

# Bichronous Learning for Online Students: An Exploratory Investigation

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## Abstract

Oregon State University (OSU) Ecampus stands out as a leading online education provider in the U.S., distinguished by its innovative strategies that dismantle traditional barriers to higher education. While asynchronous learning at Ecampus is recognized for its accessibility, it often faces critique for lacking real-time interaction and feedback. This study explored 'bichronous learning,' a model proposed by Martin et al. (2020) that integrates both asynchronous and synchronous learning methods. In this study, we examined the extent to which the bichronous model could offer superior perceived learning outcomes compared to a purely asynchronous approach in an online upper-level anthropology seminar course. We examined students' perspectives regarding their academic advancement, skill development, and career growth. The bichronous approach was well received by students and showed potential in enhancing learning parameters. Student feedback further indicated that engagement in bichronous courses benefited their academic performance, skill development, and professional growth. However, our research revealed that students often confused and sometimes conflated synchronous and asynchronous learning experiences, which affected their perception of their learning experience and the quality of insights we gathered. This confusion by students might have been mitigated if our research design had included direct questions about the delivery methods used for the class. Additionally, study findings were impacted by the small number of students participants and the possible impact of COVID-19 pandemic. Future studies that include larger participant groups and rigorous research designs focused on learning modalities could further evaluate the possible benefits of bichronous learning.

## Introduction

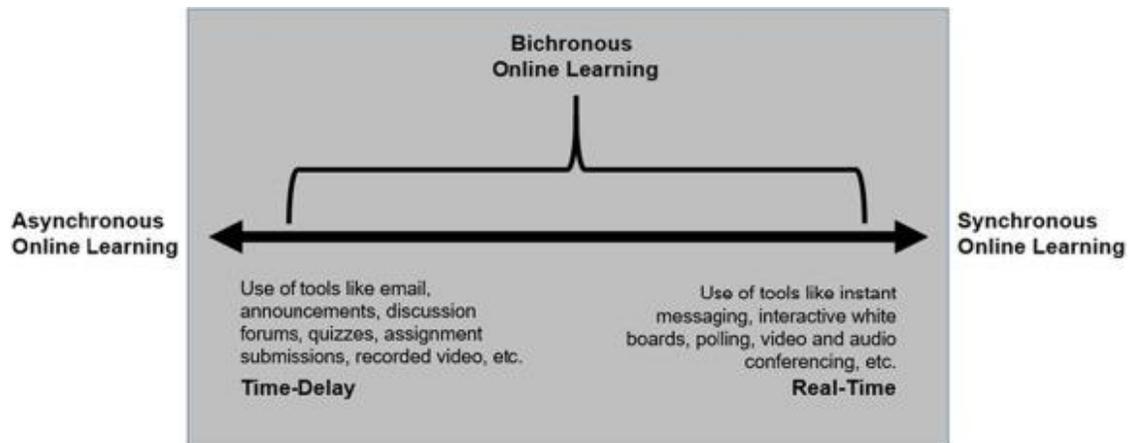
Asynchronous learning has emerged as a transformative force in higher education,

removing barriers to university access by offering a flexible, learner-centered environment. This model is particularly beneficial for students who prefer time to reflect before responding, addressing concerns of social anxiety in more immediate, synchronous settings (Hannay & Newvine, 2006). However, it is not without its limitations, notably the reduced personal interaction and delayed feedback, which have been identified as significant drawbacks by students (Hannay & Newvine, 2006).

In response to these challenges, recent pedagogical innovations have sought to blend the advantages of both asynchronous and synchronous learning environments. This research centered on the concept of 'bichronous learning,' as defined by Martin et al. (2020), which merges the flexibility of asynchronous learning with the real-time engagement of synchronous sessions. Combining aspects of asynchronous and synchronous learning increases the diversity of learning modalities available within a virtual classroom. Martin et al. (2020) provided a conceptual framework for understanding this innovative approach, which is depicted in Figure 1.

Badawi (2017), along with Peterson, Beymer, and Putman (2018) underscore the benefits of synchronous elements in online learning for enhancing student engagement and sense of community. Building on those insights, this study investigated student engagement and sense of community within an innovative educational framework. Specifically, we extended the research on online learning by examining the bichronous Anthropology 407 seminar offered through OSU (ANTH 407). This undergraduate seminar course consists of invited-speaker presentations which are available to students and the public, in-person as well as on Zoom. The invited speakers are a mix of academic scholars, non-academic professionals and graduate students working in areas around the world on issues key to anthropology and neighboring fields.

**Figure 1.** Conceptual understanding of bichronous online learning\*



\*Note. Figure originally published in Martin et al. (2020). Bichronous Online Learning: Blending Asynchronous and Synchronous Online Learning in *EDUCAUSE Review*. Re-used with permission.

Ecampus (fully distanced) students enrolled in ANTH 407 seminar are invited to attend each presentation live, through Zoom. Online live attendance provides them a real-time experience and the opportunity to ask questions of each speaker, while still accommodating their remote location. Recordings of these presentations (as well as past presentations) allow distance learners, especially those in different time zones, who cannot meet in real-time for the presentations an opportunity to still learn about cutting-edge applied anthropological research. This integration of both asynchronous and synchronous learning modalities provided a unique opportunity to evaluate the practical application and effectiveness of blending these learning environments. By employing quantitative and qualitative research methods, our study explored whether the bichronous model could offer superior learning outcomes compared to a purely asynchronous approach. We also explored how students perceive the impact of this blended learning model on their academic growth, skill acquisition, and professional development.

Additionally, we investigated enrollment trends and student demographics across academic terms to gain insights into the students drawn to this

innovative learning model. The goal in examining enrollment trends and student demographic information was to contribute to the ongoing dialogue regarding the potential of bichronous learning to bridge the gap between flexibility and real-time interaction in the digital learning environment.

### **Background**

Recent studies, such as Duncan, Kenworthy, and McNamara (2012), have documented the effectiveness of blended courses that combine asynchronous and synchronous learning modalities, showing significant improvements in student engagement and learning outcomes. Martin et al. (2020) introduced the term "bichronous courses" to describe this approach, highlighting their value in integrating diverse teaching methods and learning experiences. This delivery modality not only meets the diverse preferences of students but also significantly increases their interaction with the educational materials, instructors, and guest speakers. The importance of such engagement is crucial, as it plays a key role in motivating students. Enhanced motivation is linked to improved academic performance indicators, including higher retention and graduation rates, and a deeper understanding

of the subject matter, a point further emphasized by Caruth (2018). Rehman & Fatima (2021) indicated that an innovative model of asynchronous and synchronous learning, used simultaneously during a pandemic, had supported students' engagement. Rigo and Mikuš (2021) also highlighted the importance of interactivity between students in the combination of asynchronous and synchronous distance learning. In a practical application of these findings, this study evaluated the experiences of students participating in a special seminar course based on the ANTH 407 course. Due to the COVID-19 outbreak in the Spring term of 2020, the on-campus course was forced to shift its format and became exclusively available through Zoom to both students and the general public. As the pandemic extended into early 2021 and beyond, the course adapted to offer both remote and in-person options, allowing participation in either format. To further enhance engagement and learning opportunities, many on-campus instructors started offering extra credit for students who attend one or more presentations, significantly increasing the course's impact compared to its pre-pandemic, in-person only format. The transition to a hybrid model not only maintained but potentially expanded the educational reach of the course.

We were thus inspired to delve deeper into the effectiveness of this innovative course delivery method. Earlier works have warned that one of the main challenges associated with bichronous courses relates to technology (Martin et al., 2020), where students require dependable and user-friendly technologies for a successful bichronous learning experience. However, we have also observed the accessibility and reliability of the online digital platforms such as Zoom from outside of higher education. On the other hand, especially with the COVID-19 outbreak, we as educators were fully aware of the demand for flexible learning options even beyond the Canvas LMS. This understanding led us to pursue a research project aimed to investigate the intricacies of blending synchronous online (using Zoom)

presentations with asynchronous discussions on Canvas, specific to each presentation. OSU fully distanced Ecampus students attend classes within the Canvas LMS, making this a technology with which they are already very familiar.

The project was designed not only to assess the technical feasibility and educational benefits of such a model but also to address the potential barriers to its successful implementation. In order to do so, this initiative started with building a bichronous learning environment, making it more accessible and effective for students, thereby supporting their academic success and engagement with the course material. The goal of this approach was to provide a rich, interactive learning environment that could support both real-time engagement and flexible, self-paced study.

### **Course redevelopment**

The ANTH 407 Seminar is a one-credit course for participating in the OSU Anthropology Lecture Series listed in the course catalog as “Tan Sack Talks.” This series is also listed as ANTH 507/607 for graduate students and open to the general public on and off campus. The name “Tan Sack” is derived from “Brown Bag” because all the lectures or talks take place at 12pm (Pacific Time) on Fridays. The name itself is meant to encourage open or even casual interaction between the speakers and audience as well as among audience (faculty and students). The invited speakers share their latest research and professional insights, offering students valuable knowledge relevant to their studies at OSU and equipping them with skills useful in their future careers.

However, this special seminar course encountered multiple challenges. First, this course was simply not accessible to Ecampus (distanced) students. The anthropology program has a large proportion of Ecampus students, and more Ecampus anthropology majors than on-campus majors since 2020. Before this research project, the anthropology faculty had received complaints from Ecampus students on the lack of availability for this special course. Second, this special seminar course was meant to bring in diverse speakers in

order to enrich OSU anthropology students' academic experience. Due to the extremely limited travel budget of this course for potential speakers from a distance, most speakers were local scholars from OSU or nearby universities (less than two hours driving); to date, there are a very small number of anthropology scholars at or near OSU. Third, this course used to be offered only in the fall and winter terms every school year which further limited enrollment opportunities. Fall and winter terms were originally selected for two reasons. One reason is that many faculty and students were expected to be occupied by thesis defenses and other end-of-school-year events in the spring term. The other is that very few students would be on campus and take this course in the summer sessions. However, Ecampus students would be still interested in this course in the spring term and summer sessions as they tend to be less involved in the end-of-school-year events in the spring term and still available for summer courses without travel-related inconveniences. Finally, the fast spread of the COVID-19 virus in early 2020 discouraged potential speakers' travel to OSU and students' attendance in lecture rooms. It was challenging to move this special seminar course online, but once the necessary efforts were made, it was certainly worth trying to make it accessible to all Ecampus students.

Taking into consideration the benefits and challenges of this course, we carried out systemic redevelopment of this course, making it open to Ecampus students in summer, fall, winter and spring terms although only spring and summer terms were offered in both years of the study. In order to do so, we mobilized the multimedia and digital technologies in OSU lecture rooms and acquired the speakers' authorization to open up the seminar presentations for Ecampus students' real-time online viewing and interaction (e.g. asking questions). We also created video recordings of the presentations for Ecampus students to view asynchronously. This redevelopment took place during the COVID-19 pandemic. In the summer of 2020, we started preparatory work for online delivery of the

originally on-campus course including inviting speakers from around the world to give online lectures without travelling to OSU campus. The redevelopment of this course also integrated new strategies of inviting and engaging speakers. We asked students, including Ecampus anthropology students of course, for recommendations of future speakers whom they were interested in or considered helpful. We made it clear that future speakers didn't have to be anthropology scholars in the narrow sense (e.g., university professors), but could also be cross-disciplinary researchers or non-academic professionals with anthropology training. We emphasized that senior and recent alumni of OSU anthropology majors could be especially inspiring and welcome. With the seminars accessible via Zoom from the fall term of 2020 onward, we always guaranteed time for Ecampus students' live interaction (spoken or typed questions and discussion) with the speakers in real time. With the speakers' authorization, we also provided their contact information for Ecampus students' later interaction with them, especially those Ecampus students not available for live interaction.

As a result, the ANTH 407 seminar course, delivered through Canvas, was offered in two main delivery modes over four academic terms, providing students with both synchronous and asynchronous learning opportunities. The course was open to all online students at OSU, making any enrolled student a potential participant. This inclusive approach allowed for a broad representation of Ecampus students.

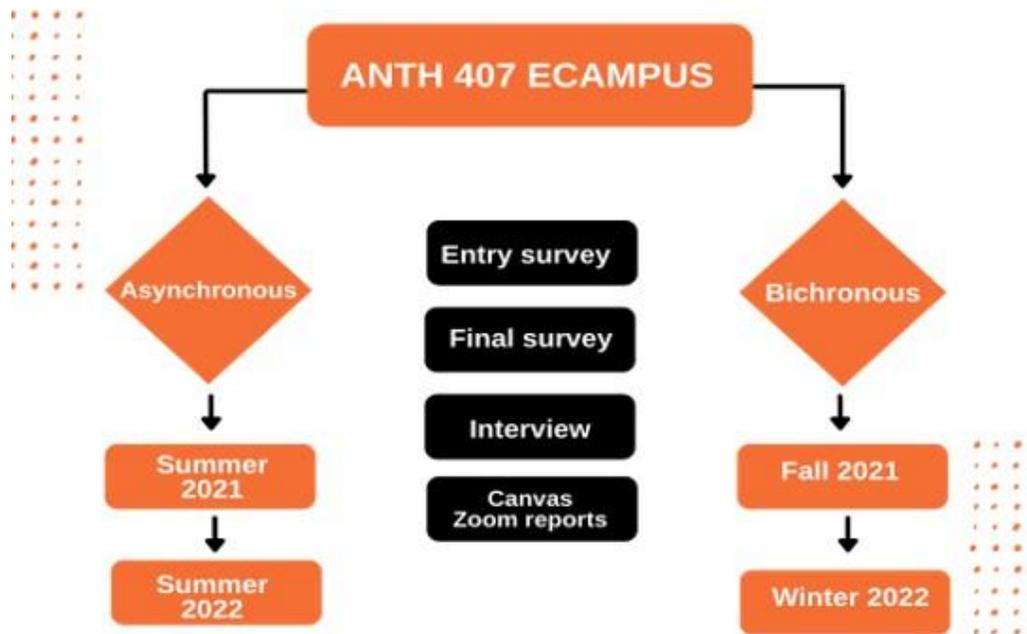
## **Study Design**

Overall, we hosted this course in asynchronous and bichronous modes from 2021 on for our comparative evaluation reported here. More specifically, during the summer terms of 2021 and 2022, the ANTH 407 seminar course was delivered in an asynchronous format, utilizing pre-recorded lectures from past Anthropological Lecture sessions. During the fall term of 2021 and the winter term of 2022, the ANTH 407 seminar course transitioned to a bichronous hybrid model,

incorporating both live (synchronous) lectures accessible via Zoom and pre-recorded (asynchronous) lectures for students who could not participate in real-time (see Figure 2). This model provided flexibility, allowing students to engage with the course content in a manner that

best suited their schedules. Additionally, the course utilized asynchronous discussion boards on Canvas, enabling students to interact with each other to foster a sense of community and collaborative learning.

**Figure 2.** Research Design



The core of our research design was a natural experiment with a comparison model (Bernard 2017), capitalizing on the course re-development timeline to facilitate a comparative analysis of different instructional interventions over time. Employing a mixed-method research approach (see Creswell, 2014), our study integrated both qualitative and quantitative methods. This dual approach was essential for addressing the complex dimensions of educational research and phenomena within the social sciences. We received a waiver from the university's Institutional Review Board (IRB) regarding specific ethical review procedures. Nonetheless, all participants were informed about the study's purpose, their rights as participants, and the confidentiality measures in place to protect their data. This information was provided when students initiated the entry and end-of-course surveys online, ensuring transparency of voluntary

participation in, and consensus of data use for this study.

### Quantitative data

When setting up the Zoom conference on Canvas for live lectures, we activated the Canvas Zoom features of recording attendance and live chats to generate reports of students' attendance at the lectures and their participation in the questions-and-answers with the speaker, usually at the end of each live lecture. These quantitative data (by time of attendance and by number of questions or comments) are simple and solid evidence of Ecampus students' active participation in the live lectures, i.e. in the bichronous format of this course. These records could be used for comparison between the synchronous (or live) sessions and the asynchronous sessions.

To gauge the educational experience and outcomes, we designed and administered surveys

at the commencement and conclusion of the course, respectively, for each of the four terms. These surveys incorporated both closed and open-ended questions and were hosted on Canvas. As shown in Appendix I and Appendix II, the surveys examined various aspects of the student experience, including motivations for course selection, initial expectations, learning outcomes, preferences between synchronous and asynchronous formats, and the course's impact on students' academic and career aspirations. Both the entry and final surveys (Figure 2) were anonymous but required components of the course. Therefore, both surveys had very high response rates, 100% for the entry survey and a 92% completion rate for the final survey, encompassing 50 students across both the bichronous and asynchronous modalities. The survey data served as the basis for comparative analyses, employing pre-and post-intervention comparisons within each term and across the asynchronous and bichronous delivery modes. For example, the two questions on students' "interests in anthropology" and "interests in this course" in the entry and exit surveys provide data for pre-and post-intervention comparison each term.

### **Qualitative data**

Qualitative data were also collected in multiple ways. The last question of the entry survey asked for students' expectations of this course, and the exit survey asked for students' suggestions of how to further improve this course. Beyond that, at the end of each term, we also invited students to volunteer for a one-on-one in-depth interview using Zoom. As shown in the attached interview guide in Appendix III, the one-on-one interview was designed to both corroborate and extend findings from the quantitative data of the surveys. We had five volunteers, but unfortunately only one student completed the interview with us. This interview lasted over 30 minutes and turned out to be successful. However, we also discovered students' public postings and discussions under the account of OSU Ecampus on online social media about this course and used these voluntary discussions as supplementary data for analysis. We

collected the accessible public posts and cited a few of them anonymously later in this report. We combined these three sources of qualitative data to identify and analyze emerging key themes of students' interests and feedback.

### **Data coding and analysis**

We integrated the quantitative and qualitative measures for comparative analyses. This allowed for a comprehensive examination of students' interests and engagement in this course and their feedback on this course. The qualitative data collected from the student interview and open-ended survey questions were analyzed using NVivo software. This process involved coding the data to identify themes, patterns, and insights relevant to the research questions. With the qualitative data collected, we took an inductive coding approach for this exploratory research. We originally planned to use deductive coding, following the keywords in the open-ended questions in the surveys and the in-depth interviews (see attached in the appendices). However, we received textual responses from almost all students to the open-ended questions of the surveys and many of their responses are long and rich (over two full sentences) beyond the scope of the questions. As mentioned above, we conducted only one valid in-depth interview but discovered additional feedback posts from online social media. With the collected qualitative data that are less structured but richer than expected, we found inductive coding would be more helpful. In short, we took a bottom-up approach to coding: instead of starting with prescribed codes, we developed codes in reviewing and analyzing the qualitative datasets. The three researchers in the team first did inductive coding (or thematic analysis) separately and then brought together coding and emerging themes to find consensus and exclude possible personal biases. Specifically, NVivo was used to facilitate the organization, coding, and thematic analysis of the qualitative responses, allowing for a nuanced understanding of student experiences and perceptions. Table 1 below shows the keywords and emerging codes from our codebook.

**Table 1.** Qualitative data coding

Keywords examples	Emerging codes/themes
powerful presentation, or different/alternative delivery, of key concepts/theories	Value of the course content: enhanced understanding of textbook knowledge
cases from, or application to, the real world	
opening-up to new ideas: exploring intercultural differences, interdisciplinary research, work from outside OSU	
choose between real-time/live and recorded lectures	Choose/pick the opportunity/option
pick from a wide range of topics in the recorded lectures	
interact with speakers	Interact/engage
engage with classmates/other students	
not feel isolated	
desire to learn more, dive deeper (into the topic), read more (of the speaker’s work)	Future growth
reach out for further study	
reach out for internship/job information	
autonomy, more motivated, self-organizing	Like/enjoy the openness/flexibility of the course design/format
excitement/joy/fun in exploring/networking	
one credit course	Flexibility for credit needs before graduation
No required textbook	No financial cost

Our analyses later in this report focus more on the first five coded themes in Table 1. The quantitative data collected through surveys were analyzed using R software. The analysis of survey data, Canvas data, and Zoom reports utilized descriptive statistical methods to evaluate student demographics, enrollment, attendance and participation. The themes identified from the qualitative data were then articulated and corroborated with the results from the quantitative analysis of Zoom attendance record and survey responses, providing a holistic view of the findings.

### Findings and Discussion

Our analysis examined whether bichronous course delivery to online learners yielded better learning outcomes than an asynchronous format. Then, we examined students' perceptions of the impact of their participation in a bichronous course on their

academic success, including improvements in skills and career advancement. We also examined enrollment trends and demographic information of students who have taken the course to gain insights for future course offerings.

The student profile for the course, as anticipated, predominantly attracted Anthropology majors (80%: see Table 2). The majority of these participants were Seniors (60%), followed by Juniors (26%). This demographic distribution underscores the course's particular resonance among students nearing the completion of their undergraduate studies. Additionally, the geographical distribution of the student body was primarily concentrated in the Pacific time zone, accounting for 64% of participants. It is worth noting that this high percentage (64%) includes a good amount of local students based in Corvallis and neighboring towns. Although this survey

**Table 2.** Descriptive statistics of the enrolled students in this study

Survey Descriptive Statistics (N=50)	f (%)
<b>Delivery Method</b>	
Asynchronous	19 (38%)
Bichronous	31 (62%)
<b>Major</b>	
A major in College of Liberal Arts but not anthropology	2 (4.0%)
A major out of College of Liberal Arts	7 (14%)
Anthropology	40 (80%)
Undecided	1 (2.0%)
<b>Class standing</b>	
Freshman	2 (4.0%)
Junior	13 (26%)
Senior	30 (60%)
Sophomore	5 (10%)
<b>Time zone</b>	
Other	1 (2.0%)
U.S. Central Time	8 (16%)
U.S. Eastern Time	6 (12%)
U.S. Mountain Time	3 (6.0%)
U.S. Pacific Time	32 (64%)

question didn't ask students to specify if they were locally based, qualitative data revealed substantial amount of local students took this Ecampus course for various reasons including (in order of high to low frequency of appearances) the COVID-19 pandemic, job responsibilities, commuting costs (time, gas and parking), and other personal health issues.

Analysis of enrollment data showed that 50 undergraduate students took the course over 4 terms as shown in Figure 3. The enrollments of the

two summer terms were 8 and 11 students respectively. In contrast, the bichronous method of delivery, delivered during the fall and winter terms, saw a slight increase in student participation from the summer terms, with enrollments of 14 and 17 students. This was substantially more from 0-5 undergraduate students in this course in previous years which had only the in-classroom option that was inaccessible to online students. The increased enrollment numbers led to a statistically meaningful pool of participants, along with the qualitative data collected, for us to investigate the study's main research questions.

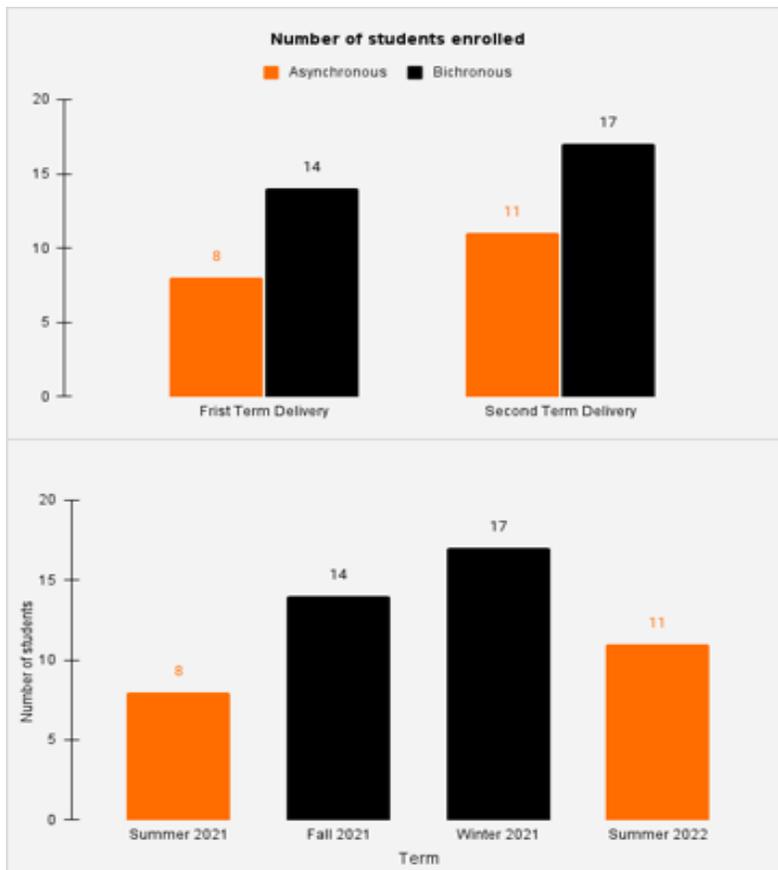
The increase in enrollment for the same terms across different academic years suggests a developing interest in the course. This interest might grow as more students become aware of this newly developed course ANTH 407, especially among those focused on online learning. The developing interests and increasing enrollment are well illustrated in these discussion posts on social media as in the screen capture anonymized and shown in Figure 4. Also note that enrollments were higher during fall and winter, which could therefore reflect the general trend of lower summer enrollments in higher education rather than a specific preference for bichronous delivery.

### Course perceptions

Our data analyses showed notable differences in students' course perceptions between the two study formats. All participants in the two summer terms, (asynchronous group), indicated that the course increased their interest in anthropology, while 90% of the students in the bichronous class group responded similarly. Thirty-eight percent of the students in the asynchronous group found the course "very helpful" or "extremely helpful" in progressing towards degree completion, while 52.5% of the students in the bichronous group did so. These responses to the final survey reflected more positive course perceptions from the bichronous group than the asynchronous group.

The qualitative data provide additional evidence of better learning experiences from the bichronous

**Figure 3.** Enrollment in ANTH 407 Ecampus courses by delivery modality across terms



**Figure 4.** Screen capture of OSU Ecampus students' discussion on joining ANTH 407



mode of this course. Students' feedback highlights this positive effect of bichronous teaching, with one student in the bichronous group noting the course's "powerful insight into present-day anthropology," and another valuing the opportunity to "apply historical context to current anthropological practices and theories."

These reflections demonstrate the seminar course's role in deepening students' understanding and practical application of anthropology. Students reported experiencing longer-term learning effects, such as a strong desire to learn, ask questions, and explore new ideas, which they attributed specifically to the synchronous lectures. Comments such as "further researched several of the topics after watching the lectures," "wanted to dive even deeper into the topics," and "enjoyed the lectures so much that they wanted to read more of the speakers' work" highlight this trend. These responses were unique to the bichronous group, likely due to the real-time interaction and engagement opportunities provided by the live lectures.

We believe that this modality allowed students to directly ask questions, clarify concepts immediately, and interact with the instructor and peers in a dynamic way, fostering a sense of community and immediacy. This real-time engagement likely heightened their intellectual curiosity and motivation to explore topics further. In contrast, while the asynchronous group could review lecture content at their convenience, the lack of real-time interaction might have limited the immediacy of their curiosity or their ability to connect personally with the material. Asynchronous modalities often lack the spontaneous, relational aspects that synchronous-bichronous sessions can provide, which may explain why such reflective and self-motivated learning behaviors were less prevalent in the asynchronous group. Such learning involves taking the initiative to learn, not being satisfied with a quick answer, and possessing intrinsic motivation for intellectual growth.

Likewise, the outcome of intercultural effectiveness was evident for both groups when students reported that the lectures enabled them to broaden their understanding of diverse cultures and cultural practices within their anthropology studies. Students highlighted their learning experiences, stating, "The most interesting and engaging lecture was on gentrification issues in San Francisco," and "I enjoyed learning about the Palenqueros in Colombia. I probably learned the most about South American countries in this course." Such exposure could foster the development of complex cognitive skills essential for decision-making in intercultural contexts, social skills crucial for effective functioning in diverse groups, and personal qualities such as flexibility and openness to new ideas.

These findings illuminate the potential benefits of delivering the ANTH 407 Seminar through both asynchronous and bichronous formats to Ecampus students, suggesting a positive impact on students' learning experiences. We observed that the bichronous approach was well received by students and showed potential in enhancing students' learning experiences. Overall, the data reveal that the bichronous course delivery effectively facilitates an integration of learning across different contexts and disciplines. This integration boosts students' engagement with anthropological theories and their application to the real world. Our findings align with the research suggesting that the use of any online blended model, which incorporates synchronous learning experiences, can enhance learning outcomes (Farros et al., 2020; Perveen, 2016) and is viewed positively by students (Peterson et al., 2018).

### **Reflections on Course Evaluation**

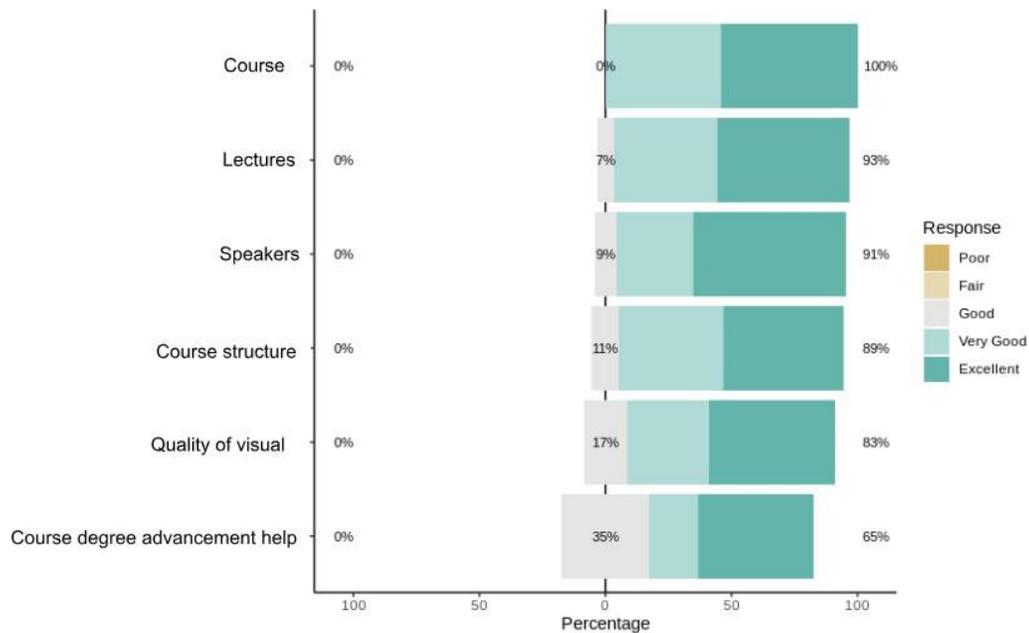
A course evaluation analysis across both groups revealed a high degree of satisfaction with this course in both formats. As shown in Appendix I and II, the surveys, especially the final survey, included multiple structured questions for course evaluation along course parameters such as the overall course, lectures, speakers, course structure, and audio-visual materials. Notably, all student

participants across both formats rated the course as either “Excellent” or “Very Good”, as shown in Figure 5.

The qualitative data also illuminates the perceived positive value of the course in both formats. We noted that students who chose either the asynchronous or the bichronous method highlighted as a special and positive aspect of this course the option to choose whether to watch the lectures live or recorded. In response to the open-ended questions, one student made a clear point that echoed many others’ feedback: "I found the option to choose the lectures you wish to view, and when to view, the most engaging aspect of the

course as it allowed me to pick the subjects." As well articulated in research (Coogle & Floyd, 2015), two associated strategies can lead to the creation of new configurations for online learning and offer several advantages, including learning at the student's own pace. The first strategy is to allow students to choose which activities and experiences to engage in at any time and place, and the second is to enrich those experiences with real-time support and guidance. Moreover, this autonomy supports the development of self-directed learning skills, a key outcome where students learn to set their educational goals, identify resources for learning, and evaluate their progress.

**Figure 5.** Anth 407 course evaluation



Some students also mentioned that they were motivated to learn because bichronous online learning was not a monotonous delivery method and provided the opportunity to interact with speakers and other students. The student in the one-on-one interview said, "I think the course offers an opportunity to students that sometimes feel really isolated from each other in Ecampus classes and gives us the opportunity to interact."

In their responses to the open-ended questions, more students shared similar feelings. For example, one referred to the bichronous mode of this course as “an amazing way to discuss the topics with others and allow me to attend lectures in real-time." Another two students highlighted the opportunity to engage and network for further study and potentially even for future career:

"The course offers a potential network with people whose research I find interesting."

"(It) Helps me engage with anthropologists."

Students' perceptions of their experiences further align with Johnson (2006), who asserted that with the hybrid delivery method (bichronous), students can be free of the sense of isolation. Based on a survey of student preferences, Dede and Kremer (1999) concluded that asynchronous courses provided "richer, more inclusive types of interchange," but less social interaction than interactive learning courses. While blended classes are more difficult to implement than asynchronous ones, "they have the advantages of providing a greater sense of presence and generating spontaneity" (Hines & Pearl, 2004, p. 34). The alleviation of the sense of isolation, as mentioned by Genevieve Marie Johnson (2006), directly contributes to a learning outcome centered around social integration and community building within the educational environment. Feeling part of a community enhances students' emotional and psychological well-being, which is crucial for sustaining motivation and engagement in their studies.

In terms of effective interactions in a synchronous environment, from the Zoom lectures' attendance, data records, survey, and interview, we found that students appreciated the opportunity to ask questions, get direct answers, and participate in live conversations and interactions. Coogler and Floyd (2015) found similar results and cited two social factors, which were considered valuable by the students: interactions with the lecturer and interactions with peers.

Students' high rating indicates that the course effectively delivered content in both modalities. We found from the analysis that bichronous online learning particularly has the potential to motivate and attract students to learn more about anthropology in this course by providing them with the flexibility to engage with the material at their own pace and according to their own schedules. This flexibility enhances students'

engagement and satisfaction, and thus provides the opportunities for a deeper understanding of anthropological concepts, theories, and practices tailored to individual learning styles and needs.

### **Academic success, skill enhancement and career progression**

The findings from our data on students' perceptions on the bichronous delivery format course suggest its potential to significantly improve their academic achievement, skill enhancement, and career progression. Analysis of student reflections in the bichronous group uncovered diverse themes that underscore the comprehensive influence of the course.

Many students, particularly those nearing graduation, emphasized the course's potential in guiding their career decisions, noting its breadth as instrumental in revealing various anthropological career paths. For example, one student articulated, "I liked that a wide range of topics was covered and that this helped guide us towards which option is best suited to us," suggesting the course served as a bridge between academic learning and practical career planning. The anticipation of engaging with innovative concepts was another recurrent theme, with students expressing eagerness to deepen their knowledge and academic skills. One student wrote, "I am excited to learn about cutting-edge research as it pertains to Anthropology," indicating a strong desire to leverage insights from professional anthropologists and researchers to enhance their research methodologies.

The importance of community and networking emerged as a significant factor, with students valuing the course's ability to foster connections within the broader anthropology community. One student commented, "We hope this course and the Anthropology Club server can link together for more active engagement," This statement reflected the students' desire for a more integrated learning experience that extends beyond the classroom. Furthermore, the exploration of interdisciplinary research, particularly studies conducted outside of their

immediate academic environment, was highlighted as a crucial expectation.

Students expressed a collective ambition to broaden their intellectual horizons as illustrated by this student, "My biggest expectation with our course is to be able to learn more about research conducted outside of OSU." Lastly, the inclusion of diverse lecture topics and external speakers was praised for enriching students' perspectives and challenging their understanding. One student commented, "We like the fact that there are often non-OSU speakers, so we can get many different perspectives and viewpoints on the research being presented," underlining the course's role in fostering a comprehensive and practical application of anthropological knowledge. Although these benefits were more frequently emphasized by students in the bichronous modality, it is important to acknowledge that such aspects can be found in both modalities of the course (bichronous and asynchronous). However, the bichronous format, by integrating real-time interaction, appears to amplify these responses, possibly due to the opportunity for direct interaction, real-time clarification of questions, and the dynamic nature of synchronous discussions, which contribute to a more immediate and active engagement with the content presented.

The insights from Fouad et al., (2009) study align closely with feedback from participants in our anthropological course, emphasizing the course's effectiveness in expanding students' career perspectives within anthropology. This mirrors the study's findings on the perceived benefits of courses that include career decision-making and professionals, which not only broaden students' understanding of various career paths but also integrate professional insights, enhancing their educational journey. Such courses act as pivotal bridges, linking academic theories to real-world applications and motivating students to deeply explore their field, ultimately guiding their future career choices with informed decisions. In summary, the reflections from students point to the bichronous course's potential in enhancing

their academic journey and professional development. This suggests a promising capacity for the course to bridge theoretical understanding with practical application, preparing students for future challenges in their careers with cautious optimism.

## **Possible Conclusions**

Our investigation into the ANTH 407 Ecampus course's delivery methods reveal a positive student response towards the bichronous learning model. This model is recognized for potentially blending the best aspects of both traditional in-person and flexible online environments. With the rise in online participation, feedback from Ecampus students expressing their interest in both asynchronous access to the lectures for later viewing and the opportunity for synchronous participation for credit has notably increased. This highlights a growing demand for flexible learning options that accommodate various student needs and schedules.

The evidence of high satisfaction across both student groups concerning various course aspects—such as overall course design, lecture quality, speaker engagement, course structure, and the use of audio-visual materials—underscores the appeal of both the bichronous and asynchronous format. Notably, students appreciated the bichronous learning for its dynamism and the autonomy it provides in selecting lectures, topics, and speakers, which, in turn, may enhance motivation by diverging from a monotonous delivery style.

Our data also suggests the bichronous format's capacity to foster an integrative learning environment. By enabling connections across diverse anthropological contexts, perspectives, theories, cultures, and practices, the course potentially aids students in making progress towards their degrees through varied educational outcomes. Additionally, the format seems to encourage a greater willingness among students to engage actively with class materials and collaborate with peers, enriching the learning experience.

Students have articulated that the bichronous delivery of the ANTH 407 course plays a significant role in their academic and career development. They commend the course for its comprehensive content and the opportunities it provides for engagement, exploration, career guidance, skill enhancement, and fostering connections within the academic community and across disciplinary boundaries.

### **Limitations and Future Directions**

Despite the enthusiasm for the bichronous model and its perceived benefits, it is crucial to approach these findings with a degree of caution due to the acknowledged data limitations and the absence of a comprehensive comparison with asynchronous learning outcomes. Therefore, while the patterns observed in our study suggest that the ANTH 407 course is an appealing and viable educational option for students—regardless of the specific delivery method—these conclusions should be viewed as preliminary.

This study and its findings had several limitations. Challenges, ranging from the unforeseen impacts of the COVID-19 pandemic to the intricacies of our research design, have significantly shaped the study's timeline and affected the generalizability of our findings. The pandemic, in particular, has cast a long shadow, exacerbating issues such as participant engagement due to increased reports of anxiety and depression among college students, as noted by Wang et al. (2020). This backdrop likely influenced our participants' willingness to engage fully with the study, including their attendance at the one-on-one interviews. We suspect the limited number of interviewees was also due to the practically bad timing of the interview in the final exam week of every term and also due to the lack of monetary or course credit compensation for potential interviewees.

In light of these challenges, we recognize the need for future research to conduct larger-scale studies across more diverse academic settings. Such expansion would not only address the limitations posed by our relatively small sample size but also pave the way for more comprehensive and

generalizable insights into the comparative effectiveness of bichronous and asynchronous delivery methods.

Acknowledging these limitations opens up vital pathways for future research. There is a clear necessity to focus on comprehensively analyzing bichronous courses within online settings, employing larger sample sizes, clearer definitions of delivery methods, and direct questioning to minimize confusion and enhance the quality of data collected. By undertaking a systematic exploration of the effectiveness and benefits of bichronous learning in comparison to traditional formats, subsequent studies have the potential to yield valuable insights. These insights will be instrumental in optimizing online education, informing best practices, and guiding policy decisions in the ever-evolving landscape of digital learning, thus enriching the academic community's understanding and implementation of effective distance education strategies.

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[9](#)

# Appendix 1

## Survey 1: Entry Survey

1. What is your Major?
    - a. Anthropology
    - b. a major in College of Liberal Arts but not anthropology
    - c. A major out of College of Liberal Arts
    - d. Undecided
  
  2. What is your current class standing?
    - a. Freshman
    - b. Sophomore
    - c. Junior
    - d. Senior
    - e. Other
  
  3. When are you planning to graduate?
    - a. This school year
    - b. Next school year
    - c. A school year after next
  
  4. Why did you choose this course (2-3 top reasons)?
    - a. I like or I need the flexibility of one credit to meet the course credit requirements
    - b. I like or I need a Pass/No Pass course
    - c. I like this course's lectures on cutting edge research and applied work in real world settings
    - d. I like having mostly external (non-OSU) speakers in this course
    - e. I like the synchronous (real-time) direct interaction with the speakers and other students in this course
    - f. I like the special and flexible design of this course that allows both synchronous and asynchronous participation
  
  5. Have you taken this course before?
    - a. Yes
    - b. No
  
  6. If you have not taken this course before, how did you know about this course?
    - a. From other OSU students
    - b. Recommended in other anthropology course(s) I took
    - c. From OSU website and/or newsletters
    - d. From postings on social media
    - e. From my advisor
    - f. Other\_\_\_\_\_
  
  7. What will be your primary time zone for the Fall 2020 semester?
    - a. U.S. Eastern Time
-

- b. U.S. Central Time
- c. U.S. Mountain Time
- d. U.S. Pacific Time
- e. Other: \_\_\_\_\_

8. To what degree are you interested in the topic of Anthropology?

- a. Not at all interested
- b. Slightly interested
- c. Moderately interested
- d. Very interested
- e. Extremely interested

9. Have you been or are you currently engaged with organizations or activities related to Anthropology?

- a. Not at all engaged
- b. Slightly engaged
- c. Moderately engaged
- d. Very engaged
- e. Extremely engaged

10. What are your expectations about this course?

## Appendix II

### Survey 2 - Final Survey

1. Overall, how would you rate this course?
    - a. Excellent
    - b. Very Good
    - c. Good
    - d. Fair
    - e. Poor
  
  2. How would you rate the lectures?
    - a. Excellent
    - b. Very Good
    - c. Good
    - d. Fair
    - e. Poor
  
  3. How would you rate the speakers?
    - a. Excellent
    - b. Very Good
    - c. Good
    - d. Fair
    - e. Poor
  
  4. How would you rate the course structure? (logical, easy to follow, confusing)?
    - a. Excellent
    - b. Very Good
    - c. Good
    - d. Fair
    - e. Poor
  
  5. How comfortable did you feel asking questions after the lectures?
    - a. Extremely comfortable
    - b. Very comfortable
    - c. Somewhat comfortable
    - d. Not so comfortable
    - e. Not comfortable at all
  
  6. How would you rate the quality of visuals (video and audio)?
    - a. Excellent
    - b. Very Good
    - c. Good
    - d. Fair
    - e. Poor
-

7. How easy or difficult was it to understand the key concepts?
    - a. Very difficult
    - b. Difficult
    - c. Fair
    - d. Easy
    - e. Very Easy
  
  8. Has this class increased your interest in anthropology?
    - a. Yes
    - b. No
  
  9. Is this course helpful in progress toward your degree?
    - a. Not helpful
    - b. Somewhat helpful
    - c. Helpful
    - d. Very helpful
    - e. Extremely helpful
  
  10. Which topics do you wish were more in-depth?
    - a. All the topics
    - b. Almost all the topics
    - c. Some of the topics
    - d. None of the topics
  
  11. Did you skip any parts?
    - a. Yes
    - b. No
  
  12. Please identify what you consider to be the strengths of the course (you can choose more than one alternative)
    - a. The lectures
    - b. The speakers
    - c. The course structure
    - d. The topics-concepts
    - e. The number of credits
    - f. The time that it is offered
  
  13. Please identify area(s) where you think the course (or section) could be improved (you can choose more than one alternative)
    - a. The lectures
    - b. The speakers
    - c. The course structure
    - d. The topics-concepts
    - e. The number of credits
    - f. The time that it is offered
-

14. What made you stick to the end of the individual lectures you attended?
- The lectures
  - The speakers
  - The course structure
  - The topics-concepts
  - The number of credits
  - The time that it is offered
15. Are there specific topics you want to see in the course?
- Not really...
  - Yes, such as \_\_\_\_\_
16. Did you research some related topics during the course, using Google, Wikipedia, or books?
- Yes.  
Why? \_\_\_\_\_
  - No.
17. Would you consider taking this course again, since all of the lectures you would attend would be different speakers?
- Yes
  - No
18. Would you recommend this course to another student?
- Yes  
What advice would you give to them? \_\_\_\_\_
  - No
19. What is one thing of this course that you learned the most from? (or found the most engaging)
20. What are one to three specific things about the course that could be improved to better support student learning?

## Appendix III

### Guiding questions for in-depth interviews

- Why did you choose this course?
- To what degree are you interested in the topic of Anthropology?
- What were your expectations about the course? Did you find your expectations met?
- What you learned the most from this course? (or found the most engaging)
- What about the course that could be improved to better support student learning?
- Do you like the synchronous (real-time) direct interaction with the speakers and other students in this course? What do you think about it?
- Do you like the asynchronous design of this course? What did you like or dislike about the asynchronous elements of the course?
- How would you describe the course in terms of structure (logical, easy to follow, confusing)?
- What do you consider to be the strengths and the weaknesses of the course?
- Has this class increased your interest in anthropology? Why or why not?
- Was this course helpful in progress toward your degree? In what ways?
- Was this course helpful for your future career, either towards graduate school or a job after your graduation? In what ways?

## About the Research Unit at Oregon State Ecampus

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### Vision

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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