practised, is interpreted as an oral defence of findings involving thesis panel members and doctoral candidates. Hence, there is a need to problematise graduate students' knowledge, attitudes, and skills about research dissemination as an essential part of the research process.

Policies, standards, and guidelines for higher education institutions at various state-run and private institutions have led to many wake-up calls across state and private universities and colleges to include research

dissemination courses in bachelor's, master's, and doctoral programmes. In this context, Washington State University provides opportunities for research dissemination through publications and presentations. Likewise, travel awards are provided for conference presentations beyond the university. In the case of the University of the Philippines Diliman, a Research Dissemination Office has been enabled to help the university publish research output, incentivize publication, and promote research dissemination (Office of the Vice Chancellor for Research and Development, 2022). Likewise, Sorsogon State University, alongside other state colleges and universities in the country, include research publication and presentation as graduation requirements at its graduate school. However, the overall dissemination and utilisation of research are still beset with issues in leadership, management, access to dissemination tools, research resources, and researcher motivation (Clores, 2021, pp. 330). Hence, colleges and universities are encouraged to explore various dissertation formats to improve the dissemination of research outputs (Smaldone et al., 2019).

Research dissemination is not a new concept among higher education institutions (Brownson et al., 2023). Past findings have shown that dissemination has been part of the effective communication of research outputs and utilisation in the Philippines (Fetalver, 2010). Indeed, practice-based or action research dissemination is integral to the action research process. Likewise, other practitioners and scholars can benefit from action research by disseminating innovations, lessons learnt, and empirical research (Henriksen & Mishra, 2019). The significance of action research, aside from the traditional research impact typically yielded at the end of a project, is embedded in the participatory nature of action research, the collaborative roles of researchers, informants, and users, and its collective impact (Banks et al., 2017). The research dissemination process enables researchers to critique, strengthen, and expand arguments of frameworks and theories, thereby strengthening the academic fields.

2. Literature Review

Research dissemination is both a process and an output aimed at facilitating research uptake for the benefit of the intended beneficiary, which is accomplished through traditional and innovative academic publishing and conferences (Labor, 2021; Ross-Hellauer et al., 2020; Wilson et al., 2010). The research dissemination process is compounded by challenges brought about by technological innovations to the researcher in promoting and disseminating research (Cunningham-Erves et al., 2020). Moreover, according to Gastel and Day (2016), determining where to submit manuscripts for publication may be decided by access, prestige, impact factor, frequency of publication, and likelihood of acceptance. Regarding paper presentations, abstracts describing the most vital research often lead to oral presentations, while abstracts representing good work of lower priority as deemed through peer review often lead to poster presentations. Eventually, the platforms and strategies for research dissemination are decided by the capacity of the researchers to meet the standards for publishable papers and intended outcomes.

There are different types and platforms for research dissemination (Ashcraft et al., 2020). Cooper (2014) identified the types of research dissemination through face-to-face interaction and by engaging niched and general audiences in media outlets. Face-to-face disseminations include research colloquia and conference presentations (Labor, 2021). Dissemination happens through online technological platforms, social media, and other intermediary organisations (Niño-Sandoval et al., 2023). These forms include guesting in legacy and new media shows, podcasting, and vlogging (Roberts-Lewis et al., 2023). Publishing books, book chapters, policy briefs and papers, monographs, and journal articles are also forms of dissemination that academics can choose from, as these allow them to converse with colleagues and other experts. These types of publication come with their respective strengths and challenges, but all of them play essential roles in letting various kinds of audiences appreciate, learn, and use research outputs. Innovative research dissemination strategies of action researchers are used to advance knowledge, improve concrete situations, and expand behavioural science methodology (Sommer, 2009). Google Scholar (Zientek et al., 2018) and social media dissemination platforms (Cooper, 2014) are some of the online strategies that have improved the exposure of academic research. Given the value of these research dissemination platforms, it is crucial to investigate the nature of dissemination efforts and how these influence researchers, research participants, and other stakeholders. A look into the varied nature and characteristics of the dissemination forms may help improve the research dissemination skills of action researchers.

Further, the research colloquium as a platform for dissemination remains a relevant, effective, and efficient pedagogical academic strategy for improving research writing and presentation skills. It may also serve as a writing seminar designed to address the lack of research training and mentorship for many junior investigators (Balon et al., 2014) and present completed or shared ongoing research works (Graduate School of Technology and Management, 2014). The research conference is embedded in various programmes' undergraduate, master's, and doctoral courses. Students participate as delegates, poster presenters, or oral presenters of completed research (Douglas et al., 2018; Nolan & Rocco, 2009). In this study, online research colloquia were designed to allow graduate students to develop academic oral and writing skills in preparing research articles for presentation in international research forums or publication in international peer-refereed and indexed journals.

Research dissemination marks the completion of the research process. This is the stage at which the intended beneficiaries encounter and understand the contribution of the scientific paper, which may define the impact of the research. Research impact is defined as an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment, or quality of life, beyond academia (UK Research and Innovation, 2022). The University of York (2016) describes research impact in terms of its beneficial contribution to "health, prosperity, and well-being of people and society, culture, environment, and the economy." Likewise, the Economic and Social Research Council (2022) refers to impact as the demonstratable contribution that excellent research makes to academics, society, and the economy. These definitions provide the right direction for appropriate research dissemination to realise the greater purpose of any study in terms of its contribution outside of academia. In this context, the actual value of knowledge generated by research can only be determined through research dissemination.

The COVID-19 pandemic has provided higher education institutions the opportunity to reflect on their learning pedagogies. Some universities immediately transformed their residential learning spaces into online learning platforms. Dhawan (2020) defined online learning as "learning experiences in synchronous or asynchronous environments using different devices with Internet access" (p.7). Furthermore, the following platforms for online learning were identified: Google Hangouts, Skype, Adobe Connect, Microsoft Teams, and Zoom. Likewise, Francisco and Barcelona (2020) recommended Eliademy as a good web-based classroom for designing alternative learning tools for online classes, along with CourseSites, iTunes U, LatitudeLearning, Mycourse, Schoology, Atutor, Dokeos, and Moodle as alternative online learning tools. For ease of use, these online learning tools may be classified further as either open- or closed-source. Likewise, the "hyperflex" concept derived from hybrid classrooms for innovative teaching and learning is a feasible option for online learning. Technological platforms have been used to enable learning among students and teachers (Alcazaren, 2021), while extending relationships among sexual minorities beyond virtual classrooms too (Alcazaren & Labor, 2021).

Furthermore, bichronous online learning (Martin et al., 2020) has been recommended as a strategy for a contextualised online distance learning course (Digo, 2021b) by blending asynchronous and synchronous online learning. Furthermore, online courses may be classified as asynchronous, synchronous, Massive Open Online Course (MOOC), hybrid, blended, "hyflex" (a portmanteau of 'hybrid' and 'flexible'), and multimodal. Given the numerous platforms for online learning, the multimodal platform was adopted for the online research colloquia in this study by purposively blending Google Meet or Zoom platforms with Short Message Service (SMS), Messenger, Facebook, and others to accommodate the learners' familiarity, preference, and characteristics. In addition, the purposive blending of online platforms may allow for innovations necessary to address connectivity and other technical issues which may occur and must be addressed while on-board during the online colloquia. In the Philippines, to ensure that instruction and other teaching-learning activities could continue in higher education institutions during the COVID-19 pandemic, the CHED, through its Memorandum Order (CMO) No. 4, series of 2020, identified online learning as one of the three flexible learning and teaching modes.

Hence, this study aimed to describe the role of online research colloquia in improving graduate students' research dissemination skills at a state university in the Philippines' Bicol Region. Specifically, this paper attempted to describe doctoral students' research process knowledge and skills and research dissemination skills, as well as develop and implement the proposed intervention, and finally, describe its effectiveness post-implementation.

3. Research Method

3.1 Research Design

The action research approach as a spiral reflective process involving disciplined inquiry and discussion that allows people to solve specific problems collaboratively (Hairon, 2017; Stringer, 2007) was adopted for this study. The action research cycle described by Stringer (2007) involving the continually spiralling stages was adopted for this study (Figure 1). The stages comprise (1) looking: a gathering of data to describe the situation; (2) thinking: exploring, analysing, interpreting, and explaining; and (3) acting: planning, implementing, and evaluating sustainable solutions. Action research as a research method was also utilised by Nolan & Rocco (2019) to teach graduate students how to write for publication in refereed scholarly conferences and journals.

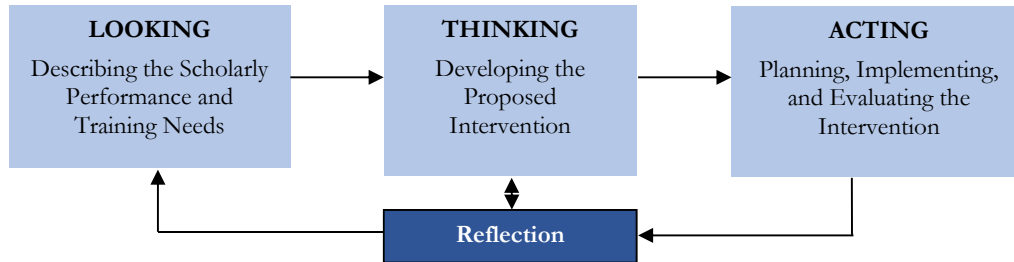


Figure 1. Conceptual Framework

3.2 Participants

A total of 35 graduate students at a state university in Sorsogon City, the Philippines, participated in the online survey to determine their research knowledge and practices and scholarly dissemination practices. However, of these, 21 participants attended the online research colloquia. These participants were selected based on the following criteria: they are bona fide students of the university's graduate school, they have Internet access, and are able to participate in the online colloquia through Zoom or Google Meet.

The participants' profiles are as follows: Gender (Male: 7, Female: 14); Institutional Affiliation (Department of Education (DepEd): 17, Technical Education and Skills Development Authority (TESDA): 1, State Universities and Colleges (SUC): 2, Philippine National Police (PNP): 1); and finally, Position (Teacher 1-3: 8, Master Teacher 1-4: 5, Head Teacher/TIC/School Head: 3, Instructor 1 to Assistant Professor 4: 2, Senior TESDA Specialist: 1, Chief Investigator: 1, and Volunteer Teacher: 1).

These students are at various stages of their graduate education. Two are working on their dissertations, four have just taken the comprehensive examination, while the remaining majority are taking regular academic courses. Likewise, eight graduate students participated in the interview. The participants were oriented and provided consent for their participation in this research. Informed consent was sought before the interviews were conducted.

3.3 Research Instruments

The online questionnaires were developed using Google Forms. The questionnaire for academic performance adapted the appropriate and relevant indicators from the works of Jungnickel and Creswell (1994). Two professors from a research university validated this questionnaire, and a dry run was conducted with five graduate students before the questionnaire was used for data gathering. Likewise, resource speakers also designed a survey form for the needs analysis. Finally, an evaluation form to evaluate the effectiveness of the webinars was adapted from the National Educators Academy of the Philippines (NEAP), of the DepEd.

3.4 Data Gathering Procedures

The planning stage was accomplished by conducting the needs analysis, which became one of the bases for the preparation of the project proposal that culminated with the signing of the memorandum of agreement with

linkages established for the project. Henceforth, 15 online training sessions on action research capacity building for the participants were implemented over three fiscal years from 2020 to 2022. The online training sessions were conducted by an extension worker, resource persons, and volunteers, and involved participation and evaluation from individuals from the education sector. The participants in the online capacity building volunteered to complete the online evaluation form provided via *Google Forms* after every training session. Likewise, documents shared by participants were evaluated to determine their research accomplishment. Selected participants who reported their research accomplishments to the extension worker were interviewed to obtain details of their accomplishment along with research presentations, publications, and awards received.

3.5 Data Analysis

Wherever appropriate, survey data for the quantitative analysis were analysed using averages and ranks. Furthermore, a thematic analysis of the participants’ reflection papers on their participation in the online research colloquia was performed to understand the depth of insights regarding the value and purpose of the online colloquia.

4. Findings and Discussion

4.1 Research Process Knowledge and Practices

The process knowledge and practices among the graduate students at the university were investigated in this study. The results of the training needs analysis shown in Table 1 revealed that the research areas needing improvement are: designing and conducting positivist, interpretivist, and mixed methods research; delivering oral and poster presentations; and writing publishable research articles. However, the graduate students are “very knowledgeable” about translating social issues to research needs, and are “somewhat knowledgeable” about other topics. These findings are a revelation since the graduate students have already completed their thesis for their respective master’s degrees. Even with a theoretical and practical background in research, without a thorough knowledge of research conceptualisation and design, we worry about the nature of these students’ research outputs. In general, these findings on the status of their research process and practices reveal their overall under-preparedness for academic research work, which is necessary to produce high-impact research that may define their expertise as practising professionals or researchers.

Table 1. Research Process Knowledge and Practices

Training Needs	Ave.	Rank	Interpretation
1. Identifying sources for research ideas and topics	1.9	4	Somewhat knowledgeable
2. Translating social issues to research needs	2.9	1	Very knowledgeable
3. Determining research topic relevance	2.0	2.5	Somewhat knowledgeable
4. Reviewing related literature	2.0	2.5	Somewhat knowledgeable
5. Conceptualising theory-based research	1.6	8.5	Somewhat knowledgeable
6. Writing research topics as problems and objectives	1.8	5.5	Somewhat knowledgeable
7. Evaluating valuable research problems	1.7	7	Somewhat knowledgeable
8. Designing and conducting positivist research	1.4	13.5	Not knowledgeable
9. Designing and conducting interpretivist research	1.5	10	Not knowledgeable
10. Designing and conducting mixed method research	1.4	13.5	Not knowledgeable
11. Interpreting research data	1.8	5.5	Somewhat knowledgeable
12. Writing a publishable article from existing research findings	1.6	8.5	Somewhat knowledgeable
13. Presenting a paper orally at a conference	1.5	10	Not knowledgeable
14. Designing a PowerPoint and poster presentation for a conference	1.5	10	Not knowledgeable
Average	1.8	-	Somewhat knowledgeable

The result shows that the participants have insufficient research knowledge and practices. Such a finding revealed that graduate students lack know-how and experience in research creation and dissemination. This is consistent with past studies that claim low acquisition of research skills (Wagbara, 2022). Proficiency in methodological research skill involves the ability to plan, develop the research design, and complete a research work including the analytical skill of using statistical tools for data analysis (Akuegwu & Nwi-ue, 2018).

Graduate students need to develop methodological and analytical research skills to improve their research dissemination skills. In addition, the result also agrees with findings from Agatep and Villalobos’ (2020) study, in which research capabilities in writing research proposals was identified as one of the areas for improvement among graduate students at a state university in Zambales, the Philippines. Data from their study indicate that the students are moderately or less capable in writing research proposals, conceptualising problems, and applying the American Psychological Association (APA) citation format. These training needs reflect current issues among graduate students, such as methodological issues, inadequacies, parochial focus, and failure to connect the literature reviews to international literature and research findings, which are the most common issues in manuscripts submitted for publication (Boote & Belle, 2005).

4.2. Scholarly Dissemination Practices

The study also investigated the current research dissemination practices of graduate students. Shown in Table 2, the survey results on the doctoral students’ academic performance revealed their preference for publishing research articles in non-refereed academic journals, as well as their inability to publish in refereed journals. The results also show that presentation of research and non-research papers at national meetings and research forums is the least preferred mode for scholarly dissemination of research and non-research reports. These findings align with the respondents’ profiles, which describe 56% as having no experience with oral and poster presentations, and 28% having research publications. Furthermore, these findings substantiate the findings that they are “not knowledgeable” about oral and poster presentations. Hence, they must improve their skills in research paper presentation and article publication.

Table 2 indicates that the respondents have limited to no experience in research dissemination. The informants express preference for publications in non-refereed journals and publication of non-research materials due to probable hesitation concerning review and scrutiny of their work. Although there is awareness of refereed conference presentation and journal publication at the national and international levels, the students have not attempted to pursue these tracks due to personal and professional reasons. During the colloquia, the informants revealed that they have not attempted submission to refereed conferences and publications because they fear that they might receive negative comments or be rejected from conference presentations and publications. This feeling of inadequacy may be one of the reasons why the Philippines is trailing among its Southeast Asian neighbours in terms of publications in tiered journals (Guido & Orleans, 2022).

Table 2. Research Dissemination Practices

Indicators	Ave.	Rank	Interpretation*
1. Presentation of research papers at national or international research forums	1.6	5.0	Does not fully meet expectations
2. Presentation of non-research papers at national or international research forums	1.7	3.5	Does not fully meet expectations
3. Publication of research articles in refereed journals	1.7	3.5	Does not fully meet expectations
4. Publication of research articles in non-refereed journals	2.5	1	Does not fully meet expectations
5. Publication of non-research articles	1.8	2	Does not fully meet expectations
Average	1.8	-	Does not fully meet expectations

Notes: * 1 – (0) Does not meet expectations at all; 2 – (1) Does not fully meet expectations; 3 – (2) Fully meets expectations; 4 – (3 and above) Exceeds expectations.

4.3. The Intervention: Online Research Colloquia

The online colloquia, designed to enhance research knowledge and dissemination practices, were used as an intervention to address the low level of research knowledge and dissemination skills among the students. The series of online research colloquia were implemented for four Saturdays from 12 March to 2 April 2022, constituting twelve (12) training hours. The series of online research colloquia were divided into two parts. The first comprised the “Webinar on Research Publication: In Pursuit of Publishable Research Articles” implemented on 12 and 19 March 2022. The Managing Editor of a WOS and Scopus indexed journal and Editor-In-Chief of refereed journal publications based at the University of the Philippines were invited to speak at the first set of colloquia. The second set comprised the “Webinar on Disseminating Research through Oral and Poster Presentations” implemented on 26 March and 2 April 2022, involving talks by a primary

education teacher from the DepEd Division of Quezon City who is also a multi-award-winning presenter in international research. In addition, the graduate students hosted and facilitated online platforms using Google Meet and Zoom. During the colloquia, a team of experts evaluated the intervention to generate feedback for the improvement of the programme. As online extension programmes, these online colloquia in the form of webinars were also implemented by the University of the Philippines during the pandemic, as described by Serrano et al. (2020). However, the purpose, design, and scope of this particular online intervention was focused on capacitating graduate students specifically in research dissemination.

From the results of the needs analysis, the programme leader, resource persons, and participants agreed to include in the programme the following topics: research conceptualisation and design, research oral and poster presentations, and research publication in indexed journals. For research conceptualisation, the online research colloquia included lessons on the nature of social science and education research, the types of research, and the need for theory in research. For research design, the resource persons discussed the nature and process of designing research, the types of methods and procedures in conducting research, especially during the COVID-19 pandemic, and the analytical approaches that come with the research designs. The resource person also addressed ethics in the conduct of research. Finally, the colloquia also served as a venue for the students to learn various forms of dissemination and the processes and procedures of publishing articles in indexed journals. The resource person challenged the participants to collaborate so they could publish their research in indexed journals in due course. The students were reminded that their university expects them to produce research outputs in the form of practice-based research papers for oral or poster presentations at a targeted international research forum and, if possible, research articles in refereed and indexed journals. Hence, they were motivated to host, attend, and complete the scheduled parts of their training.

4.4. Effectiveness of the Online Research Colloquia

The effectiveness of the intervention was evaluated and shown in Table 3. The survey results revealed that the students appraised the online research colloquia as “outstanding”. However, in the seven areas of evaluation, the delivery of content and provision of support materials received the lowest two average ratings because support materials were provided after the sessions. In addition, the students found research posters and oral presentations the most appealing. The results revealed that the participants gained new knowledge regarding the nature of social science and education research. The students claimed that the first session provided them with insights necessary for retooling. These findings are consistent with the effectiveness of the previously conducted capacity building for pedagogical action research, which is an extension programme of the university (Digo, 2021a). Further, the effectiveness of the online research colloquia may be attributed to the following impact on the participants along with the following findings as presented in their reflection papers:

- The challenge put forth was accepted. The students are now aiming to finish the course along with the dissemination of their research output. Likewise, they should publish their research works in indexed journals despite the limitations in conducting research due to the recent pandemic. As stated by R10: *“At first, I enrolled in the doctoral programme for promotional purposes only, but when I heard and learned from the resource speakers, I got inspired to publish and finish the course.”*
- Research voice was found. The students are willing to explore their research voice as qualitative action researchers. According to R9: *“I want to tell and write stories, and I am starting to find where I should focus my research skills development... qualitative action research.”*
- Possession of a positive attitude for research. The students have realised that they hold the right attitude towards being practice-based researchers. The comment from R3 may have summarised it best: *“The strongest point of this webinar is that it has helped us grow as action researchers.”*

Hence, there is perceived improvement in the students’ goals. The students realised they were in a graduate programme to earn points for promotion, complete and disseminate their action research, develop other research projects, and finish their programmes. Furthermore, the alignment of significant insights gained from the research colloquia, along with new policies, standards, and requirements for graduate education stipulated in CHED CMO No. 15, series of 2019 makes them competitive graduate students, given the unique demands brought about by the globalisation and internationalisation of higher education.

Table 3. Evaluation of the Online Research Colloquia

Topics	Areas of Evaluation							Average	Interpretation*
	1	2	3	4	5	6	7		
1. From conceptualisation to publication: From what-ifs to what is	4.93	4.97	5.00	5.00	4.99	4.80	4.97	4.95	Outstanding
2. Publishing research articles in indexed journals	4.94	4.95	5.00	4.98	5.00	4.90	4.98	4.96	Outstanding
3. Research oral presentation	4.93	4.90	4.94	4.95	4.92	4.71	4.95	4.90	Outstanding
4. Research poster presentation	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	Outstanding
Average	4.95	4.96	4.99	4.98	4.80	4.85	4.98	4.95	Outstanding

Note: *1 – Session, 2 – Facilitator, 3 – Programme Management, 4 – Attainment of Objectives, 5 – Delivery of Content, 6 – Provision of Support Materials, 7 – Programme Management Team

The use of online spaces to deliver learning has its advantages and disadvantages. On the one hand, online learning spaces are valuable because learners from various locations may be engaged in a shared online learning space in real-time. However, issues abound on the utility of Internet-based learning spaces. Weak and unstable Internet connectivity and unpredictable loss of power supply became significant threats to the online colloquia. One interviewee highlighted this when they remarked, “*as a student in a far-flung area, stable Internet connectivity was my main concern.*” (14). Likewise, “*unstable Internet connection and unscheduled power interruptions should be given emphasis...*” (11). Kamble et al. (2021) also found that “Internet connectivity, accessibility and comfort, the effectiveness of the online learning environment, course content, and interactions between students and instructors” are significant issues for online distance learning. The problems in using online spaces for this activity have been diffused by the ingenuity of the organisers and participants. A buddy system was introduced so that each organiser/facilitator is given a partner who can take over their role in cases of interruptions. Multiple hosts from different geographical sites were assigned during Zoom and Google Meet sessions so that the online platforms could remain uninterrupted even if one host or several hosts suffered power supply or Internet connection cut-offs. Furthermore, group chats established through various social media and communication tools like Facebook, Messenger, and SMS allowed the hosts and facilitators to share solutions to technical difficulties during online sessions. These were identified as good practices by the participants and thus replicated in their online classes. Furthermore, inclusive e-collaborations are opportunities for online learning. However, the lack of opportunity for synchronous workshops, presentations, and critiquing, lack of technical assistance, and participants’ low engagement exacerbated the challenges that they experienced. According to one interviewee, “*additional online sessions for writing (work)shop and presentation of outputs could be added...*” (13). Similarly, emphasising development of digital and technical skills may be necessary as learners engage collaboratively in online distance learning.

Relative to the desired outcome of the online research colloquia, very few participants submitted their action research papers in an international research forum for oral or poster presentations. The absence of completed academic writing and lack of financial support were the top two reasons given by the interviewees. Likewise, presenters with accepted research papers did not participate due to low self-confidence, short notice of acceptance before the payment deadline, and financial difficulties. Furthermore, no research article was submitted for research publication in any international peer-reviewed and indexed journal. One participant attributed these to a “*lack of confidence in the quality of our research work, and I think I need to learn more...*” (110). Likewise, “*many paperwork were given to teachers, and they do not have enough time to do and publish their research?*” (17). According to Leshchenko et al. (2020), the methodological system is most effective for developing research competence among doctoral and graduate students. The interviewees also revealed that they could not prepare research papers due to low self-confidence and work-related distractions resulting in lack of time for manuscript writing.

The new cycle of action research colloquia may provide a chance to address the opportunities for improvement presented by the participants. This may involve online or hybrid research colloquia that focus on research preparation, presentation, and publication rigors. More importantly, the linear approach may shift to a systems research transmission model to maximise research uptake and knowledge utilisation (OECD, 2022). Furthermore, this activity may be integrated as a training component in search of the best theses and dissertations in the graduate school, along with enhancing the graduate school’s research support to improve

graduate students' academic performance (Digo, 2022). For a better outcome and more compelling online research colloquium, a workshop-intensive activity will be conducted in collaboration with experts from several research universities in the Philippines who have successful track records in their respective action research projects. Likewise, to fulfil the need to address the graduate students' research dissemination skills, and as proof of concept of the effectiveness of the online research colloquia along with the intervention for the identified areas for improvement, they may be adopted as a regular annual activity at the university's school of graduate studies. Hence, it is essential for the graduate school management to review the curriculum along with the use of effective online distance learning modalities, and invest in relevant technologies for online distance learning courses to be able to fulfil their mission of providing quality online education to their graduate students.

5. Conclusion

Graduate students at a state university in Sorsogon City, the Philippines are under-prepared in their research process knowledge and skills. Specifically, there are inadequacies in their research dissemination skills in oral and poster presentations and article publication in refereed journals. Hence, a series of online research colloquia focusing on social science research methods, research publication, and oral and poster presentations were designed, implemented, and evaluated to enhance the students' research knowledge and dissemination practices. Based on the participants' evaluation, the online research colloquia proved to be an effective intervention. This study provides a glimpse into the current state of research knowledge and skills of graduate students. The current need to produce research and communicate findings must be emphasised, especially since graduate students are expected to provide theoretical and actual contributions in their respective fields. In doing so, their research work must be able to reach their peers and the general public. Virtual learning events through online colloquia may be tapped as a way to continuously provide better research knowledge and skills to graduate research students. Since most graduate students are not fully prepared to venture into dissemination because of the lack of understanding in the training needs assessment, educational institutions must ensure that learning spaces are maximised to help boost their confidence and skills in research. This study's results indicate a hopeful future for graduate students to participate in academic conferences and publish in peer-reviewed and indexed journals; an initiative that should be nourished by their educational institutions. Online spaces for learning have proven their role in connecting learners and teachers despite issues with Internet access in the Philippines. Higher educational institutions, the Philippine government, and private corporations must be able to provide meaningful solutions to the country's connectivity issue.

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