Co-curricular Online Book Club: Recommendations for Future Study

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Abstract

Courses required for psychology majors include those focusing on research methodology and mathematical thinking; however, these courses are regularly identified as the most difficult and anxiety-inducing (e.g., Hedges, 2017; DeVaney, 2010), especially for students taking the courses online. At Oregon State University (OSU), the Thinking Like a Psychologist course serves as an introduction to required methodological courses in the Psychology major and thus serves as an excellent point for intervention to improve student outcomes. The current research sought to increase online students' sense of belonging, academic identity, scientific identity, and critical thinking skills within the Psychology major using a co-curricular online book club. In past research, these particular psychological and academic variables have been shown to improve a variety of student success outcomes. Over the course of the study, few students were recruited, and therefore book clubs were not formed or launched. This white paper describes the intended club format, recruitment efforts and challenges, and offers suggestions for future attempts with this potentially high-impact practice.

Introduction

In 2023, the American Psychological Association published its updated guidelines for the undergraduate psychology major. One of the five goals of the major is scientific inquiry and critical thinking. While this goal is a programmatic one for a major, it often relies on a student's successful completion of a series of methodology courses. At Oregon State University (OSU), this is usually fulfilled by a series of courses: PSY 297 - Thinking Like a Psychological Scientist; PSY 298 - Quantitative Methods in Psychology; and PSY 301 - Research Methods in Psychology. Although these courses are a central part of the Psychology major, research has regularly identified that courses of this nature are both difficult for students and anxiety inducing, particularly for online learners (e.g., Hedges, 2017; DeVaney, 2010). At OSU, the unsuccessful grades in statistics and research methods courses suggest a clear need to improve students' persistence and success. In these courses, the 21.4% DFUW rate for online learners was more than 6% higher than that of face-to-face learners (during 2019-2020 academic year; CORE).

Self-Determination Theory within psychology indicates that when students make choices about things that impact important parts of their lives, they are more likely to engage with those things, and thus learn from them (Ryan & Deci, 2020). In a college setting, this can mean that students who are provided with opportunities to engage with course topics outside of a prescribed curriculum (e.g., requirement for quantitative methods in the Psychology program), they are more likely to learn from them. Offering such opportunities is difficult in online settings, where students are often balancing more demands on their time than face-to-face students. This research project was designed to explore if a co-curricular book club, in which students read a predetermined set of books for group discussions, would provide online students with such an opportunity. The specific goal was to examine whether the book club could increase online students' sense of self-efficacy, autonomy, and belonging - constructs that research indicates increase student learning (Ryan & Deci, 2020).

The use of an online book club to meet the outlined needs of students in the program has precedence; participation in book clubs provides students an opportunity to develop socially, emotionally and academically (Polleck, 2010). Previous research examining an academic book club demonstrated an increased understanding of the "Nature of Science" in participants compared to non-book club members enrolled in the same foundational science course (Griffard et al. 2013). In addition, the book club members' understanding of the concepts was more nuanced and sophisticated compared to non-book club members. The same study also found that academically at-risk students felt that the book club readings made the course topics more

accessible to novice science students compared to traditional textbooks and articles.

Preliminary data from an on-campus, co-curricular book club at the University of Wisconsin - Platteville demonstrated further support for the original aims of this project (Zucker, 2023). Students who participated in that program indicated benefits, reporting that the "[book club] allowed me to apply different applications and theories to information in other classes" (para. 16) and the "[book club] helps develop critical thinking skills and the ability to articulate one's thoughts and feelings." (para. 17) There is also evidence that translating this program to an online format can be effective. A co-curricular book club at the University of South Florida demonstrated the ability for an online book club to increase feelings of connection and improve learning outcomes for online students (Szempruch & Hinds, 2022). Further, the online design of the book club influenced participants' willingness to be involved. If successful, the overarching goal of this original project was to help inform the development of a joint program with the psychology honors society, Psi Chi, creating online book clubs for all students to explore a variety of psychological topics outside of the classroom. This would bring together OSU online and on-campus students who were enrolled in similar classes.

The current research project was initially developed based on the co-curricular book club developed by Zucker (2023) at the University of Wisconsin - Platteville. The original subordinate goals of this study were to determine whether students would benefit from reading domain-specific books and engaging with peers (and faculty-as-peers) in an online social setting. Specifically, this study was designed to answer the following research questions:

> RQ_1: Will students gain critical thinking skills that are transferable to other courses through reading and discussing the shared book?
>
> RQ_2: Will peer and faculty-as-peer engagement in a co-curricular setting increase a students' sense of belonging to the program and their own academic identity?
>
> RQ_3: Will students develop greater self-efficacy and identity as a scientist by reading the shared book and participating in the discussions?

Unfortunately, due to low recruitment across four academic terms, the book clubs could not be launched. However, as I discuss in more detail, the premise is sound and may still yield successful outcomes in future research studies. In what follows, I describe the design of the book club, identify the intended psychological variables the book club would impact, and discuss recommendations for methodological improvement for future study.

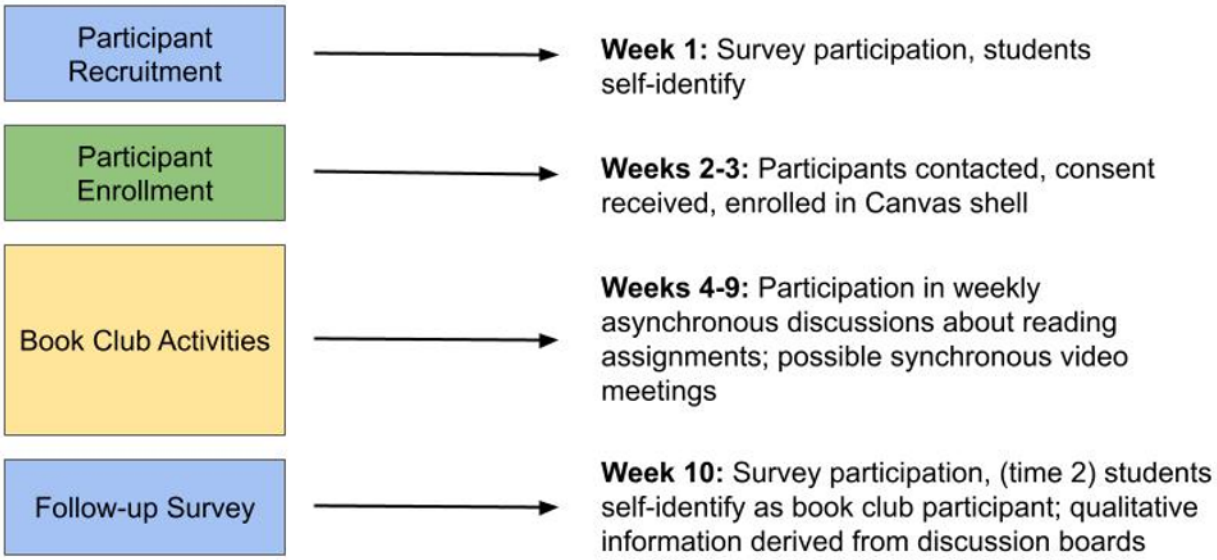
Co-curricular Book Club Study Design

The proposed book club for this project was co-curricular, running simultaneously with enrollment and participation in a required psychology course, PSY 297 - Thinking Like a Psychological Scientist. The proposed book club was designed to take place from weeks 2 through 10 of each term (based on a quarter system). Figure 1 illustrates the overall design and procedures. Each element of the design is explained in further detail in Figure 1.

Participant Recruitment

During this project, multiple sections of the PSY 297 -Thinking Like a Psychological Scientist course were taught each term, one in-person, and one to three online sections. During the first week of each term of the study, students were directed to read through the research consent form as part of the "Start Here" or "Module 1" items on their Canvas course shell. Instructors offered extra credit for students who read the consent form; however, no extra credit was offered for participation in the study. Students who provided consent were directed to a separate survey page where a variety

Figure 1. Book Club Design and Procedure



of psychological measures were presented. At the end of the survey, students were presented with the opportunity to opt-in to the book club. Students who completed the survey measures but were not interested in the book club were slated to serve as the control group.

Participant Enrollment

During week two of the term, students who indicated interest in the book club were contacted via email that shared a brief synopsis of the book club and a consent form. Over the course of the study, 37 students were emailed, but only eight consent forms were returned; of these 7 were online students. In the first term (Spring 2024), only one student committed to participation in the book club. In the next term, three students committed (Fall 2024) however only two consent forms were received prior to the proposed start of the club. Although a pilot study may have been able to run with only two participants for the discussion, I chose not to attempt it when one of those students expressed an inability to participate in the synchronous discussions. The synchronous discussions were designed to be an integral part of the club and the experience would not provide meaningful insights with only one student.

Upon enrollment to the Canvas course hosting the book club, students would have been directed to complete a short questionnaire about how they wanted to receive the shared book, either in e-book or physical formats, and their availability for bi-weekly synchronous meetings (see Table 1). The book club was planned to begin its activities during week four of the term.

Book Club Activities

As the first of Psychology's quantitative methods sequence, the Thinking Like a Psychologist course intends to be an introduction to scientific thinking, science communication, and skills for consuming research in the field. To augment these aims with the co-curricular book club, the popular science book *Eureka! Discovering Your Inner Scientist* by Chad Orzel (2014) was selected as the shared reading for book club participants. This book centers around the idea that science and scientific thinking are part of our everyday life. Orzel describes the scientific method as essentially four basic activities: Look, Think, Test, and Tell. Over

multiple chapters, each of these processes is described as part of everyday tasks such as cooking and playing mobile games. Additionally, Orzel describes important scientific discoveries and unique stories that center on the importance of Look, Think, Test, or Tell. I chose this book because I have previously used the text to supplement discussion in research-based courses and have found that students enjoyed the author's writing style and the topics discussed in the book.

The book club itself was designed based on previous experiences with the shared reading, online teaching experience, the aims of the project, and suggestions from similar projects. During the active weeks of the book club, participants would be assigned one to two chapters from the book and asked to respond to several prompts using an asynchronous discussion board. In addition, summaries of the assigned readings would be made available for students who were unable to read the assignment but still wanted to participate in discussions. These weekly discussions would primarily be student led; however, I intended to maintain a presence in these discussions to probe further thinking, offer alternative perspectives, etc. Every other week, there would also be an opportunity to participate in a synchronous video meeting, where participants could have a live discussion of the prompts, respond to additional prompts, or generate their own un-prompted discussion points.

Table 1. Initial and Adjusted Activity Schedule

Week 4	**Assigned Reading: "Introduction"** Asynchronous Discussion Prompts: Introduction a. What does it mean to think like a scientist? b. How do you practice thinking like a scientist in your everyday life? c. How does thinking like a scientist help you in your future career? Chapter 1 a. Have you ever had a collection? What was it? Why did you start it? b. How might you have used your collection to answer a question or draw a conclusion? c. How might the idea of gathering a collection be applied to how you learn psychology? *Synchronous Meeting Scheduled*
Week 5	**Assigned Reading: "Chapters 3 & 4"** Asynchronous Discussion Prompts: Chapter 3 a. What was the most surprising thing you learned from this chapter? b. What is something that you learned in another class that you could apply to understanding research in psychology? How? Why is it a good fit? Chapter 4 a. Pick a project on zooniverse.com and spend some time on it. Describe what it was like and what you learned by doing it? b. How can/does citizen science be used in psychological research?

Week 6

Assigned Reading: "Chapters 6 & 7"

Asynchronous Discussion Prompts:

Chapter 6

a. What is the "take home" message of this chapter? Discuss the message's importance for "doing science".
b. How does this factor into reading and understanding research?

Chapter 7

a. Do some digging online and find some real-world examples of the kind of "thinking" represented in this chapter. Explain the example and why you think it is representative of this chapter.
b. How might/does psychology benefit from this kind of thinking?

Synchronous Meeting Scheduled

Week 7

Assigned Reading: "Chapters 11 & 12"

Asynchronous Discussion Prompts:

Chapter 11

a. Why is "telling" so important in science?
b. Describe what techniques you think are the best way for scientists to communicate research to "non-scientists"?

Chapter 12

a. Discuss some advantages and disadvantages of working with others in your classes? Do you think these translate to doing collaborative research? Why?
b. Identify ways in which people can more effectively work with others based on something from this chapter. How could you apply this to working with others in class? In your future classes?

Week 8

Assigned Reading: "Chapters 13 & 14"

Asynchronous Discussion Prompts:

a. Reflect on your own experience with statistics. Did you realize you used it in everyday life?
b. How do you feel about the role of statistics in psychology as a major? As a field/career?
c. How do you think statistics might be made more understood?
d. What do you think your understanding of statistics might need in order to be in your future career?

Synchronous Meeting Scheduled

Week 9

Assigned Reading: "Conclusion"

Asynchronous Discussion Prompts:

a. Reflect on this chapter and the book. What was your favorite part? What was your least favorite part? Why?
b. How has this book affected your understanding of what science is?
c. How has this book affected your understanding of psychology as a science?

These book club activities were scheduled to run within a typical 10-week academic term. Table 1 outlines the proposed schedule of asynchronous discussions and planned synchronous video meetings.

Study Measures

In the planned study, all enrolled students who consented to participate would complete study measures at the beginning of the term (week 1) and at the end (week 10). The initial and follow-up surveys were designed to measure several psychological mechanisms thought to be impacted by book club participation, and in turn contribute to later academic success. These included measures of academic belonging, academic identity, critical thinking, scientific self-efficacy, and STEM identity.

Recommendations and Discussion

Although the book club proposed was unsuccessful, previous research has shown that book clubs can be viable co-curricular activities for students (Szempruch & Hinds, 2022). With the rise in enrollment in higher education programs online, the demand for online opportunities for students to engage with one another outside of their courses increases. Regardless of the failed study, virtual book clubs that enhance student learning in their core courses are one such opportunity that has potential to be effective. Based on my experiences with the project, I propose seven recommendations related to the overall methodology and book club design that would improve future attempts at book club programs.

Recommendation 1: Offer the book club option separate from other course elements

In this project, students were only exposed to the book club opportunity through a chain of activities that they were not required to complete. First, students were directed to an extra credit opportunity; this only required students to read a consent form and not to click further to the initial survey. This process eliminated students who were not interested in participating in the survey at all from considering book club participation. Students then had to complete the entire survey to find out about the book club. This further eliminated students from the possible pool who did not complete the survey for a multitude of reasons. While this process was intended to eliminate instructor pressure to participate in research, it may have severely limited the number of students exposed to the book club condition.

For future studies, it may be more useful to make the book club opportunity its own part of the course. For example, adding it as a separate — but optional — course module or menu item. This approach would require that the club were run by the course instructor, or that the person running the club would have to have access to the course. Depending on how many sections of a course with a book club is held each term, this may not be the best approach. Alternatively, an instructor could create course links that connect to an outside platform where the club remains totally separate from the rest of the course. By embedding the club in some way within the course's LMS, instructors could then promote the opportunity more openly in the course through course announcements, emails, etc. rather than relying on students encountering the opportunity on their own.

Recommendation 2: Send a reminder email about the opportunity before the end of the first week

Although making changes to how the book club is presented to students initially would likely increase student involvement, a simpler step to increase interest would be to just let students know more about the book club opportunity up front. When the extra credit opportunity was presented to students, they were only required to read a consent form for the initial survey. No mention of the book club was included in that consent form. Instead, the extra credit opportunity could have started with a presentation of the project in its entirety before directing students to read the consent form for the survey. This may

have prompted more students to participate in the survey itself and thus express interest in participating in the book club condition. The research project was not initially described to students to prevent biases in survey responses for students in the control and book club conditions. However, because participation interest was so low as to prevent any book club condition, it would be beneficial to increase opportunities for students to know about the book club.

A potentially powerful tool to increase interest and participation in the book club is with one or two reminders within the first week or two of the term. These could be sent via email or through course announcements. Such reminders could be more generally aimed at completing the extra credit assignment, or more specifically mentioning the book club opportunity. Reminders could also provide direct sign-up links, copies of consent forms, etc. Providing those items within reminders makes the process for participation streamlined, requiring fewer steps for students to complete. This could make it more likely for a student to express interest or sign-up to participate.

Recommendation 3: Make synchronous meetings optional and based on student interest

Student interest in participating in the book club could have been impacted by the expectations for participation. In the terms that the research was planned, only four students committed to participating in the club. To determine how to increase student interest, I examined the design of the book club and the expected time commitments the club was likely to take a student each week. In addition, I considered who the club was intended for. While the club was offered to students enrolled in any PSY 297 course, I was especially interested in impacting Ecampus students who have significantly fewer opportunities for extra-curricular experiences. By including synchronous meetings, I may have unintentionally excluded students who otherwise would have been interested in participating.

Recommendation 4: Run the book club with multiple leaders

I highly recommend that future attempts to run a book club have at least two leaders. Not only does that spread the workload of running the club, but if circumstances arise where a researcher is unable to participate at any point during the study, the study can continue. Additional support may also be useful. An advanced undergraduate student could serve as a research assistant to monitor interest, send follow-up emails (as described in Recommendation 5), enroll students in the LMS, and organize book distribution.

Recommendation 5: Follow-up with students who have not submitted consent forms

Initial interest in the book club was significantly higher than those who ultimately committed to the book club. Over the four terms, 37 students expressed interest in the opportunity, but only four committed. Aside from changes to the book club activities themselves, more concerted efforts to convert interest to commitment would have likely yielded higher participation. The design of the study left two weeks between the start of participant recruitment and the start of the book club activities (see Figure 1). Scheduled follow-up emails for non-respondents could have taken place at least twice during that period. This would have ensured that students who wanted to participate were not missed for reasons such as an unread email or an incomplete consent process.

Recommendation 6: Consider alternate platforms or experiences for book club participation

Future book clubs may want to explore alternative methods for discussions. Students who want to participate in co-curricular experiences may want something that is not like their course experiences, relying on asynchronous discussion boards used in most of their online courses. While it appears that synchronous video meetings are detrimental to student participation, options for

asynchronous video discussions may provide a club experience that is more similar to an in-person book club than a text only discussion. Alternatively, using a social annotation platform may also elevate participation over traditional discussion forums, while still offering participants a text-based experience. This may also potentially eliminate concerns about anonymity during a study that may arise from using a video-based discussion format.

Recommendation 7: Consider how the course topic may impact interest in co-curricular activities

The current book club may have ultimately failed to launch because the course topic precluded enrollment. Many students do not rank research methodology courses high among their curricular interests; choosing a course with more interesting subject matter may result in successful participation in book clubs. The research this project was based on was conducted with a social psychology course; and research shows that students rate social psychology courses as more interesting and more valuable to their career than research-based courses (Lloyd-Lewis et al., 2023). Future attempts at offering book clubs may benefit from starting with courses that students have higher interest in and see as more valuable in order to entice students to spend additional time on course-related topics outside of the online classroom. Once a successful book club program has been established, introducing book clubs for research-based courses may be more viable.

Conclusion

Students taking online courses have fewer opportunities to participate in extra-curricular or co-curricular experiences than their in-person peers. These experiences have an important impact on future academic success, increasing a sense of belonging and social support, which in turn impacts a wide range of predictors for academic success such as GPA, persistence, and graduation (Fong et al., 2024; Brady & Gopalan, 2025; Hassan et al, 2023). One of the goals for this project was to use a virtual book club to provide Ecampus students with this kind of extra-curricular opportunity. In addition to impacting social-emotional needs, the book club was also intended to support academic needs. In past research, book clubs have been successful at improving students' understanding of course materials (Polleck, 2010). Over three terms, students enrolled in *PSY 297 - Thinking Like a Psychological Scientist*, were provided with an opportunity to participate in a co-curricular book club centered on the popular science book, *Eureka: Finding Your Inner Scientist* (Chad Orzel, 2014). While initial interest in the book club was promising, students failed to commit to participating and no sessions of the book club were run due to low enrollment. Although the book club intervention was not successfully conducted, book clubs may still be an effective tool to augment Ecampus students' experiences. The seven specific recommendations presented may improve success in future research by ameliorating flaws in recruitment and implementation. Future research on the use of book clubs as an engagement tool for online students could reveal an avenue for impacting student success beyond understanding course topics, changing psychological factors such as belonging and social support that are central to long-term success.

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About the Research Unit at Oregon State Ecampus

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The Ecampus Research Unit strives to be leaders in the field of online higher education research through contributing new knowledge to the field, advancing research literacy, building researcher communities and guiding national conversations around actionable research in online teaching and learning.

Mission

The Ecampus Research Unit responds to and forecasts the needs and challenges of the online education field through conducting original research; fostering strategic collaborations; and creating evidence-based resources and tools that contribute to effective online teaching, learning and program administration.

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