

Drop-Everything-And-Read-wRite-Research: Designing for Learning Presence in a Metaverse

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Abstract

This paper is a design case narrative seeking to capture, theorize and reflect on the process of redesigning a research course in which participants took part in a virtual research writing group or the Drop-Everything-And-Read-wRite-Research (D.E.A.R.) sessions within a metaverse and with learning presence in mind. Learning presence has been investigated through indications of self-regulation and co-regulation in the areas of forethought, planning and monitoring (Hayes et al., 2015). From the point of view of the co-faculty-in-charge-and-learning-designer, the design case narrative revealed a cyclical design thinking process for the course redesign process. It unfolded the D.E.A.R.'s ideation as a spin-off from the shared experiences of faculty members undertaking their dissertation writing during the pandemic, while its prototype was based on a synchronous writing group. Within a metaverse there are examples of learning presence worth sustaining to improve student research writing experiences. The paper recommends a case study to be undertaken in the future, to further investigate learning presence and its manifestations in research writing groups, capitalizing on the potential possibilities of the shared D.E.A.R. metaverse to harness learning alliance and community building among researchers in higher education. Further enhancements of the prototype are suggested to inform institutional support mechanisms for research student success. Methodologically, the design thinking cycle revealed a story pattern through which a design case narrative can be told as a form of scholarship of teaching and learning in the context of online education. The study likewise paves the way for further studies in support of a scholarship of online teaching and learning or SO²TL as research looking closely into instructional design models given that much of 'online teaching' happens through intentional design of learning content and the learning environment.

Keywords: metaverse, design thinking, community of inquiry, learning alliance, learning presence

Introduction

With the evolving landscape of education in open universities comes heightened

interest and research in the application of the metaverse for online teaching and learning and towards a model development for a formal course. On the other hand, attaining success in research writing expected of higher education researchers continues to be a challenge given external factors such as academic workload, the lack of institutional support and work life balance and internal factors, namely the actual demands of research writing itself. Studies have shown links between writing and self-regulating behaviors which to some extent determine concrete outputs.

This paper presents a design case narrative that seeks to examine and improve the delivery of a research course, for participants of a virtual research writing group, and through the construct of learning presence among participants of a virtual research writing group. While undertaking the development and delivery of a research course, research students were encouraged to join the virtual research writing group called Drop-Everything-And-Read-wRite-Research (D.E.A.R.). This group consisted of sessions held in a metaverse where their learning presence may be examined through indications of self-regulation and co-regulation in the areas of forethought, planning and monitoring (Hayes et al., 2015) and its manifestations grounded on the Community of Inquiry framework (CoI) for learning alliance and community building (Villanueva & Eacersall, 2024). This design case focuses on the instructional design process of an open university's education research course from the point of view of a faculty-in-charge and course manager who is also the course developer and learning designer (Aleta) working within a team consisting of: a) a content expert-course developer (partner-faculty-in-charge, Douglas), b) the metaverse custodian (John), and c) a fellow user of the virtual space, mainly a student and academic staff (Lexter). The instructional design utilized a cyclical design thinking process with D.E.A.R. to mainly address research writing targets and time-management concerns of teacher-researchers and academic staff. The online platforms and the metaverse of the open university served as virtual spaces for a shared online time to drop everything and write on research-related activities, whether a research project or individual thesis or research proposal writing.

The metaverse affords a user interaction through the use of digital avatars in a virtual space with a multidimensional feel, mirroring an existing physical space (Dionisio et al., 2013). As an emerging technology, the metaverse offers various opportunities, particularly in distance education and online collaboration (Ng, 2022). Onu et al. (2023) refer to a specific type of metaverse used in education as the "educational Metaverse." According to Kye et al. (2021), the educational Metaverse can enhance social communication, facilitate sharing and co-creation of content, and provide a highly immersive environment. This sense of spatial presence has been identified as a factor influencing individual interest (Mangubat et al., 2024). In addition, recent empirical studies indicate that immersion and avatar-based co-presence in the metaverse can heighten engagement, increase community feeling, and foster a sense of shared learning presence (Çelik & Baturay, 2024). This growing body of research clarifies how metaverse settings extend online learning beyond transactional exchanges of information into an embodied, relational, and persistent environment that can cultivate learning presence in meaningful ways.

While online writing groups have long relied on video conferencing and shared documents, research shows that these tools provide limited support for the kinds of social, cognitive, and teaching presences required for sustained engagement. Videoconferencing environments often increase cognitive load, restrict natural interaction cues, and can even induce fatigue due to constant gaze and self-monitoring (Bailenson, 2021). These constraints reduce learners' ability to maintain attention, collaborate fluidly, and remain psychologically present over extended periods. In contrast, the CoI framework emphasizes that meaningful online learning depends on the intentional design of environments that foster interaction, trust-building, and shared commitment (Fiock, 2020). Through the interaction of its key elements, namely teaching presence, social presence and cognitive presence (Villanueva et al., 2023), collaboration and learning community building among higher degree by research students are attainable (Villanueva & Eacersall, 2024).

This paper is based on a study examining learning presence, an element rooted in self-regulated learning and proposed for addition to the CoI (Shea et al., 2012). Learning presence was investigated in language learning courses among adult learners making use of videoconferencing tools in synchronous sessions (Villanueva, 2013) but resulted in a different set of themes from that of Shea and Bidjerano (2010). A recent study on immersive virtual reality by Dunmoye et al. (2025) indicated the need for future studies on LP "to delineate the specific conditions under which learning presence functions as a mediator or moderator" (p.7). This study intends to revisit learning presence and explore its possibilities in a metaverse setting among researchers in an open university to experience protected time for research writing in an alternate space amid the competing demands of a busy life among members of an academic community.

This article also foresees a concrete contribution to emerging practices in the Scholarship of Online Teaching and Learning or SO²TL given the context in which this study is situated, that is in an open university with years of experience in course design and delivery of open and distance elearning (ODEL) programs. Through the conduct of SO²TL, this study purposely discusses and reflects on the application of the metaverse as a viable option for open university students and academic staff to enhance their research-related learning and other educational experiences. In addition, this study creates pathways to research writing success among teacher-researchers and academic staff in DE programs as they realize that their sense of agency, self-directed skills and learning presence will help them take on challenges in the academic world.

The next sections expound on the main objective of this article and the corresponding research questions. A review of research on learning presence, self-regulation and co-regulation and student success in research writing follows which provide the basis for the instructional design of the D.E.A.R. Metaverse. This article highlights the preliminary phase of the study, the instructional design process which is grounded on a cyclical design thinking process befitting the context, and online course in which the D.E.A.R. was crafted and pilot tested.

Objectives of the Study

While a recent panel sharing in the World Immersive Learning Labs Symposium 2024 explored the use of metaverse for research mentoring among distance education students, this study purposely utilized the metaverse for research writing related activities, namely the D.E.A.R. as the online and synchronous research writing space which targets open university Philippine researchers from different backgrounds or roles and mainly with a shared goal of attaining personal and professional research writing goals. This article aims to describe, discuss and reflect on the why-what-how-so-what-and-what's-next for the D.E.A.R sessions and in accordance with the design thinking phases of Social Studies Education 290 (SSE 290), an education research course where the D.E.A.R. Metaverse was created, prototyped and tested through the collaboration of the design team. Therefore, the objectives of this paper are to: (1) narrate the design process of the metaverse; (2) identify the learning strategies, including user engagement, employed during the implementation; (3) document initial evidence of learning presence in the metaverse. In codifying and narrating the design process, this study aims to contribute a design case narrative that concretely uses a design thinking cycle as a learning design model for a course redesign.

The next section seeks to discuss theory, pedagogy and practice within higher education research and ODeL programs. The review essentially justifies the design of the D.E.A.R. Metaverse within the education research course undergoing course improvements and through the SO²TL as a process we can imbibe a research mindset for scholars in an open university.

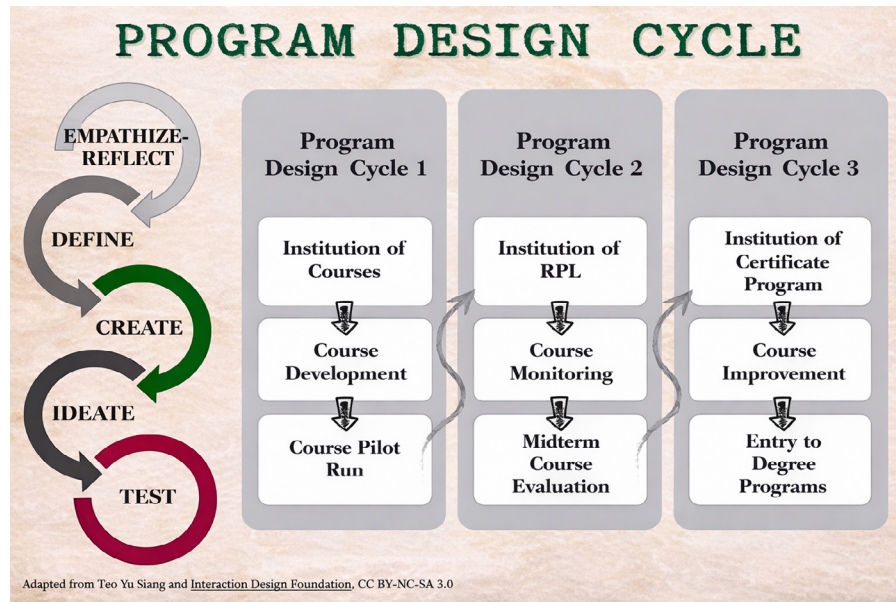
Review of Related Literature

Design Thinking in Educational Contexts

Design thinking has emerged as a significant approach in the education context, which offers a structured yet flexible process that supports creativity, collaboration, and learner-centered problem solving. Within higher education specifically, design thinking is positioned as a driver of instructional and organizational innovation, shaped by principles of empathy, collaboration, and iterative refinement, and influenced by institutional culture, leadership support, and user-centered design processes (Ajani & Rathilal, 2025). In an open university, for example, Villanueva (2024a, 2024c), noticed how faculty members have to be agile and adaptable to a diverse set of learners alongside technological innovations and changing learning environments. As such, models of design thinking were adapted to effectively redevelop and/or redesign continuing education courses and capacity-building initiatives for faculty professional development (see Figures 1A and 1B).

Figure 1A

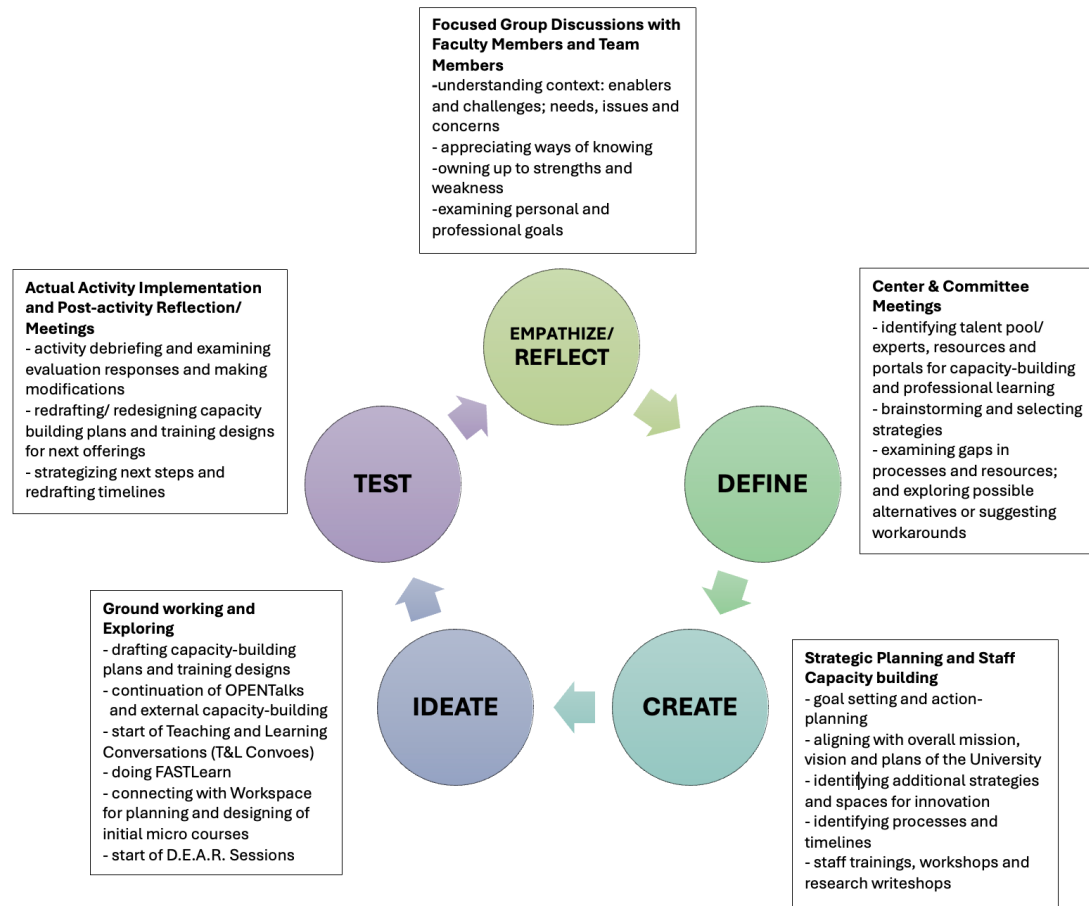
Adapting the Design Thinking Cycle for the Faculty of Education Continuing Education Program and Short Course Series



Note. With permission from J.A. Villanueva, 2023, Poster presentation, Higher Education Research and Development Society of Australasia (HERDSA) 2023 Annual Conference, Australia.

Figure 1B

The Design Thinking Cycle for the Planning and Pilot-run of Capacity-building Activities for Faculty Members at an Open University



Note. With permission from J.A. Villanueva, 2024b, Pecha Kucha presentation, Australasian Society for Computers in Learning in Tertiary Education (ASCILITE) 2024 Conference

The design thinking process involves phases that are consistently applicable to both cases as documented in the above figures. To reiterate, the five phases by Dam & Siang (2020) are:

Empathize: Research and understand the users' needs.

Define: Clearly articulate the users' needs and problems.

Ideate: Generate a range of ideas and potential solutions.

Prototype: Create tangible representations of ideas to explore solutions.

Test: Evaluate the prototypes with real users to gather feedback and refine solutions.

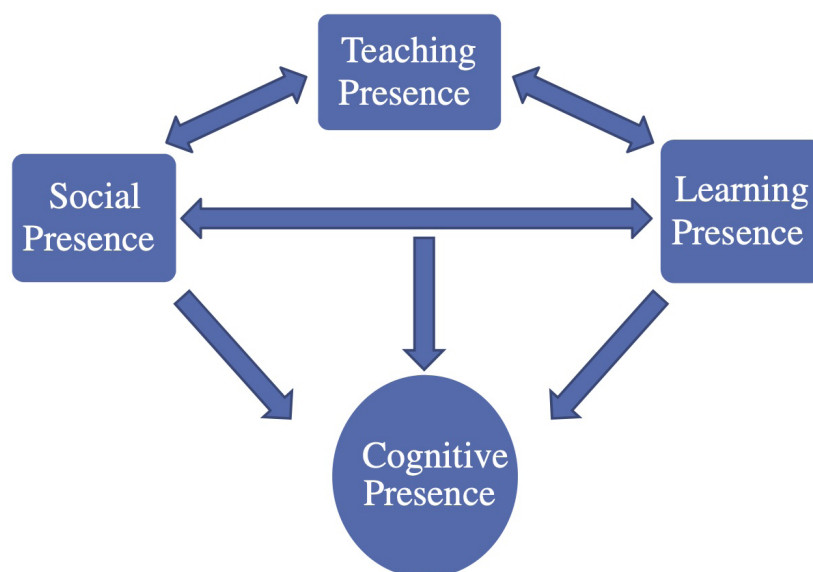
It is in this background that this study operated given that the institution of online programs and pilot testing of online professional development sit very well in this iterative process.

Learning Presence and the Role of Technology

Relationships and interactions among the elements of the COI, specifically cognitive presence, learning presence and social presence, in asynchronous learning platforms have been well documented in empirical studies within the past decades. However, recent research into elements of the COI framework for learning community building in synchronous and blended learning environments by Villanueva et al. (2024) mentioned prior research proposing other presences as an addition to the framework, namely autonomy presence (Lam, 2015), emotional presence (Cleveland-Innes & Campbell, 2015) and learning presence (Hayes et al., 2015; Shea et al., 2012; Zhang, 2018). Among these, learning presence (Figure 2) appeared to be the earliest as a proposed addition (Kozak & Casakurlu, 2020). Shea and Bidjerano (2010) hypothesized that the construct of learning presence includes online self-regulation, self-efficacy, effort and metacognition, and other earlier constructs found in research which point to effective student performance, and achievement among online learners or otherwise.

Figure 2

Revised COI Framework by Shea and Bidjerano (2010)



Note. Adapted with permission from “Learning presence: Additional research on a new conceptual element within the Community of Inquiry (CoI) framework” by P. Shea et al., 2012, p. 93., *Internet and Higher Education* 15. <https://doi.org/10.1016/j.iheduc.2011.08.002>

While looking into research findings of asynchronous student interactions using the COI framework over a span of years, it was observed that certain learner behaviors could not be accounted for within the COI framework (Shea et al., 2010; Shea et al., 2012). Certain learner contributions were observed to be suggestive of online learner self and co-regulation, hence the construct of learning presence emerged. Learning presence “represents elements such as self-efficacy as well as other cognitive, behavioral, and motivational constructs

supportive of online learner self-regulation.” (Shea & Bidjerano, 2010, p.1).

A later study indicated the categories of learning presence which are forethought and planning, monitoring and strategy use (Shea et al., 2012). However, Garrison and Akyol (2015) argued that self-regulation and co-regulation of learning are found in the intersections of the presences, namely teaching presence and cognitive presence hence labelled as regulating learning. While keeping to the integrity of the three presences, they proposed these constructs to be subsumed under metacognition which are part of the collaborative learning cycle within the element of cognitive presence. Instead, a set of self-regulation items in a questionnaire was proposed (Garrison, 2017). However, another study found the regulation of learning across the three presences of the Col framework and suggested self-direction as a category under teaching presence (Villanueva, 2021), and self- and co-regulation under cognitive presence respectively. What these studies agree on is that self-regulation and co-regulation of learning as both essential to constructivist learning environments expected in blended and online learning programs, hence applicable to research writing in distance education programs where courses on research, thesis and special problems are likewise designed and delivered online. As such, this study suggests that given the introduction of metaverse as a viable platform for higher education open and distance e-learning (ODeL) programs, the construct of learning presence may be further examined especially among users undertaking research writing.

Self-regulation and Co-regulation through Research Writing Groups

Self-regulation has been identified as key to success among online learners (Shea & Bidjerano, 2010) and studies show how it is positively related to student achievement and success in online student performance (Schunk & Zimmerman, 2012; Schunk & Greene, 2018). Other constructs often mentioned in research about student learning alongside self-regulation are metacognition (Garrison & Akyol, 2015) self-determination (Devos et al., 2015), goal orientation and motivation (McCombs, 2012; McWhaw & Abrami, 2001) and collaborative research relationship building (Villanueva & Eacersall, 2024) but not much is known about how these happen in relation to those involved in research writing groups and whether the metaverse is a good environment to nurture student success and learning community building in relation to postgraduate level research endeavors.

In most studies, writing group formats include face-to-face, online, or hybrid sessions with groups typically comprising four to eight members (Déri et al., 2021). Some groups are led by designated facilitators while others operate as peer-led communities, and engagement may range from short-term intensive sessions (lasting 8–10 weeks) to long-term or project-specific models (Allen, 2019). The literature further characterizes writing groups by their focus on mutual accountability and shared learning (Deya et al., 2021). They function as supportive spaces where disciplinary and interdisciplinary participants collaboratively construct strategies for academic writing, adopt writing conventions unique to their fields, and benefit from structured feedback sessions and timed writing exercises (Deya et al., 2021). This study, however, is situated within a research course of Masters students about to embark on

their research journey and the writing sessions are within the metaverse which makes it an interesting case for course design and testing by the design team who are likewise working remotely and online.

Given the discussions on the constructs of learning presence, self-regulation and co-regulation, coupled with the review of research on ODeL theory and practice in relation to research writing, the design team proceeded with the necessary course content development, course design and delivery, and the creation-ideation process of the synchronous research writing sessions or D.E.A.R. The next sections detail briefly the study's methodology including the design thinking cycle as the chosen instructional design process, examined and analyzed through a design case narrative.

Methodology

This study takes on a design case narrative and asserts that it is within the scope of scholarship of teaching and learning (SOTL) especially in the context of online programs. Though design cases serve varied purposes depending on the target audience (Rowland, 2007), crucial to the design case is the story or the narrative by which the context, perspectives and reasons behind course design or redesign are unfolded. Hence, as all other qualitative research methodology, a design case is constructivist in nature as it involves a search for meaning through acts of knowledge building, only that it follows a design tradition over a scientific tradition (Howard, 2011) in order to make these meanings unhidden. The design case relies heavily on detailed description and analysis as it explores the nuances and examines unique experiences in the process of redesigning a course and thus, invested as well in the teaching and learning process. These are realized through the use of scholarly content and reflections as well as artifacts (Boling, 2010). In doing so, the 'instructional design' processes are made more transparent and therefore analyzed in the light of understanding how else to improve online teaching and learning within research courses, hence very much in line with the essence and rigor expected of the SOTL.

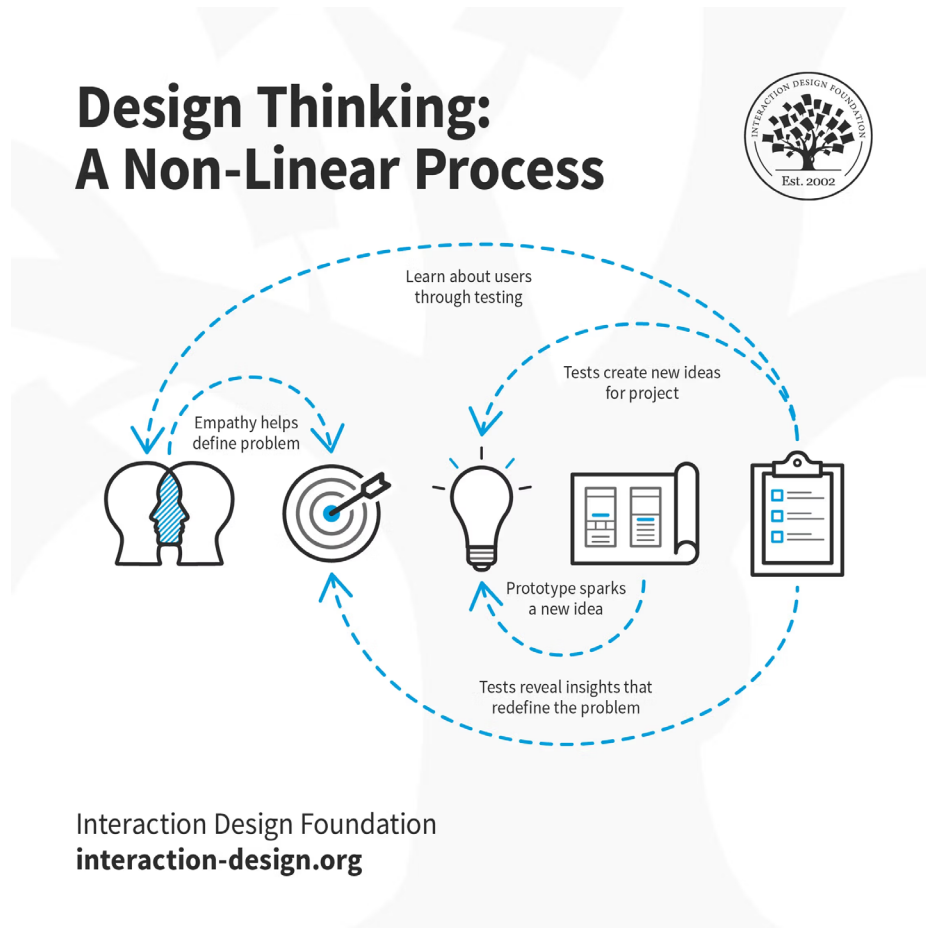
The act of weaving the narrative together was based on a review of meeting notes of the lead researcher, Aleta, with individual members of the team at different points of developing the course and the metaverse prototype. Key highlights were duly noted after which a general outline to structure the narrative into three major phases was conceptualized: course content development phase as the pre-design phase (before teaching), course design building phase (before and while teaching), and the metaverse testing and prototyping with students (while teaching). Digital artefacts were reviewed and curated as triggers to writing out sections of the narrative. Reflections after the D.E.A.R. sessions were also examined alongside student chat responses as stored data in the metaverse. Content analysis of all data collected was undertaken and included in the discussion and reflection within the narrative.

Overall, the act of narrating the learning design processes coupled with teaching and learning experiences was achieved through a design thinking cycle, one of the scholarly frameworks applied in this study. Specifically, the D.E.A.R.

Metaverse took on the cycle proposed by Dam and Siang (2020) and the Interaction Design Foundation with phases indicative of a non-linear process (Figure 3).

Figure 3

The Design Thinking Cycle by Dam and Siang (2020)



Note. From The Interaction Design Foundation, Copyright by Teo Yu Siang and the Interaction Design Foundation, www.interaction-design.org, CC BY-NC-SA 3.0. In the public domain.

Taking on the roles of a course developer and instructional designer as a Faculty-in-Charge and Program Chair in an open university, Aleta has always felt comfortable with the commonsensical thinking behind this classic design thinking cycle that sits well in an open university to effectively run online courses and achieve targeted learning outcomes. It is in this background that Aleta has tested the design thinking cycle to work while instituting a new program, or pilot testing professional learning activities as part of a capacity-building program, and now at the course-level through this study. This implies the subjective positioning of the lead researcher as well as a fellow course developer and members of the design team. In this study, the subjectivity helped shape the design case narrative. While this provided an insider's view, researcher bias in the writing was evened out in the narrative with co-authors reviewing the initial narrative and seeking further clarification to refine the work. In addition, a

selection of digital artifacts from the public domain was included as evidence in support of the narrative.

With academic freedom in hand and the university's role to innovate comes the responsibility and courage to navigate how, when and where to assert such affordances. As always, this study is bent on seeing this through as a means to affirm the design cycle as an instructional design process to facilitate course design and improvements in ODeL programs. Likewise, through the writing of a design case, this study intends to contribute to SOTL as a research method to advance studies in online education in keeping with what was recommended by Kreber and Kanuka (2006). But since this is within the context of open universities, then perhaps the term Scholarship of Online Teaching and Learning or as SO²TL becomes befitting.

Discussions

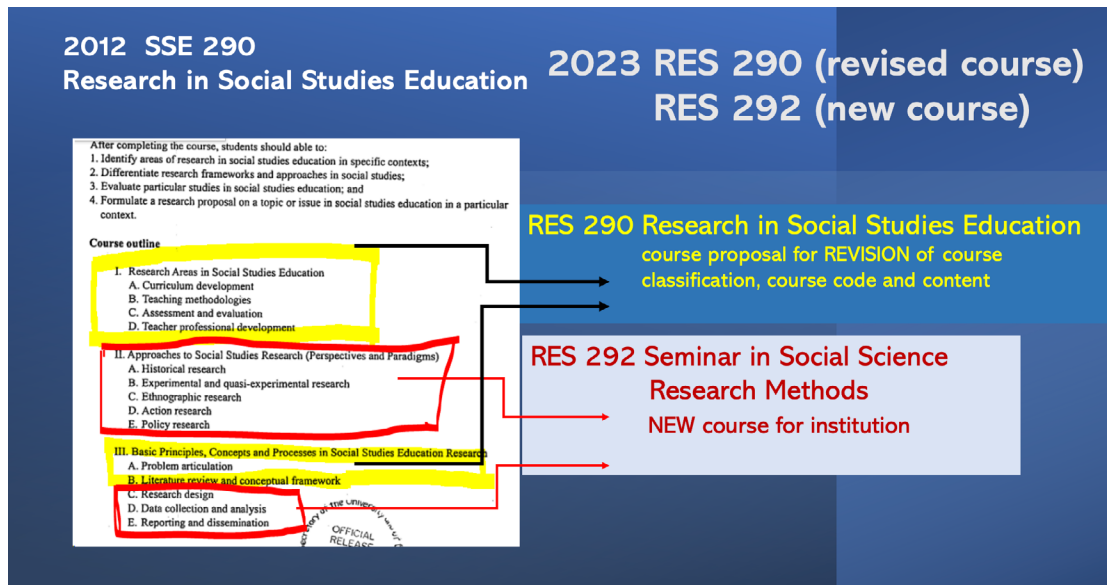
This section presents the findings and discussions through a design case narrative and is therefore structured according to the design thinking phases, as explained in the prior section.

Empathize ~ Define

With the program revision of the Master of Arts in Social Studies Education, came proposals for course revision, namely the research courses. From the sole SSE 290 Research in Social Studies Education (Figure 4), the program has introduced two more research courses where prior content in the SSE 290 have been distributed accordingly to ensure deeper knowledge and understanding of research and time required for adequate competency development and application that is from research project conceptualization to formulation of the research design with the corresponding methodology chapter (RES 292) and finally polishing and completing the research proposal for oral defense (RES 294 and 299.1) as a milestone.

Figure 4

Education Research Courses for Course Development and Design



Note. A screenshot from a proposal presentation, author-owned image

These research courses are foreseen to provide sufficient time for further research skills development and enhancement alongside researcher identity development aimed at a reflective and technology-enhanced research practice.

Key to this series of research courses is the SSE 290 with its revision co-proposed by Douglas and Aleta. This first research course was foreseen as where students are initiated into the scholarly practice of undertaking their research projects, starting with the research project conceptualization where these main topics on writing problem statements, thinking about original and significant contributions, writing literature reviews, using ethical GenAIs in research and research proposal writing are subsumed, all of which have been recommended for course redevelopment. For its revised course rationale and learning outcomes (Figure 5):

Figure 5*Excerpts from the Program Revision Proposal***Rationale:**

The course will provide students with the necessary basic research skills to undertake independent and viable research projects and professional practice projects. These skills are as follows: development of relevant research problems/questions, doing literature search, research presentation and research writing. These research skills would make Social Studies Education educators to be aware and understand the interrelated issues of present societies. The course would provide the students' competencies to complete research projects or professional practice projects to successfully complete the requirements in SSE 298 and SSE 300.

Course Outcomes (CO)

Upon completing the course, students must be able to:

- CO1: Develop a proposal outline including a research problem and associated research questions.
- CO2: Construct an annotated bibliography related to the research problem.
- CO3: Develop a draft theoretical/conceptual framework
- CO4: Develop an outline for a literature review. CO5: Write a draft literature review situating their research problem within the relevant literature.

Note. A screenshot from a proposal presentation, author-owned image

To note, these proposed revisions were based on the outcomes of program review which utilized instruments from a self-assessment report and the review also included student experience surveys wherein students have expressed how recent efforts and actions from the Program to support researcher development have encouraged diploma students to get into the MA program where thesis and special problems are pursued to become a full-fledged graduate of the MA Social Studies Education program (Villanueva, 2024b). Students have also expressed a need for support in terms of imbibing the university's research culture, not just through the usual course readings or discussions in asynchronous formats but through live classes which tackle research-related topics offered through the Research Journeys webinars held during the pandemic and on days or time slots which fit their schedules. With these expressed needs, Diploma and Masters students have on the other hand demonstrated sustained interest and capacity to set dedicated time to participate in webinars especially when there are capsule research proposal sharing and presentations as well as open classes covering research topics and announced at least two weeks ahead. Evaluation results of these activities have been mostly positive.

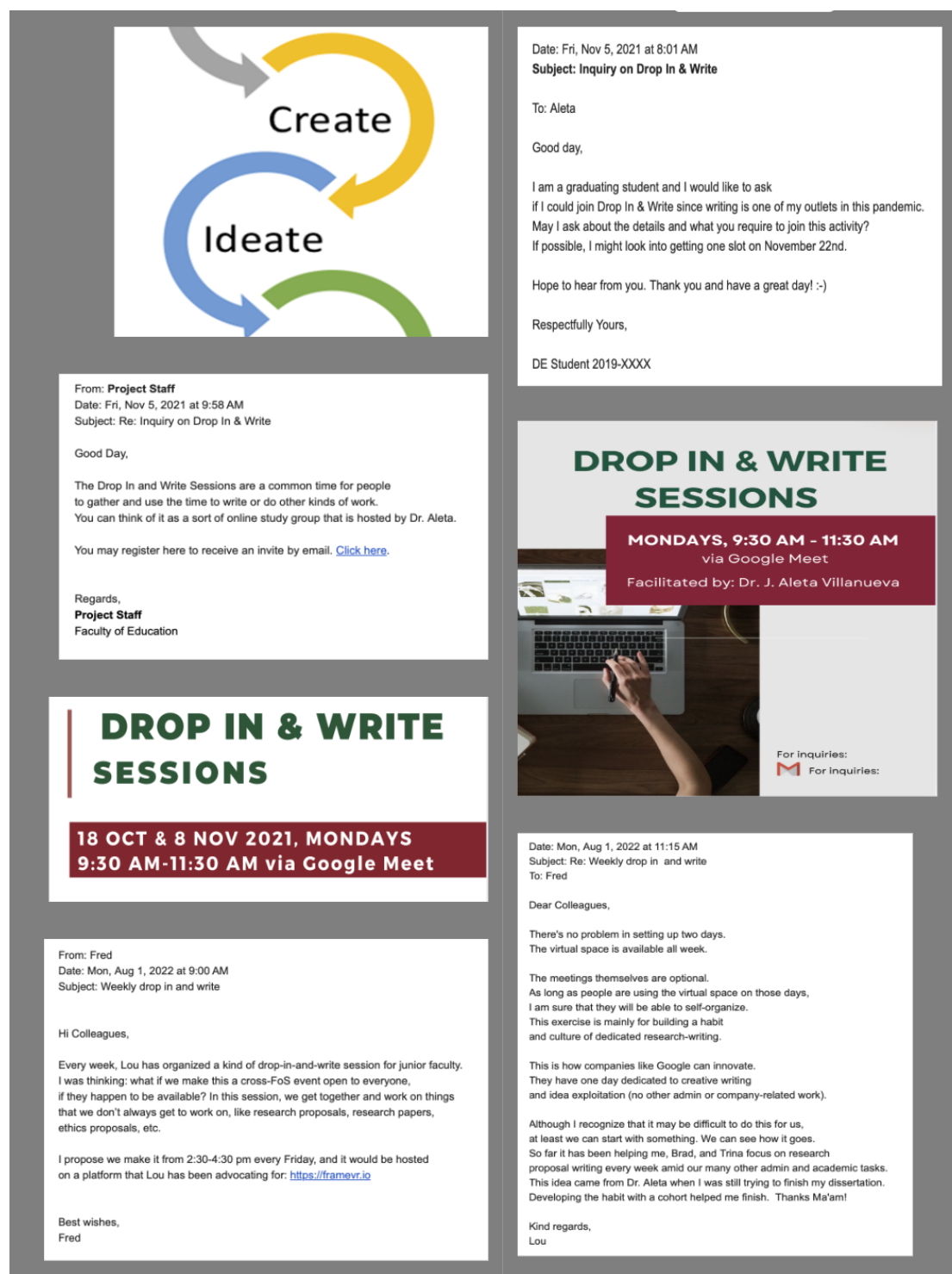
Closely similar concerns have been expressed by fellow faculty members and academic staff needing the actual dedicated time to read and write in the midst of our busy schedules and weekly activities, similar to education research students who also are full-time teachers finding window time to engage in research reading and writing. Yet when face-to-face writeshops have been organized, outputs have been gradually accomplished, presented in conferences and then submitted for publication. With the problems posed are windows of opportunity to ideate and test as SSE 290 content-expert and co-faculty in-charge Douglas and Aleta decided to review the horizontal syllabus to sequence the learning activities alongside Saturday live class sessions, and alternating these with

dedicated time for writing. Hence, there was the impetus to implement a possible solution in addressing similar concerns that were observed among academics and research students in selected universities, only this time, the solution was through a simple tweak in the course design coupled with a platform advocated by colleagues.

Create ~ Ideate

The simple and direct solution could be found in the idea of research writing groups which have been proven to be linked with doctoral writing and student success. During the pandemic, inspired by design team member Douglas' dedicated time and facilitation of the Research Writing League in his university, Aleta has initiated a drop-in-and-write session among colleagues undertaking dissertation writing which ran for approximately two to three months, and alternately maintained participation in the international research writing league mainly through Zoom. After completion of a doctoral program, Aleta also tried targeting other graduate-level students interested in these sessions. Surprisingly, the sessions were peopled by undergraduate students. There were a few teachers from the non-formal program and one doctoral student. The main goal however was to undertake academic writing for our coursework while academic advice was being provided to a diverse group seeking company online, like a study group of sorts (Figure 6). Hence the beginnings of the D.E.A.R. Metaverse are rooted in these earlier attempts.

Figure 6

Beginnings of Research Writing Sessions AY 2021-2022 and AY 2022-2023

Note. A montage of digital artifacts, adapted from author-owned images

After running drop-in-and-write sessions for 2-4 months, with twice-a-month sessions, or every other week, Aleta realized that commitment and dedication are required to sustain the research writing groups over time and to ensure outcomes. And if it were to be relaunched, conditions have to be ripe to ensure its sustainability.

Research writing groups have taken different forms but mostly among doctoral students as part of their informal learning and peer support. In fact, members of the design team, mainly Douglas and Aleta, have been part of an international research writing league and have published about the gains and benefits of such endeavors (Villanueva & Eacersall, 2024). In mind was the research-based practice of learning alliance building for doctoral education students (Jacobsen et al., 2021) and likewise learning community building through the intersection of teaching and social presence (Villanueva & Eacersall, 2024). The responsibility for capacity building of research competencies and mindsets is not left solely with the research supervisor once designated to a research advisee. Instead, it starts early on by tapping into other institutional human resources equally responsible for harnessing the research culture. In the case of this open university's Social Studies Education program, and this study, Aleta as a co-faculty-in-charge/ instructional designer played the role of a learning community developer tapping on talents and resources within the university to ensure the initial prototyping and testing of the D.E.A.R metaverse.

Lexter and John (as metaverse custodian and fellow users) on the other hand have experienced face-to-face research writeshops as graduate-level students immersed in their own open university coursework while also undertaking collaborative research projects within the university in their own capacity as members of the CODTL. They themselves discovered the value of protected time with peers, hence fully participating in these research write shops with other academic staff and under the guidance of the former Deputy Director for Open and Digital Learning Research and Lead of the Immersive and Open Pedagogies program.

This study hence is keen to incorporate the synchronous research writing sessions within the course SSE 290 not just as a learning activity but as a shared space with other researchers from the university willing to make use of the protected time and space to do research. As for the SSE 290, students now becoming more like teacher-researchers are encouraged to participate, not necessarily as part of the course requirement to be complied with, but aligned with the course outcomes on research mindsets and skills development. Putting the sessions within an actual course instead of a learning activity or an enriched experience of online engagement, was a more effective way to work towards its sustainability.

Prototype ~ Test

The initial D.E.A.R. sessions transpired among members of an open university, namely four to five teacher-researchers, an academic staff, and two faculty members. Some initially started with a face-to-face writeshop while the rest were in a weekly synchronous online writing group via Zoom (Figure 7) and Google Meet. Then the research writing sessions transferred to a dedicated space in the Metaverse where teacher-researchers continued to participate (Figures 8 and 9). Each session started with a short conversation on their writing targets or status updates and after an hour and a half, as the session came to a close, they indicated responses to a few guide questions to facilitate

sharing on how the session transpired. Most often, the teacher-researchers would mention their next plans or targets for the rest of the week.

Figure 7

D.E.A.R. Session 2 – Immersive Theme within Zoom



Note. Screenshot image, author-owned

Figure 8

D.E.A.R. Metaverse Prototype with Instructional Designer and AI



Note. Screenshot image, author-owned

The D.E.A.R. sessions utilize a Frame VR platform and are for future migration to the Open-University-VC Metaverse which can virtually house up to 300

participants at a time and is currently used for meetings, virtual exhibits, and online mentoring sessions. Other platforms the researchers were aware of included Sansar, Unity, Mozilla Hubs, and Frame VR (Orbe & Figueroa, 2024). In the end, Frame VR was used due to its immersive experience, ease of use, high flexibility, customization, and ongoing online support and development, elements that are most compatible with implementing Immersive Open Pedagogies.

Figure 9

SSE 290 D.E.A.R. Chat Session on Research Writing



Note. Screenshot image, author-owned

The general schedule was announced 1 to 1.5 weeks ahead by email with a Google Form for registration. Then weekly reminders were sent thereafter and with additional tips to enter and tweak the avatar settings. As the weeks progressed, other features were explored such as the use of the color-coded zones to do consultations and the use of the whiteboard and images to add visuals as well as adding a recorded video to feature a topic/course content. Morning sessions were added for a small group of possible users, mainly new members and former members of the face-to-face research write shop group.

Emerging Examples of Learning Presence

Shea et al. (2012) delineate learning presence into three key categories: forethought and planning, monitoring, and strategy use, which are context-dependent (p.91). Forethought and planning involve learners setting goals, organizing resources, and preparing for engagement in online learning activities. Indicators include goal setting, identifying learning objectives, and planning study schedules. Monitoring refers to the learner's ability to track their progress, assess their understanding, and adjust their approaches when necessary. Indicators include self-assessment, seeking clarification, and

reflecting on learning experiences. Strategy use encompasses the cognitive and metacognitive strategies learners employ to facilitate their understanding and performance in online environments. This includes active engagement with course materials, collaboration with peers, and applying problem-solving techniques.

Preliminary findings in the Test Phase of the instructional design cycle of D.E.A.R. Metaverse reveal user chat discussion from the stored chat transcripts alluding to examples of learning presence across the indicators mentioned in research (Table 1).

Table 1

Examples of Learning Presence According to Indicators by Shea et al. (2012)

Indicators by Shea et al. (2012)	Examples of Learning Presence
Forethought and planning	<i>“Since I have found new documents that will help me understand digital literacy and digital competence...I plan to read these documents tonight to understand how DigComp transitioned from 2013 to 2022.”</i>
Monitoring	<i>“Here's the refined version of my Research [questions] prof, from 7 research [questions] to 3...”</i> <i>“I am currently [reading] the review of MELCS that aligns with the SDGs”</i>
Strategy use	<i>“an outline is a good way to organize your thoughts, sometimes it can change depending on the themes which will arise as you cluster your readings for your RRL into different themes or topics.”</i>

These examples were drawn from the stored chat transcript of students in one of the D.E.A.R. Metaverse sessions. Upon closer examination of the chat, the forethought and planning examples of learning presence are expected to be prompted by the faculty-in-charge or volunteer routinely given at the start of the session. However, learning presence may be further examined over time with increased usage and engagement. This means that more examples may be generated and coded for each indicator subset of learning presence which may eventually serve to validate the learning presence construct. Given the additional presences being proposed by various researchers on the Col framework, this article poses the possibility of affirming learning presence as a separate construct but through further study as relayed in the next section.

Limitations of the Study

This preliminary study focused on the design case narrative from the point of

view of the course developers and course design team members. The data collected mainly relied on self-report but with additional stored data of SSE 290 students from the metaverse. Therefore, generalizability of findings was not yet the overall goal but rather the opportunity to explore the metaverse and find out whether learning presence may emerge from the initial but intentional course design. The study focused on documenting the design phase and including the ideation, narrative writing and reflection as enactments for the purpose of improving learner experiences and outcomes through the initial course design with learning presence in mind.

Conclusion

This article presented and discussed the development of the D.E.A.R. Metaverse through the design thinking process and as part of the instructional design of an education research course. The use of the metaverse was justified through a review of research on self- and co-regulation of learning and learning presence, research writing groups and the community of inquiry framework for learning alliance and community building among teacher researchers and academic staff in need of protected or dedicated time to do research writing. These lay the ground for the initial design of D.E.A.R. within the education research course and through the Metaverse as its actual virtual space for the facilitation of D.E.A.R. The D.E.A.R. Metaverse prototype signifies substantial pedagogical potential, specifically the consistent engagement demonstrated by users. This observed efficacy necessitates a coordinated, strategic response from the faculty oversight and the broader Faculty of Education community to ensure maximal platform utility.

This study's unique contribution lies in its use of the metaverse as a learning environment, rather than as a communication tool like video conferencing platforms. Unlike Zoom or Google Meet, which frame research learning as short, episodic meetings, the metaverse enabled a persistent, shared research space that supported focus, continuity, and intentional engagement in research writing. The metaverse afforded learning presence but this time differently through avatars and zones, allowing self-regulation and co-regulation—to be deliberately designed into the environment. Participants could plan, monitor, and sustain their research work within “protected time” while remaining aware of peers' presence, fostering accountability without constant verbal interaction. By embedding the metaverse within a formal research course, this study demonstrates how immersive environments can be intentionally designed for learning presence, and community building in ways that conventional video conferencing tools are not designed to do.

Recommendations

This article affirms the design thinking cycle as an instructional design model to develop courses and innovate learning activities and experiences targeting clear learning outcomes and within the context of online education in an open university. The implementation of the design thinking cycle coincides with classroom innovations meant by the application of the Metaverse. At the same time, the phases of the design thinking cycle served as the study's storyline

for a design case narrative. Since reflection is akin to design thinking, and undertaken through the theoretical lens of learning presence, then the natural outcome was the design case narrative as a concrete method of what can be considered as SO²TL, or the scholarship of online teaching and learning. After all, at the core of design cases is the goal of sharing design knowledge which need not be for the purposes of arriving at generalizable knowledge (Howard, 2011). As such, this study found that design case narratives' valid contribution as a research method lies in evolving a design philosophy (Boling & Smith, 2008) and in this case, it is for online teaching and learning. It is therefore recommended to expound on the use of the design case narratives to capture instructional design models borne out of ODeL program models in open universities so as to lay its claim on the use of SO²TL.

For further study however, an exploratory case study design is recommended given that this research method lends itself well to the natural setting where learning presence, the phenomenon, may be further examined. The use of thematic analysis may be further employed on the chat transcripts as well as the researcher's notes on the sessions given the emerging learning presence that has been revealed. Focused group discussions could also be undertaken to probe into participants' experiences of protected research writing time within the metaverse. Questions may highlight responses to how the participants felt about and/or thought about the virtual platform and ways they have experienced writing in the company of their peers in their digital avatars, though not exactly collaborating but simply using a shared space in time to undertake the research writing they needed and/or wanted to undertake. Likewise, it would be worthwhile to investigate participant reflections on learning alliance and community building as well as researcher identity to ascertain researcher mindsets and competency development and how these are influenced by their writing journey throughout their three research courses in their program.

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