UNIVERSITY OF CALIFORNIA

Santa Barbara

Understanding the curricular (re)design and technology integration process of a community-based Education course from a face-to-face to online modality in a R1 university during the coronavirus pandemic

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Education

by

John José Cano

Committee in charge:

Professor Diana Arya, Co-chair

Professor Dorothy Chun, Co-chair

Professor Mary Betsy Brenner

Ph.D. Mindy Colin

September 2021

The dissertation of John J. Cano is approved.

_____

Mary Betsy Brenner

_____

Mindy Colin

_____

Dorothy Chun, Committee Co-chair

_____

Diana Arya, Committee Co-Chair

September 2021

Understanding the curricular (re)design and technology integration process of a community-based Education course from a face-to-face to online modality in a R1 university during the coronavirus pandemic

VITA OF JOHN J. CANO

August 2021

EDUCATION

Ph.D. Education (2021)

University of California Santa Barbara

Dissertation: Understanding the curricular (re)design and technology integration process of a community-based Education course from a face-to-face to online modality in a R1 university during the coronavirus pandemic

M.A. Education (2019)

University of California Santa Barbara

Thesis: Perceptions of undergraduate students on engagement in a community-based afterschool program (discourse analysis)

M.Ed. Education, Educational Technology (2016)

Universidad del Norte, Colombia. (Cum Laude)

Thesis: Development of the intercultural competence and digital competence of higher education students in online education.

B.S. Computer Science (2011)

Universidad del Norte, Colombia.

Teaching certification

Higher Education Pedagogy. Universidad del Norte (2014-2015).

RESEARCH INTERESTS

- Educational Technology
- Digital Citizenship
- Intercultural Education
- Online Education
- Student Engagement

POSITIONS HELD

"Club Proteo" Instructional Coordinator (Digital literacy), September 2019 – June 2021
The Gevirtz Graduate School of Education in partnership with the Goleta's Boys and Girls Club
University of California, Santa Barbara

Instructional Technology Coordinator, October 2017 – June 2021
McEnroe Reading & Language Arts Clinic
The Gevirtz Graduate School of Education
University of California, Santa Barbara

Graduate Student Researcher for Community Based Literacies, September 2018 – June 2021
The Gevirtz Graduate School of Education
University of California, Santa Barbara

Instructional Design Intern, January 2020 – March 2021
Office of Instructional Consultation
Department of Instructional Development
University of California, Santa Barbara

Instructional Design Assistant, April 2020 – June 2020
Collaborate Service & Support
College of Letter & Science
University of California, Santa Barbara

Literacies in Environmental Awareness and Farming for Youth "LEAFY" Instructional program Coordinator (Digital literacy), September 2018 – June 2019
The Gevirtz Graduate School of Education in partnership with the Goleta Boys and Girls Club
University of California, Santa Barbara

Instructional Designer, October 2014 – December 2016
Online Education Department
Corporación Universitaria Americana, Colombia.

Educational Researcher, August 2013 – September 2017
IESE – Instituto de Estudios en Educación
Education Department
Universidad del Norte, Colombia.

Educational Technology Assistant, November 2014 – September 2015
IESE – Instituto de Estudios en Educación
Education Department
Universidad del Norte, Colombia.

Software Developer, August 2011 – August 2012
Universidad del Norte, Colombia.

UNIVERSITY TEACHING EXPERIENCES (Undergraduate level)

University of California, Santa Barbara - Department of Education (January 2018 — June 2021)

Research on Teaching and Learning in K-12 Sociocultural Contexts (Ed 124, Ed. Minor) — Winter 2019

Co-Instructed a practicum course for 60 education minor students.

Undergraduate Research Supervisor (Ed 199, Independent Study) - January 2018 — June 2021

Managed and supervised the work of undergraduate students in doing research in K-12 educational technology.

Universidad del Norte (Colombia) — Department of Education (2015—2017)

E-Learning (Education major) — 2015—2017 (6 semesters)

Full instructor in an online course for education majors.

Educational Technology (Education major) — 2016—2017 (2 semesters)

Full instructor in blended/hybrid course offered to education majors.

Intercultural Education (Education major) — 2016—2017 (3 semesters)

Full instructor in online course offered to education majors.

Universidad de Castilla la Mancha (Spain) — Department of Pedagogy (2015)

Social Media and Networks in Education (Education major with emphasis in Educational Technology) — 2015 (1 semester).

Co-instructed a critical and practicum course in the use of digital media and Web 2.0 for instructional purposes for 20 students of the education major.

UNIVERSITY TEACHING EXPERIENCES (Graduate level)

University of California, Santa Barbara - Teacher Education Program (2020-2021)

ED 324: Instructional Technology for Elementary Teachers — ED 324 prepares Credential Candidates with the knowledge, skills and experience to utilize technology to engage and support all students in learning. The course surveys current and emerging instructional pedagogies that utilize common classroom technology in order for participants to create and maintain effective environments for student learning.

University of California, Santa Barbara - Teacher Education Program (2018-2019)

Guest lecture with ongoing consultation: The power of educational technology for K-12 students: The Dialogic affordances of Seesaw

Universidad del Norte (Colombia) - Department of Education (2016—2017)

Media in Education (M.Ed. course) — 2016-2017 (3 semesters)

Co-instructed a critical and practicum course in the use of multimedia and digital literacies for 20 future researchers

Curricular Integration of Technology (M.Ed. course) — 2016-2017 (3 semesters)

Co-instructed a discussion-based and practicum blended course in the

pedagogical aspects for technology integration in both K-12 and higher education.

Intercultural Education (M.Ed. course) — 2017 (1 semester)

Co-instructed a critical and practicum course in pedagogical considerations to create an inclusive technology-based curriculum for K-12 and higher education contexts.

Research project tutor (M.Ed. research project/thesis) — (3 semesters)

Co-tutored Master students (in-service teachers) in their in Educational Technology research project (research topic selection, context selection, methods, data collection, writing).

K-12 TEACHING EXPERIENCES

University of California, Santa Barbara in partnership with Santa Barbara High School (Santa Barbara, CA) - January 2018 – May 2018

Instructor for the SKILLS project (School Kids Investigating Language in Life and Society).

University of California, Santa Barbara in partnership with Dos Pueblos High School (Goleta, CA) - January 2019 – May 2019

Instructor for the SKILLS project (School Kids Investigating Language in Life and Society).

PUBLICATIONS

Refereed Articles (under review):

Turula, A., Grau, M., Chun, D., & **Cano, J**. Social and cognitive affordances of chat technologies: A critical look at the CoI model. Manuscript under review.

Refereed Articles (in press):

Cano, J., Ricardo, C., Llinás, H., Mizuno, J. Learning activities using videos to strengthen intercultural competence.

Refereed Articles (published):

Ricardo, C., Parra, J., Borjas, M., Valencia, J., & **Cano, J.** (2020). Potencial de la educación a distancia para reducir brechas de aprendizaje en educación superior: Una mirada al caso colombiano. American journal of distance education, DOI:10.1080/08923647.2020.1756024

Quintero Solano, A., Riveira Zuleta, C. A., Mosquera Arteta, A., **Cano Barrios, J.**, y Manotas Salcedo, E. (2019). Eficacia intercultural y uso de videos: caracterización de la producción audiovisual de estudiantes de básica secundaria del caribe colombiano. Revista colombiana de ciencias sociales, 10(1).

Ricardo-Barreto C, Cervantes M, Valencia J, **Cano-Barrios J** and Mizuno-Haydar J (2018) Colombian elders and their use of handheld digital devices. Front. Psychol. 9:2009. doi: 10.3389/fpsyg.2018.02009

Navarro, V., Ricardo, C., Astorga, C., **Cano, J**., y Escalante, E. (2018) Formación y desarrollo de competencias TIC e intercultural de educadores infantiles para la convivencia escolar, Revista de paz y conflictos, Vol. 11(1), pp. 117-142. DOI: 10.30827/revpaz.v11i1.6490

Cano Barrios, J., Dominguez, A. & Ricardo, C. (2018). Fortalecimiento de la competencia TIC de estudiantes de educación superior en ambientes virtuales de aprendizaje. Revista espacios. Vol. 39-25, pp. 35-46.

García, L., Pernett, A., & **Cano, J**. (2017). Estudio exploratorio de usabilidad para niños de Colombia. Zona Próxima, (26).

Cano Barrios, John., Ricardo Barreto, Carmen., Del Pozo Serrano, Francisco. (2016) Competencia intercultural de estudiantado de educación superior: Un estudio en la Universidad del Norte (Barranquilla. Colombia) Revista Encuentros, Universidad Autónoma del Caribe, Vol. 14-02, pp. 159-174.

Cano, J. (2014). Interacción niño-computadora: La importancia de una buena usabilidad web para el aprendizaje ideal en niños de edad pre-escolar. Revista Lumen, Universidad del Norte, Colombia.

Books (published):

Hirsch, S., Arya, D.J., & **Cano, J**. (2021). *STEMinists in the wild: Exploring life on a changing planet.* San Francisco, CA: Xóchitl Justice Press.

Book chapters (published):

Cano-Barrios, J., Navarro-Angarita, V., & Alvarez-Arevalo, O. (2020). Hacia una educación inclusiva de calidad: una mirada reflexiva a la importancia de fomentar ciudadanos y educadores con competencias interculturales en Colombia. In D., Flórez González (Comp.). Calidad a sangre fría. Fondo editorial universidad católica Luis Amigó. (Access here)

Ricardo, C., **Cano-Barrios, J.**, Astorga, C., Navarro, V., & Castaneda, M. (2019). Tendencias de investigación en educación mediada por tecnologías de la Información y de la comunicación de la maestría en educación (Trends in Educational Technology research in the

Caribbean Coast of Colombia). In J. Mizuno (comp.), Investigación educativa desde el caribe colombiano (pp. 53-80). Barranquilla: Editorial Universidad del Norte. (Access here)

Ricardo, C. y **Cano, J.** (2018). Diseño de actividades de aprendizaje virtuales para favorecer el desarrollo de la competencia intercultural del profesorado. En F. Del Pozo (Comp.), Pedagogía Social en Iberoamérica: Fundamentos, Ámbitos y Retos para la acción educativa (pp. 217-236). Barranquilla: Editorial Universidad del Norte

Ricardo, C. y **Cano, J**. (2015). Desarrollo de la competencia intercultural de estudiantes en formación virtual. En F.J. Durán y E. Said (Eds.). TIC y sociedad digital: Educación, infancia y derecho (92-104). Granada, España: Editorial Comares. (Access here)

Book chapters (in press):

Arya, D.J., Muller, A., **Cano, J.**, Hyun, F., Rice, M., Christman, D. (in press). Undergraduate service learning as a context for exploring the 'Institutional Void' of higher education. In Pursuit of Liberation: Critical Service-Learning as Capacity Building for Historicized, Humanizing, and Embodied Action.

Cano-Barrios, J., De Frutos-Garcia, S., & Lee, J.S. El diálogo intercultural como base para la promoción de la ciudadanía digital en educación secundaria. In C. Ricardo-Barreto, **J. Cano-Barrios** & A. Ruiz-Cabezas (Eds.). *Educación Intercultural y TIC: Formación e innovación del profesorado y estudiantes.* Barranquilla, Colombia: Editorial Universidad del Norte.

Cano-Barrios, J. & Ricardo-Barreto, C. Diseño de actividades de aprendizaje para favorecer el desarrollo de la competencia intercultural de estudiantes de educación superior en ambientes virtuales de aprendizaje. In C. Ricardo-Barreto, **J. Cano-Barrios** & A. Ruiz-Cabezas (Eds.). *Educación Intercultural y TIC: Formación e innovación del profesorado y estudiantes.* Barranquilla, Colombia: Editorial Universidad del Norte.

Navarro-Angarita, V., **Cano-Barrios, J.**, & Ricardo-Barreto, C. Modelo de Formación de docentes para promover el desarrollo de las competencias Interculturales y TIC (INCULTIC). In C. Ricardo-Barreto, **J. Cano-Barrios** & A. Ruiz-Cabezas (Eds.). *Educación Intercultural y TIC: Formación e innovación del profesorado y estudiantes.* Barranquilla, Colombia: Editorial Universidad del Norte.

Navarro-Angarita, V., **Cano-Barrios, J.**, Pestana,Y., & Durier, Q. CIUDATIC: Una propuesta de formación de ciudadanos interculturales en educación secundaria. In C. Ricardo-Barreto, **J. Cano-Barrios** & A. Ruiz-Cabezas (Eds.). *Educación Intercultural y TIC: Formación e innovación del profesorado y estudiantes.* Barranquilla, Colombia: Editorial Universidad del Norte.

Ruiz-Cabezas, A., Ricardo-Barreto, C., & **Cano-Barrios, J.** Abordaje conceptual desde la educación intercultural y las tecnologías. In C. Ricardo-Barreto, **J. Cano-Barrios** & A. Ruiz-

Cabezas (Eds.). *Educación Intercultural y TIC: Formación e innovación del profesorado y estudiantes.* Barranquilla, Colombia: Editorial Universidad del Norte.

Ricardo-Barreto, C., & **Cano-Barrios, J.** Competencias interculturales desde Ambientes Virtuales de Aprendizaje: propuestas de actividades de aprendizaje para el profesorado. In F. Del Pozo Serrano (Ed.). *Intervención educativa en contextos sociales: Aportes de la Pedagogía Social.* Barranquilla, Colombia: Editorial Universidad del Norte.

Navarro-Angarita, V., Ricardo-Barreto, C., **Cano-Barrios, J.**, & Astorga-Acevedo, C. Diseño de experiencias de aprendizaje mediadas por TIC para favorecer las competencias ciudadanas y comunicativas en la infancia. In C. Ricardo Barreto, **J. Cano Barrios**, C. Astorga Acevedo, & M. Borjas (Eds.), *Ambientes de aprendizaje enriquecidos con TIC en educación infantil: Una mirada internacional.* Barranquilla, Colombia: Editorial Universidad del Norte.

Cano Barrios, J., Nation, J., Pulgar, J., Arya, D., & Durán, R. (in press). Narrativas digitales para fomentar el interés en el aprendizaje de ciencias (Digital storytelling to foster interest in STEM learning). In C. Ricardo Barreto, **J. Cano Barrios**, C. Astorga Acevedo, M. Borjas, & V. Navarro Angarita (Eds.), *Ambientes de aprendizaje enriquecidos con TIC en educación infantil: Una mirada internacional.* Barranquilla, Colombia: Editorial Universidad del Norte.

Book Reviews:

Cano Barrios, J. (2019). [BOOK REVIEW DIGITAL CITIZENSHIP: A COMMUNITY-BASED APPROACH Written by Susan M. Bearden]. The Turkish Online Journal of Distance Education (TOJDE). 20(1).

Conference Presentations:

Chow, M., & **Cano Barrios, J**. (2020, May). Kids' perceptions of gaming experience and learning with the Nintendo Labo. Presented at the *UCSB's Gevirtz Graduate School of Education Interdisciplinary Research Symposium.* Santa Barbara, CA, USA.

Cano Barrios, J., & Arya, D. (2020, February). Ethnographic strategies for capturing & (re)presenting participant voices. Presented at the *University-Community Links (UC Links) International Conference.* Berkeley, CA, USA.

Cano Barrios, J. (2019, November). Fostering Digital Citizenship in High Schoolers: an experience with English Learners in California. Presented at Congreso Internacional: Interdisciplinariedad & Desarrollo. Barranquilla. Colombia.

Ventayol-Boada, A., Hernández Martínez, C., **Cano-Barrios, J.**, & Campbell, E.W. (2019, October 10-12). "Elaboración derecursos didácticos digitales para el Tù'un na Ñuu Sá Matxíì: gamificación, documentación ycolaboración con la comunidad." 9th Conference on Indigenous Languages of Latin America. University of Texas, Austin (USA).

Turula, A., Grau, M., Chun, D., & **Cano, J.** (2019, July). The Social and Cognitive Affordances of Chat Technologies in a Three-way Telecollaboration. Presented at *The XXth International CALL Research Conference.* Hong Kong, China.

McBeath, J., **Cano Barrios, J**., **To, A., & Arya, D. (2019, April). An exploration of preadolescent perceptions about engagement in interdisciplinary research. Paper presented at *Annual Meeting of the American Educational Research Association*, Toronto, Canada.

Cano Barrios, J. (2019, March). Undergraduate students' engagement in a community-based afterschool program. Presented at the *University-Community Links (UC Links) International Conference.* Berkeley, CA, USA.

Ventayol-Boada, A., Hernández Martínez, C., **Cano Barrios, J.**, & Campbell, E. (2019, March). Designing teaching resources for San Martín Duraznos Mixtec through gamification. Paper presented at the sixth edition of the *International Conference of Language Documentation & Conservation (ICLDC)*, Honolulu, Hawaii, USA.

Cano, J. (2017). Using Educational short-length videos to foster the Intercultural Competence of Higher Education Students in Virtual Learning Environments - "X Simposio: Las Sociedades ante el Reto Digital" (2017), Universidad del Norte. Barranquilla, Colombia. https://www.youtube.com/watch?v=1CZf6uuXQMU

Cano, J. (2015). Development of the intercultural competence of higher students in online education. "VIII Simposio: Las Sociedades ante el Reto Digital". Universidad del Norte. Barranquilla, Colombia. http://es.slideshare.net/OECCUninorte/presentacion-reto-digital-2015

Cano, J. (2015). Development of the intercultural competence of higher students in online education - "II Congreso Internacional de la Sociedad Digital: Educación, Infancia y Derecho". Universidad de Granada. Granada, Spain. http://es.slideshare.net/OECCUninorte/presentacion-reto-digital-2015

SOFTWARE PRODUCTION

Borjas, M., **Cano, J.**, De Castro, A., Ricardo, C. (2014). REDEI: Recursos Educativos Digitales para la Educación Infantil. http://ylang-ylang.uninorte.edu.co:8080/redei/

Cano, J., García, P., Morales, G. (2014). EXPRESGRAF: Software Educativo para la enseñanza de la expresión Gráfica. http://ylang-ylang.uninorte.edu.co:8080/expresgraf/index.php

GRANTS

"Young researcher award" - Administrative Department of Science, Technology and Innovation (Colombia) — Colciencias (2015): Research Scholarship/grant to support the Project "*Use of short-length educational videos to promote the development of the intercultural competence of higher education students*".

"Young researcher award" - Administrative Department of Science, Technology and Innovation (Colombia) — Colciencias (2014): Research Scholarship/grant to support the Project "*Development of the intercultural competence and digital competence of higher education students in online education*".

HONORS & AWARDS

UCSB's Chicano Studies Institute Dissertation Award (2020-2021):

Dissertation award provided to graduate students working on dissertations that address social and/or environmental justice topics affecting U.S. Latina/o/x communities.

UCSB's Multidisciplinary Research on the Coronavirus and its Impacts (MRCI) grant (2020):

The MRCI Graduate Student Minigrant program (provided by UCSB's Graduate Division) supports research and creative projects by individual graduate students or teams of UCSB graduate students during the 2020 Summer Session that provide insight into COVID-19 and its impacts. The grant program encourages applications from a wide variety of disciplines to explore the many dimensions of impact.

The purpose of the grant program is not only to fund valuable research and creative projects but also to create a multi-disciplinary community that allows graduate students to learn from each other about different research approaches and about communicating research to a variety of audiences.

Honorable mention - Big Ideas (2018):

Project: "Let's learn Mixteco", University of California, Berkeley – May 2018. https://bigideascontest.org/projects/lets-learn-mixteco/

Teaching Excellence award (2016):

Award given by Universidad del Norte to those teachers who are distinguished for being innovators in the classroom and provide an enrichment experience within and outside the classroom to their students.

Distinguished student (2014-2015):

Distinguished student of the Master of Education program. Universidad del Norte (Colombia).

ABSTRACT

Understanding the curricular (re)design and technology integration process of a community-based Education course from a face-to-face to online modality in a R1 university during the coronavirus pandemic

by

John J. Cano

The field of study of "emergency online education" is relatively new, and the contributions to this topic have provided a relevant insight on how higher education institutions and its members can best be prepared and respond to unexpected emergency situations as they arise in order to keep instruction going in online/remote modality. However, most of these studies have been focused on very particular and context-situated emergencies (e.g., local earthquakes, floods, hurricanes, and others), and it was not until March 2020 when higher education institutions across the U.S. and around the world had to deal with massive campus closures due a world-wide pandemic—the coronavirus (Covid-19) pandemic— forcing educators to transition teaching their courses from a face-to-face to fully online modality within a short period of time.

This study was designed to get an in-depth understanding on how an education minor course at a R1 University was (re)designed and how technology was integrated in its curriculum during the first stage of the coronavirus pandemic (Spring 2020). To examine this, an ethnographic approach was used, using the components of Ertmer & Ottenbreit-Leftwich's (2010) "Technology Change" framework (Technology knowledge and self-efficacy; Pedagogical beliefs; and Institutional culture) as analytical lenses (Gee, 2004).

Multiple (multimodal) data types (email exchanges, Websites, digital documents, and recorded Zoom conversations) were collected to create an archive that helped in getting a better understanding of what was accomplished, what counted as important, under what conditions and for what purposes when the studied course had to be redesigned and be technology-mediated to transition from face-to-face to online/remote modality during the COVID-19 pandemic.

I found how important the pedagogical and technological support provided by the university and the faculty's immediate context (e.g., staff, students, colleagues) was to provide guidance in the process of rethinking the curriculum and integrating technology for teaching and learning during the first stage of the Covid-19 pandemic. I also found how important the pedagogical philosophy and beliefs were for this course's successful implementation and the selection, integration, and usage of digital technologies for teaching and learning. However, emerging challenges arose as the academic Spring quarter of 2020 unfolded in relation to the unprecedented hardships and uncertainties—brought by the coronavirus pandemic—students had to face, and how these situations triggered challenges—related to the instructor's flexibility, assessments, pedagogical practices, and students' engagement and wellbeing—that were not initially considered by universities while preparing faculty, instructors, and teaching assistants to transition to remote/online modality in order to maintain instructional plans.

Table of content

1. Introduction

In January of 2020, the world was hit by one of the biggest public health threats of the 21st century: the massive outbreak of the coronavirus—Covid-19 (World Health Organization, 2020). Such an event shook our world, bringing a period of uncertainty and fear. This public health threat forced governments to take immediate actions in order to prevent the outbreak from growing exponentially. In the United States of America (USA), each state started to make decisions in order to mitigate the propagation of the Covid-19. Such actions included restricting people to self-quarantine, effectively shutting down many of our businesses and institutions, in order to avoid social approaches as possible so the chances of being infected were lower.

While these actions were done to prevent the virus from spreading faster and keep people healthy, they affected other important areas, like education. Many higher education institutions had to temporarily close their campuses and transition to remote/online instruction. Students with the flexibility and opportunity to do so were advised to go back to their hometowns and take their classes for the second half of the semester (or spring quarter) remotely. All such decisions prompted the university's faculty members to make quick decisions and take action in order to respond to their responsibilities while adapting their instruction from a face-to-face scenario to fully remote/online instruction.

We live in times where the use of technology is implicit in most everyday activities. With minimal forethought, we look on the Internet for information we need; use job or tasks management tools (e.g., e-mails, calendars, to-do-lists, reminders, among others); share content and ideas through social networks; communicate with our family, friends, colleagues

and others through instant message and video calling applications. The coronavirus pandemic forced universities around the globe to make immediate transitions from face-to-face to online/remote teaching, hence more than ever before, the world must rely on technology.

This transition to fully digital-mediated (online/remote) education raised concerns for higher education institutions that tried to provide respective faculty and instructors the resources they would need to integrate digital tools in their curriculum so the transition to online/remote instruction could happen.

The use of technology for teaching and learning has been seen as a powerful resource for supporting a more socio-constructivist—e.g., knowledge is built/constructed socially and in a situated manner — (Vygostsky, 1986). However, the effectiveness of such technologies and its curricular integration depends on the intentionality of selected tools and how their uses are aligned with the learning objectives of the curriculum (Tondeur, van Braak & Valcke, 2007; Ertmer & Ottenbreit-Leftwich, 2010; Lawless & Pellegrino, 2007). But how can technology be integrated in the curriculum redesign process in order to respond to the Covid-19 pandemic emergency transition to online/remote modality?

The coronavirus pandemic pushed educators of all different levels (K-12 and higher education) to reconsider their perspective and positionality towards ICT for teaching and learning. It did not matter if they liked, had the skills, or used such technologies before; university's faculty had to adapt accordingly in order to keep their instruction going. As such, the coronavirus pandemic became an unprecedented event in modern education, pushing educators to rely on online/remote education more than ever before. Such a fast transition—around two to three weeks for some cases—had university faculty rushed to explore various

digital technologies to potentially include in their curricula in order to keep instruction happening during the rest of the 2019-2020 academic year.

This study is a qualitative exploration of the lived experiences of a research scholar and educator at a research university during the coronavirus pandemic and how such a public health emergency pushed the university and the participating educator to transition from face-to-face instruction to fully remote/online instruction. Using an ethnographic approach (i.e., using multiple sources of data to gain an insider perspective of a sociocultural phenomenon), I aim to explore and understand the choices, motivations, challenges, and actions taken in the process of designing and implementing an online practitioner course offered to undergraduate education minors at a research university.

Integrating technology in the curriculum constitutes an important factor in the process of transitioning from face-to-face to remote/online instruction. There are different aspects that will determine the way educators choose and use digital tools for their curricular design. Ertmer and Ottenbreit-Leftwich's (2010) provide the "Technology Change" framework served as the analytic lens for my study. This framework encompasses the following three dimensions or aspects that determine the way educators integrate technology in their instructional practices: *Technology knowledge and self-efficacy*, *pedagogical beliefs*, and (institutional) *culture*. This framework can provide an in-depth exploration to help understand the process of (re)designing and technology integration while transitioning from face-to-face to remote/online instruction.

The *technology knowledge and self-efficacy* (hereon TKS) dimension encompasses the skills, knowledge, and confidence educators have about using technology for educational purposes. Included is the knowledge and ability to identify what affordances of digital tools

can be taken into consideration for curriculum design and instructional practices; this dimension also takes into consideration the level of comfort educators have to learn and explore technology for educational purposes (Bauer & Kenton, 2005; Benson & Ward, 2013; Compeau & Higgins, 1995; Ertmer & Ottenbreit-Leftwich, 2010; Kagima & Hausafus, 2000; Koehler & Mishra, 2009; Olivier, 1985; Morales & Maldonado, 2013; Wozney, et al., 2006).

The *Pedagogical beliefs* (hereon PB) dimension is seen as the way educators' pedagogical approaches or philosophies shape the way they see, choose, and use digital technologies for instructional purposes, and how such decisions shape the instructional and curricular design, and use technology while teaching (Hermans, et al., 2008; Ertmer & Ottenbreit-Leftwich, 2010; Ertmer & Newby, 2013; Reigeluth, et al., 2016).

The third dimension, "(Institutional) culture" (hereon IC), encompasses the way the context in which an educator works influences the way they choose, use, and integrate technology in their curriculum and instructional practices. The institutional culture comprises of not only the university's pedagogical support staff (e.g., Instructional designers, pedagogical consultants/support, Information Technology Technician, etc.), but also the stakeholders who can influence an educator's decisions about how to include and use technology for their teaching practices; such stakeholders may include colleagues, teaching assistants, external support, students, etc. (Bennett & Bennett, 2003; Keengwe, et al., 2009; Orr et al., 2009; Surry & Land, 2000).

In this study, I used Ertmer & Ottenbreit-Leftwich's (2010) key dimensions for technology integration—Technology knowledge & self-efficacy (TKS), Pedagogical beliefs (PB), and Institutional culture (IC)—as a conceptual framework and analytical lens (Gee, 2004) in order to respond to the following ethnographic research question: What was

accomplished, counted as important, under what conditions and for what purposes, when the curriculum of a practitioner course needs to be redesigned and be technologically mediated to transition to online/remote modality during the COVID-19 pandemic? This research question will be guided by the following lines of inquiry:

- What technological and pedagogical resources were available/provided by the university during this time period?
- How did the course actors (i.e., faculty member and graduate teaching assistants) integrate technology and redesign the course's curriculum in order to transition to remote/online modality during the Covid-19 pandemic?

2. Literature review

In this section, I discuss the "Technology Change" framework for curricular integration of technology; the pedagogical affordances of technology for teaching and learning in higher education; and the state-of-the-art emergency transition to online/remote instruction in higher education during the Covid-19 pandemic.

2.1. Curricular Integration of technology

There have been different theories and frameworks for curricular integration of technology in different educational contexts, such as the Technological Pedagogical Content Knowledge—TPACK (Koehler & Mishra, 2009), and the Digital competences for educators (Khan & Bhatti, 2017; Krumsvik, 2008; Prendes & Gutiérrez, 2013). The main aspects of these two frameworks are described as follows:

TPACK: The Technological Pedagogical Content Knowledge—TPACK—(Koehler & Mishra, 2009) framework, constitute the integration and intersection of the three main

components of content, pedagogy and technology, and represent an approach of what an efficient and effective teaching practice is when technology is integrated in the curriculum. According to (Koehler & Mishra, 2009), the TPACK requires

> ...an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge to develop new epistemologies or strengthen old ones (p. 66).

Digital competence: digital competence is understood as the required skills needed by educators in order to be fully competent in the use and integration of technologies for teaching and learning, such as: Skills and knowledge to use information and communication technologies effectively (ICT); skills and knowledge to design, implement and evaluate experiences with ICT; and the ability to reflect and analyze critically the way ICT were used in the experiences designed (Khan & Bhatti, 2017; Krumsvik, 2008; Prendes & Gutiérrez, 2013).

While these frameworks and theories provide a good insight on what is needed and counts as important to integrate technology in the curriculum, they are mostly shared as "requirements" and do not help in providing a deep exploration on educators' stories or experiences on how they integrate and use digital technologies for teaching and learning. Additionally, these frameworks do not consider an exploration of cultural/contextual aspects of educators (e.g., pedagogical and technological support provided by the educational institution, students' need, and the sociocultural and socioemotional issues that could emerge in educational settings) that could affect the way digital technologies are selected, integrated, and used for teaching and learning.

Scholars Ertmer and Ottenbreit-Leftwich's (2010) shared a framework called "Technology Change", which explores key dimensions that influence how technology is integrated in a curriculum. These dimensions are "Technology knowledge and Self-efficacy" (TKS), "Pedagogical Beliefs" (PB) , and (Institutional) "culture" (IC). This relatively new framework has not been widely used in higher education contexts, but its contributions provide an opportunity to explore and get a more in-depth understanding of educators' experiences and factors that guided their decisions to integrate digital technologies in their curriculum, instead of following a set of "desired steps/skills/abilities" from the educators' end.

Such dimensions of the "Technology change" framework (Ertmer and Ottenbreit-Leftwich, 2010) are explained below.

TKS: Technology knowledge makes reference to the understanding educators have of how digital tools work in order to accomplish a specific task (processing information, communicating, or problem solving). Such knowledge also requires developing and gaining understanding that enables users to find multiple possible ways to use and adapt technologies for a different set of purposes (Benson & Ward, 2013; Koehler & Mishra, 2009).

Technology knowledge implies an understanding of the affordances and limitations of digital tools or technologies (Benson & Ward, 2013), enabling educators to find novel and meaningful ways to transform or adapt technological tools in order to achieve the desired outcomes—given the uncountable digital tools or software programs that are available on the Internet that were not created for educational purposes (Koehler & Mishra, 2009). Additionally, educators with ample technological knowledge are able to a) choose certain technologies for specific educational goals or desired outcomes; b) recognize how the

selected technology or technologies will be used in order to help the students achieve curricular goals; and c) advocate for the use of technology for educational purposes, where students can take advantages of the possibilities offered by the selected tools—execution of the learning activity/experience designed by the educator (Cennamo et al., 2010; Ertmer & Ottenbreit-Leftwich, 2010;).

However, as stated by Ertmer & Ottenbreit-Leftwich (2010), technology self-efficacy (feeling confident enough of the skills and knowledge the one has about technology) is a complementary factor that may boost the effectiveness of such technological integrations. As stated by Kagima & Hausafus (2000) based on the work of Compeau & Higgins (1995) and Olivier (1985) self-efficacy "refers to perceptions about one's capabilities to organize and implement actions necessary to attain a designated performance skill for specific tasks" (p.222). Thus, we can understand technology self-efficacy as the level of confidence one has of their capabilities to use and learn digital technologies tools (Ertmer & Ottenbreit-Leftwich, 2010; Kagima & Hausafus, 2000).

Self-efficacy constitutes a strong predictor for successful experiences of technology integration in the curriculum, since educators who feel confident enough using technology (whether they have a strong technological knowledge or not) tend to perform better in ICT curricular integration than those who are not confident using technology for teaching (Bauer and Kenton, 2005; Kagima & Hausafus, 2000; Morales & Maldonado, 2013; Wozney et al., 2006). Strategies that can boost technology self-efficacy include the following: the exposure to real and successful experiences and practices of technological curricular integration (Ertmer & Ottenbreit-Leftwich, 2010; Mueller et al., 2008; Ottenbreit-Leftwich, 2007; Wozney et al., 2006); the participation in learning/training experiences where they can try

new tools and learn how to use them (Putnam & Borko, 2000); and working along with a knowledgeable peers who can support initial (and small) experiences (Ertmer et al., 2006; Ottenbreit-Leftwich, 2007).

PB: Pedagogical beliefs can be defined as the ways faculty see, understand, and conduct teaching activities. Such beliefs are connected or related to the different rules, generalizations, opinions, values, and expectations educators have. Such beliefs will shape decisions to incorporate or integrate technology in their curriculum, and the way such technologies are being used in their instructional practices (Ertmer & Ottenbreit-Leftwich, 2010; Ertmer & Newby, 2013; Hermans, et al., 2008).

The pedagogical beliefs of an educator will shape the way they design curriculum (instructional design), and in current times—the information age—it is difficult to talk about instructional design without considering other educational constructs such as curriculum, assessment, planning, and technology use (Reigeluth et al., 2016).

That stated, the intentionality of the integration of technology is strongly connected to the instructional approach that we as educators are taking. For example, an educator with a behaviorist approach (i.e., emphasizes how educators were able to produce outcomes in students that could be observable and measurable) may likely not take advantage of all of the affordances that Web 2.0 has to offer for promoting collaboration and fostering a higher level of cognitive activity among students; as such, there would be less integration for fostering discussions, critical and creative thinking, problem solving, and project execution. (Ertmer & & Ottenbreit-Leftwich, 2010; Lee & Lin, 2009; Newby, 2013; Reigeluth et al., 2016; Schunk, 1991; Snelbecker, 1983).

The selection and usage of digital tools—and their different affordances—will depend on the educator's pedagogical belief/approach and, therefore, their curricular design (e.g., content delivery, learning activities, and assessments). Such uses range from a video lecture-based content or digital multiple-choice test on an LMS, to a more active learning approach where collaboration, interactions, knowledge construction, and other strategies—based on the socio-constructivist (Vygotsky, 1986) learning theory—should be implemented (Orr et al., 2009)

IC: The last dimension that Ertmer & Ottenbreit-Leftwich (2010) considered key for technology integration is the institutional culture, which can be understood as the resources, support, and guidance faculty receive from actors within their institutional context (pedagogical/technology staff, admin personnel, colleagues, etc.) to integrate and use technology in their courses. In order for technologies to be effectively used and integrated, universities need to provide faculty with enough resources such as technological equipment, training, consultation, and support in order to make their uses viable and effective (Keengwe et al., 2009; Zellweger, 2007). The use of newsletters, peer demos, conferences (campus-wide, national or international) of successful cases of technology integration, demonstrations of the latest digital tools available for education can help in promotion of technology integration (Bennett & Bennett, 2003; Keengwe, Kidd, & Kyei-Blankson, 2009; Orr et al., 2009; Surry & Land, 2000).

Another factor of the institutional culture is having a strong technological infrastructure (Bennett & Bennett, 2003; Johnson et al., 2012; Keengwe et al., 2009; Surry & Land, 2000; Zellweger, 2007). Such infrastructural items include stable campus-wide Wi-Fi, computer labs, digital devices in classrooms such as computers, projectors, and a Learning

Management System [LMS]—like Moodle, Blackboard, Canvas, among others, all of which allows different levels of digital technologies to be used and implemented in classes by teaching faculty.

Additionally, higher education institutions should establish a "support system" or "team" that can "facilitate an environment that helps faculty to familiarize with technology and its potential uses, and to learn and use technology effectively" (Keengwe et al,, 2009, p. 27). It is also important that the strategies implemented to foster higher faculty's confidence or self-efficacy should always focus on how faculty need to give equal attention to technology, organization, and pedagogy, allowing the design of learning environments to incorporate hypertextuality, interactivity, collectivity, and connectivity (Birch & Burnett, 2009; Coll, 2004; Geoghegan, 1994; Keengwe et al., 2009; Ragupathi & Hubball, 2015; Surry & Land, 2000).

The instructional/pedagogical and technological support that comes from the institutional cultural context should provide faculty resources and advice and support in order to (1) help them prepare and (re)design their courses/curriculum; (2) rethink or enhance their teaching practices; and (3) provide spaces where pedagogical reflections can be done—evaluating how the new designed experiences worked (or not), and identifying what aspects should be improved (Batson, 2011; Nakano et al., 2013; Orr et al., 2009; Zellweger, 2007).

The "Technology change" framework (Ertmer & & Ottenbreit-Leftwich, 2010) provides an opportunity to explore dimensions that influence the way educators integrate and use technology for their pedagogical practices that are not considered by frameworks like the TPACK and Digital Competence. The "Technology change" framework, while it does explore the pedagogical aspects and the technological knowledge of educators in a similar

manner than the TPACK and Digital competence, it also considers attitudes towards technology use (self-efficacy/confidence) and a strong cultural component that influences an educators' decisions, knowledge acquisition, skills development, and their pedagogical practices. These aspects/dimensions make the "Technology change" framework a powerful resource to explore and get a deep understanding on faculty's curriculum design and technology integration process.

2.2. Pedagogical affordances of technology in higher education

The rapid evolution of information and communication technologies (ICTs) have made educators reconsider many aspects of education such as where and how people learn as well as how to rethink teaching and learning processes (Lee & Lin, 2009). Even today, when people recognize and take advantage of many affordances digital technologies provide, higher education institutions are still struggling to help faculty take advantage of such affordances in order to innovate in their pedagogical practices.

In many cases, technologies are being used but without evidence of their pedagogical affordances taken into consideration (Collis & Moonen, 2008; Lee & Lin, 2009) and its integration in the curriculum is focused on the sole use of digital technologies with no pedagogical intentionality or articulation with the curriculum or learning outcomes (e.g., using digital/interactive presentation tools—like PowerPoint, Prezi, etc.—to replicate the same dynamics used with a standard blackboard). Thus, as Jha (2017) stated, it is important that universities "consider ICTs not as a separate part of pedagogy, but indispensable to the pedagogical process" (pp. 68-69). This is, indeed, an issue that is still being present in many educators' pedagogical practices: the assumption that integrating technology should be guided by how innovative one digital tool or technology may look or feel in

instructional/pedagogical practices, instead of basing the decisions on what technology to integrate and use on the learning objectives/goals of the curriculum.

In the next sub-sections, I aim to review the purported "affordances" of digital technologies from the stance of higher education, focusing on those that were relevant during the covid-19 pandemic.

2.2.1. Digital resources for teaching and learning

Digital technologies can allow students to access to a wide variety of digital resources and information and engage in different levels of interactions between peers, teachers, and the learning materials (Jha, 2017; Juniu, 2006). These affordances, as stated by Means and Olson (1997), can support a socio-constructivist environment because they "promote student learning through collaborative involvement in authentic, challenging, multidisciplinary tasks by providing realistic complex environments for student inquiry, furnishing information and tools to support investigation, and linking classrooms for joint investigations" (p. 9). However, there are many assumptions one must make in order for such affordances to be realized. Educators need to be exposed to such technological tools and their affordances for teaching and learning in order to have a better understanding of how such affordances can be facilitate instruction and support the achievement of their curriculum's learning objectives/goals. This understanding can become an opportunity to explore and learn how these affordances can be implemented in instructional practices.

The use of video resources/content for educational purposes has been present in educational practices for over five decades (Ferrés, 1992; Ricardo & Iriarte, 2017), and its implementations vary depending on the intentionality of the educator. Two big trends of

usage have been identified: the creation or selection of educational-oriented videos that have the intention to transfer a specific content or knowledge; and the usage of "commercial" (non-educational) videos to support the teaching process of a specific content such as the usage of a documentary or a movie to better illustrate a concept/theme (Ricardo & Iriarte, 2017). Videos can provide students and educators additional ways to express key points and concepts, to engage and motivate others, explore new alternatives for evaluation/assessments, and serve as additional resources for research (Ferrés, 1992; Solano, et al., 2015; Tobías-Martínez et al., 2015). When curated thoughtfully, videos provide students a powerful way of connecting with and learning course content. However, videos should be used cautiously, the over usage of video or the usage of lengthy video clips can result in distracting/disrupting experiences during instruction. Educators should be critical of what videos to use, when to use them and how they will be connected to instruction and the course content.

2.2.2. ICT for socio-constructivist learning environments

The social interactions fostered through an approach informed by socio-constructivism have been expanded by digital technologies, making possible different sorts of interactions inside and outside of classrooms (Jha, 2017). A socio-constructivist experience aims to motivate students to explore the subject matter, by triggering their curiosity and desire to further explore targeted topics (Jonassen, 1991; Jonassen, 1999; Juniu, 2006; Schunk, 1991; Snelbecker, 1983).

Educational technology scholars Galvis (2004) and Ricardo & Iriarte (2017) shared three ways in which ICT-integrated socio-constructivist learning environments enhances learning practices: (1) the sharing, sending, and transmission of information through websites as well as greater and more efficient access to information and tutorials; (2) the design of

collaborative and creative spaces, learning by making, and active learning through different digital resources (simulations, interactive sites, productivity tools, other); and (3) the creation of synchronous and asynchronous interactions, communication, and collaboration.

While such technology enhanced practices support easy access and active engagement across a variety of contexts, what matters most is the quality of learning that transpires, particularly in terms of a socio-constructivist approach.

There are different ways in which ICT tools can support and allow the design of socio-constructivist learning environment. Reigeluth et al. (2016) highlighted that within a in order to provide a socio-constructivist learning environment, technology should:

- Support the work of the learner, and also support the work of the teacher.
- Be designed to empower learners and support their self-directed learning.
- Be implemented to create immersive, authentic, motivating learning environments and tasks.
- Be used to provide learners with just-in-time coaching and instructional support during performance of authentic tasks.
- Be used to embed authentic assessment within the learning environment, avoiding the need for separate tests to certify students' attainments.
- Be used to personalize instruction to individual learner needs and preferences.
- Free teachers from many of their routine, boring tasks.
- Facilitate communication and collaboration among learners and between learners and teachers.

Meeting such criteria requires that instructors are able to connect with students by providing spaces to have their voices heard in order to make pedagogical decisions based on

their needs (e.g., what kind of assessment works best for students, making sure students are connecting with the course and materials, providing opportunities for students to provide feedback, and use their knowledge/contributions during the class and the learning activities).

Designing collaborative experiences using technology that promotes a socio-constructivist learning environment reflects the right path toward classroom moments where academic and social strategies come together to promote engagement and motivation. Such efforts allow educators to get their students thinking, interacting, researching, discussing, planning, and engaging in critical reasoning that will increase participation in the class that may in turn increase engagement in societal contexts as builders of knowledge (Arnett, 2016; Heritage, 2010; Pryor & Crossouard, 2008; Schindler et. al, 2017; Van Lier, 2007; Vygotsky, 1978). Hence, consistently checking in with students and finding multiple opportunities (e.g., brief performance tasks) for determining the quality of student engagement is critical to maintaining such pedagogical goals.

2.2.3. Web 2.0 and its affordances for a socio-constructivist learning environment

As stated earlier in the contributions from Lee & Lin, (2009), Ertmer & Ottenbreit-Leftwich (2010), Reigeluth and colleagues (2016), and Felder & Brent (1996), digital technologies offer many possibilities to foster collaboration. Among the collaborative strategies with technologies is the use of Web 2.0 (also named “social Web” or “Social Media”) technologies or tools, which are available on the World Wide Web (Internet) and allow users to easily create (and re-create) multimodal content to be shared online. Such web-based technologies can be helpful to promote students’ motivation, interests, social skills and competences for engaging in collaboration, teamwork, problem solving, critical

thinking and learning (Abrahams, 2010; Bennett et al., 2012). However, creating such dialogic activities in online spaces are as beneficial as allowed by the guiding framework from the instructor, which requires not only a clear and thorough instruction/guideline in how to engage with online resources, but also a critical view on how to navigate, curate, and use such resources from the Internet. While Web 2.0 tools might provide a good set of resources that can enhance the learning experience, the creation of critical spaces to discuss what is useful or not from the vast sea of information/resources are needed.

Based on pedagogical beliefs and the curricular outcomes, digital tools could help faculty in representing subject matter content through multimodal artifacts like videos, hypertextual content, simulations, among others (Nakano et al., 2013). For instance, if a faculty is more socio-constructivist-oriented, technology can help in creating learning spaces for social interactions for knowledge construction by using Web 2.0 applications (Johnson et al., 2012; Nakano et al., 2013). For example, the instructor can present a problem or issue that has local relevance (e.g., digital gap in low-income communities and technology accessibility during the coronavirus pandemic) and set them loose on the Internet to learn about approaches for addressing such issues. The freedom of exploring various sources online provides a context flexible enough for social constructions of knowledge. However, without guiding discussions about what counts as 'evidence-based' or a reliable source (e.g., providing access or recommendation to scientific journals that could provide resources/evidence for collective/collaborative knowledge construction) may not lead desired learning outcome/goals.

Web 2.0, as stated by Lee & Lin (2009), has the potential to facilitate a socio-constructivist environment "because they take learners' initiatives into consideration while

providing an open and flexible environment for self-direction, collaboration, and guidance when necessary" (p. 65). Web 2.0 can provide ways in which educators can design learning experiences that can allow students: to produce content related to the subject-matter (becoming active content creators); share and learn from others in an online community (Connectivism); take advantage of the sharing and participatory affordances of the Web 2.0; create online learning communities based on interests shared by other students; create spaces for collaboration and cooperation (Ibáñez, 2008; Ricardo & Iriarte, 2017).

Among some the possibilities that Web 2.0 has to offer we can find—and not limited to—social networking (Facebook, Twitter, Pinterest, Youtube, etc,) to create virtual learning communities or to foster multimodal content creation; blogging (Blogger, Wordpress, Tumblr) to foster students' Web presence and content creation (through subject matter reflections, images, videos, etc); collaborative-based tools (such as Wikis, Padlet, Google-Drive suite, among others) to encourage the construction of ideas or knowledge based on prompts/guidelines designed by the instructor. Most of these applications can be used on different platforms (e.g. desktop computers, laptops, mobile devices—smartphones or tablets—, and among others). With the mediation of Web 2.0 tools educators can design learning experiences that can facilitate critical co-construction of knowledge by searching, filtering, evaluating, and using information retrieved online (e.g., using scientific databases/repositories, and building a collaborative document—through a Google doc file, a Wiki, a Blog—through a critical deconstruction and (re)presentation of the resources and information retrieved from the Internet.

As a scholar in educational technology and having the experience as an educational technology and instructional design consultant and educator, I believe that one of the biggest

challenges educators are facing towards digital technologies are aligned to the lack of criticality towards the usage and consumption of digital technologies for teaching and learning. New generations are surrounded by technologies, but the usage of these tools is limited to social and casual interactions on daily basis. There is a high need for fostering critical digital literacy in educators so students can explore and take advantage of ICT and new technologies for teaching and learning and put them to use for their teaching practices. By adopting such a mindfully critical eye, educators can foster socio-constructivist learning environments that effectively integrates digital literacy, hence supporting more critical conversations about how digital technologies and media are viewed and used (within and outside of a classroom).

2.2. Emergency Online education

In March of 2020, most universities around the world decided to mandate faculty and instructors to transition from face-to-face to a fully online modality in order to ensure the student, faculty, and staff community to stay safe from COVID-19 (Hodges et. al, 2020). Even though most universities have a team of consultants that help faculty in the design of online courses and the pedagogical considerations for such a modality, the COVID-19 pandemic pushed this kind of service to unexpected levels, moving from few faculty members wanting to transition their courses to fully online to a whole institution being forced to move towards remote/online teaching in a very short time, causing a lot of stress on faculty in re-thinking their practices and coming up with quick solutions (Hodges et. al, 2020).

Online learning, as stated by Hodges and colleagues (2020) “can be a very effective system-level strategy for increasing access to education while maintaining quality or even

while affording learning opportunities that are not possible with location-bound education" (p. 17). However, despite the amount of years this modality has been present in higher education, online teaching was not a priority for a high number of the higher education institutions, and it was always seen as an option that even though it is great to have, online courses were far from being considered an ideal and serious alternative to guarantee instructional continuity (Hodges et. al, 2020; Mahmood, 2021; Ribeiro, 2020).

Despite not being considered a serious alternative, the online modality has shown to be more effective in academic disciplines like humanities and social sciences because of the pedagogical nature of the courses and curriculum design of those areas (e.g. more socio-constructivist and active), and how such pedagogies can be aligned—more easily—with digital tools and their affordances (Leszczyński et al., 2018). Areas like STEM and health tend to be more difficult because of the limitations to create digital simulations that can fully replace (or replicate) the face-to-face practitioner and laboratory experiences (Hodges et. al, 2020; Leszczyński et al., 2018). While such constraints are largely unavoidable, the burgeoning work in Virtual Reality (VR) technologies may help in mitigating the limitations of remote learning. Educational endeavors with emerging/new technologies—like the VR literacies project that I have supported as a graduate student/Instructional technology coordinator may lead to a new era in education that can withstand future calamities by enabling a broader access to educational experiences—for different academic disciplines—with the support and mediation of technologies.

Besides identifying the content to be delivered (or taught) in the course, another aspect that should be taken into consideration when designing effective online courses are the levels of interaction students will have with the content, the instructor, and their peers during

the different moments of a class session (activities, content, assessments, etc.). As stated before, these interactions should go beyond the content transmission/delivery and should reflect the cognitive and social process of learning (Bernard et. al, 2009; Hodges et. al, 2020). The quality of these interactions will depend to a high extent on class size; the higher the class size, the more difficult it will become to the instructor to provide effective interactions, feedback, and assessments to each of the students (Hodges et. al, 2020).

One of the aspects that those offering guidelines on emergency online teaching may not consider—at least at its very beginning stages, given the time faculty/instructor had to make such transition—is the time it takes for faculty to get comfortable with the dynamics and pedagogies required for an online course; on average it takes up to a third iteration of a course to get to a high level of comfort (Hodges et. al, 2020). Additionally, the curriculum planning of content, activities, and assessments may be planned but not necessarily fully executed due unexpected events that emerged related to the emergency (Hodges et. al, 2020; Barbour et. al, 2020).

Hodges et. al (2020) stated that the main goal of the emergency remote/online education "is not to re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis" (p. 8). Responding to crises may require a higher initiative and investment from faculty/instructors by taking full control of their course (re)design and planning. This process implies a lot of effort and creativity from their end—even knowing that such initiative may not be 100% effective (Head et al., 2002; Hodges et. al, 2020).

With the COVID-19 pandemic, there have been many attempts from institutions to compare the remote courses that resulted from the emergency online education transition to the face-to-face "version" of those courses. The fast-paced transition to remote/online learning—given the unexpected COVID-19 pandemic—did not allow any stakeholder of higher education institutions (staff, faculty, instructor, students) to be fully prepared for it (Hodges et. al, 2020; Ribeiro, 2020; Mahmood, 2021). It is clear that the hurried move during this emergency does not allow faculty to fully take the time needed to plan, design, and carefully (pedagogically) review and select the appropriate digital technologies that will afford an effective online course design, keeping in mind that the typical online course's instructional design and planning takes six to nine months (Barbour et. al, 2020; Branch & Dousay, 2015; Hodges et. al, 2020).

The technological tools adoption and adaptations curricular integration of ICT, and the transition to remote/online teaching were part of the digital transformation of higher education brought by the Covid-19 pandemic. These sorts of changes and transformations usually take a long time to happen in higher education institutions, but the pandemic pushed the need and made it happen in a limited short amount of time (Adedoyin & Soykan, 2020; Mahmood, 2021).

Courses (re)designed as a response to a crisis/emergency, "should not be mistaken for long-term solutions but accepted as a temporary solution to an immediate problem" (Hodges et. al, 2020, p. 9). Scholars like Mahmood (2021), Bao (2020), and Persky & Pollack (2010) highlighted some needs and practices that should be taken into consideration during the emergency online/remote teaching, including aspects like: managing and keeping a decent voice volume and pitch; enacting discussions and conversations during the class time so

students can have a higher presence/involvement; being mindful of the students that do not have the means to have immediate or constant access to devices or good Internet connection; generate spaces for interactions during class (not limiting to just lecture) so the students can participate and focus more on the course; provide spaces for students to practice and be critical about the learning materials (readings, theories, multimedia content, others); creating spaces for students to use their voices (ideas and opinions) about the course and its materials; creating backup plans in case some technological aspects to fail and prevent the original plan from being executed (LMS/system failure, video conferencing issues, or others); breaking up big sessions into smaller pieces to ensure students are more able to engage and keep their attention; creating and providing students with recorded lectures and self-learning resources and design assignments where students can do a check of understanding of the materials provided; finally, allocating teaching assistants who can support with more technical concerns (e.g. digital tool usage and class management) and instructional practices (e.g. discussions moderation, and lecture support).

Additionally, faculty/instructors are highly suggested to be more flexible with the assessments and assignments during emergency times (e.g., deadlines, course policies, etc.), given that the stakeholders of the course may not be fully prepared for the different changes that will be required to make in order to fully adapt to online learning (Flaherty, 2020; Hodges et. al, 2020; Mahmood, 2021). Moving towards a more formative-oriented assessment—e.g., a continuous gathering of learning evidence, and using such evidence to best support students to meet the learning goals (Heritage, 2007)—is recommended for this sort of emergency online courses (García-Peñalvo et al., 2020). Among the recommended formative assessment strategies we can find are the following: making a continuous

assessment along the academic period (semester, quarter or trimester); considering the option of not having a final summative assessment (final test); creating a project-based approach for the assessment components of the course (e.g. essays, presentations, infographics, or another multimodal resource/artifact created by the students); creating a co-evaluation or peer-review dynamic among students. By following these recommendations, educators can provide students a more meaningful but also mindful learning experience during difficult times. During emergency times—like the coronavirus pandemic—students will experience uncertainty, anxiety, fear, and emotional breakdowns while facing different sort of hardships, and it is on educators' hands to be mindful and aware of how such hardships can be boosted by not providing a flexible curriculum and a welcoming (safe space) learning environment.

Other of the changes and adaptations we all need to be aware of is the level of digital skills students have. Most of us may assume that contemporary students will be comfortable navigating and mastering most of the technological tools that will be supporting remote/online teaching. However—in contrast to what the "Digital native" concept proposes (Prensky, 2001)—a significant number of students do not have the knowledge of the skills required to navigate the set of digital resources and platforms that resulted from this quick transition to online learning (Bennett et al., 2008; Adedoyin & Soykan, 2020). It is worth noting that in Hispanic-serving institutions (higher education institutions with, at least, 25% of full-time undergraduate students) there is a significant number of undergraduate students who are first generation (first in their families to attend college) and come from low-income backgrounds, and may not have the knowledge/skills to use the digital technologies used in higher education.

Besides the difficulties and challenges students may face because of their digital skills for educational purposes, Adedoyin & Soykan (2020) raised other aspects that can highly impact student performance, investment, and engagement through remote/online learning: student anxiety due Covid-19 issues (health and/or economic/financial hardship, uncertainty); lack of resources or support as a result of inequality, digital divide/gap, or socioeconomic status (e.g. access to computers or devices with Internet connection, and proper/quality Internet service); instructors' lack of time to prepare and (re)design their courses appropriately.

The COVID-19 pandemic can be seen as an opportunity to learn about possibilities of how to keep teaching/instruction going through remote/online means—both for short and long periods of time (Hodges et. al, 2020; Schwartz et al., 2020). The experiences lived and the lessons learned from the Covid-19 pandemic/emergency online teaching will constitute a great resource to create foundational bases for higher education institutions in how to best provide support and guidance in keeping instruction going in remote/online modality given a future/potential emergency of any nature (e.g., hurricanes, floods, earthquakes, etc.). These experiences should be grasped and embraced as an opportunity for educators to see this modality—and its affordances—as an opportunity to consider it as an option for future practices/courses or to re-think their pedagogical practices for a post-Covid era (Baytiyeh, 2018; Hodges et. al, 2020; Samson, 2020; Watkins, 2005).

While the recent work emerging from pandemic experiences has highlighted potential issues related to access and engagement in emergency online education, it is unclear what sociocultural and socioemotional issues have emerged and became crucial while educators and students navigated through such an unprecedented time. During this time of crisis,

faculty were directed to not only move their courses online, but they were also directed to teach during a time of intersecting crises (particularly in the U.S. that was going through a sociopolitical reckoning).

While all of the literature presented here provides a broad view of how educators in different contexts dealt with emergencies through online/remote teaching, such work does not fully take into considerations many pedagogical, cultural, and socioemotional aspects that I aimed to explore for the present study. Guided by my interest to understand from an insider's perspective, I designed a study that would allow me to closely examine the perspectives and experiences of a university professor and their two teaching assistants in (re)designing and integrating technology in a community-based education minor course during the first stage of the coronavirus pandemic (spring 2020).

3. Methodology

3.1. Context of the study

This study was conducted in a R1 university of central California with an estimated population of about 25,000 students. From the student population, around 23,000 are undergraduate students from which 2,400 students are transfer students (from colleges across the country). The university is also a Hispanic-Serving Institution, having an estimate of 26% of Hispanic/Latino students (College Factual, 2020).

In this ethnographic exploration, I focus on one undergraduate practitioner education course. This course was led by a faculty member within the University who is a literacy scholar and educator that focuses on community-based research, and their two teaching assistants. Besides leading the instruction of the practitioner course, this faculty member

oversees three different youth-based programs that generally serve local students in grades 1-8. This faculty member leads these programs as director of a children's literacy center that is housed within the university. As such, program participants visit the literacy center on campus throughout the academic year after school to engage in various literacy-related lessons and activities with undergraduate instructors or facilitators who are further mentored by graduate students who coordinate respective programs.

Following announcements of school and outreach program closures throughout the community, this faculty member had to find ways to rethink these programs in order to keep them running through online spaces by providing schools and families resources and opportunities for maintaining connections and learning during this challenging period in human history.

This study is a close reading of the perspectives, decisions, actions and challenges faced by the course actors (lead faculty/instructor, teaching assistants, I—who served as the instructional technology coordinator) to transform a practicum course to an online experience for 68 undergraduate students while also providing undergraduate students with practitioner experiences through one of three youth-based programs.

3.2 Methods

An ethnographic approach was chosen as the best approach to get an in-depth understanding of the transition of a practitioner course from face-to-face into a fully online course in a R1 university during the coronavirus pandemic. This ethnographic study is a "telling case" (Mitchell, 1984), which is understood as a rich, multilayered study of a particular group of individuals who are working together to accomplish a particular task (or set of tasks) for a particular purpose and within a particular sociocultural context.

In order to get a deep understanding of a particular culture or context from an emic (insider) perspective, it is necessary to do more than observation (Spradley, 1979). An insider perspective can be reached through techniques like conversations, which allow the researcher to have deep and transparent exchanges with the participant(s) in order to get the closest, deepest, and truest understanding of the participants' perspectives, behaviors, and actions as a member of a particular culture or context. Such exchanges also allow the researcher to understand how the participant(s) make meaning of the world (Berry, 2007; Brenner, 2006; Brinkman, 2013; Pike, 1967; Skukauskaite, 2017; Spradley, 1979).

3.2.1 Research questions

Through this study, I aimed to understand the process of transitioning a practitioner education course, offered to education minors attending a R1 university, from a face-to-face to fully remote/online instruction. I will explore motivations, challenges, choices and actions taken by the course actors/stakeholders (course instructor, course teaching assistants, and I—instructional technology coordinator) while re-thinking and re-designing the course curriculum. As the focus of this study centers on educational efforts during the current crisis, my exploration was bound by a 12-week period that began with the announcement of pandemic-related closures in mid-to-late March and ends the last week of the Spring quarter, in early June 2020.

The undergraduate practicum course was associated with research programs that served as potential practicum spaces for enrolled students to engage in activities with participating youth. These spaces were designed to give students hands-on experiences in planning and facilitating community-based activities associated with partnering organizations that include the university-housed family clinic, an elementary school, and two afterschool

program organizations. As presented in the introduction, this study will be guided by the following research questions:

- What was accomplished, counts as important, under what conditions and for what purposes when the curriculum of a practitioner course of an UR1 needs to be redesigned and be technology-mediated to transition from face-to-face to online/remote modality during the COVID-19 pandemic? With this guiding question, I aim to address the following sublines of inquiry:
    - What technological and pedagogical resources were available/provided by the university during this time period?
    - How did the course actors integrate technology and redesign the course's curriculum in order to transition to remote/online modality during the Covid-19 pandemic?

3.2.2. Case description

The participants of this study were an associate professor in the Education department of research university in central California who focuses on literacy studies and community-based education (especially in k-8 school and afterschool contexts), their two teaching assistants (graduate students), and I—who served as the instructional technology (IT) coordinator of projects associated with the instructor who led the studied course. This faculty member led classes for both undergraduate and graduate students and was the director of a children literacy center—within the same academic department—that served students in grades 1-8 from the local community.

The course that was studied in this exploration was offered to undergraduate students who were pursuing a minor in education and focused on a review of current theories and studies related to literacies, technology advancement in education, and ways to support/foster critical engagement in literacy-based practices. This course worked as an introduction to the different theories and research on teaching and learning in afterschool programs and expected students to work at an afterschool program for four hours a week during the academic quarter (ten weeks), starting at week number three.

The goals of this course included:

- Introducing students to diverse educational contexts.
- Providing insight into learning opportunities for youth of diverse cultural backgrounds.
- Providing a critical knowledge of how to articulate the foundational principles of critical pedagogy in educational contexts.
- Promoting awareness of diverse student populations (based on linguistic, cultural, and social dimensions).
- Providing foundational knowledge and skills related to research methods and the application of pedagogical theories (e.g., documenting teaching and learning practices through field notes).

As stated before, this undergraduate course had a practicum component that complemented the regular meetings with the lead instructor. During the first two weeks, students were assigned to different afterschool programs that are led by different education faculty of the University in partnership with different local afterschool organizations. Of

these programs, there were three that were led by the course instructor and coordinated by graduate students. The programs are described as follows:

- **Literacy family services:** this program focuses on providing intensive research-based instruction to 1-8 graders in order to foster literacy skills, including fluency, reading, reading comprehension, and multimodal ways of writing in different contexts and across diverse content areas (e.g., science, technology, engineering, mathematics, and arts disciplines). This program was offered on a weekly basis at the children literacy center hosted at the university, where parents bring their kids in afterschool hours to work along with tutors (undergraduate and graduate students) in literacy activities. Some technological resources are used for this program, for example: using iPads to provide digital readings about different subject-matter. However, most of these instructions are provided using more "traditional" resources like paper, pencil/pen, and text-based and picture-based books (depending on the kid's grade instructors are working with).
- **Environmental literacies program:** This program supports students from ages 11-14 to foster environmental knowledge and awareness. The development and co-construction of knowledge and skills related to nutrition and environmental justice through nature exploration, gardening, and poetry is promoted in a multigenerational community of learners. This program is offered twice a week, one of the sessions is developed at the university campus, where kids come and engage with graduate students, undergraduate students, and faculty in open explorations to the nature that surrounds the campus and visiting environmental-related research places (e.g. the campus greenhouse and the campus aquarium). The kids co-construct poems with

their peers and undergraduate students about critical topics of the environment (like air pollution, water contamination, environmental justice, among others) and the observations they make throughout the mentioned explorations. During the second session of the week, undergraduate students come to the afterschool organization (which has a partnership with the university)—where the students go—to and work on their own garden, which they called "vivero" (nursery garden). In this space, the kids work on different activities which include: working on art artifacts, using recycled materials, to decorate the garden; growing and documenting the process of planting/keeping/harvesting their own edible vegetables (learning about the different plants, and the different amount of water/soil/sun needed to grow healthy, among other aspects); watch educational nature-related videos/documentaries. For the development of the activities, some digital technologies have been implemented for complementary projects, for example: the documentation of the growth of edible plants has been registered using the SeeSaw app (a learning management system for K-12 students) on iPads provided by the University; filming the activities done on the garden and creating digital movies (video projects).

- **Girls in STEAM program:** This program is the result of a partnership between the university and a girls-only afterschool organization, and focuses on fostering 21st century literacies and creating a mindset in girls of how they can become innovators and, through science, can make a change in our society. Every year, around 25 upper elementary girls go to the university campus once a week and explore, along with undergraduate facilitators, the work and research of different innovators and scientists—who identify themselves as female—and how their work is making an

impact in our world and make it a better place. Such exploration is done by reading about famous female scientists, making visits to scientists/innovators' laboratories or workplace, interviewing them, creating art, and writing about their work. During the last quarter of the year—after exploring, visiting, and interviewing the scientists/innovators—the girls work in groups to author biographical pieces of every scientist they meet. These pieces could be multimodal, including text-based profiles or video productions (digital stories), where the story and importance of the work done by the scientists/innovators is shown from the girls' perspective. Some digital tools have been used to accomplish this program's goals including iPads to: video record the interactions with the scientists (interviews and educational activities led by the scientists); take pictures to build the biographical profiles and digital stories; use iPad apps to create stop motion animations and to create 3D pre-made animated video clips; and to engage in basic video editing. It is through this sort of exploration, that these upper elementary girls will get an accurate notion of the power science has to make this world a better place, and understand that there are many paths to become a scientist—contrary to the inaccurate notion our society tends to have about who is meant to become a scientist.

In a general view, these three programs reflect the promotion of critical reading comprehension and thinking skills and the global goal of fostering abilities to engage, analyze, and understand science related text and content based on the kids' grade level peers. For the Spring quarter of 2020, because of the emergency transition to online instruction, these three programs were not officially offered. Instead, the strategies that were used to

connect and offer educational experiences to the local communities they served before the Covid-19 pandemic (and that were connected to the course's final project) were: bi-weekly digital newsletters sent to the community; science and literacy related hands-on activities designed by the undergraduate students that took the course studied in this research study; and multimedia content (e.g., videos) with science experiments created by the undergraduate students. All these resources and activities were shared through the Website of the community-based research team the instructor of the course led.

3.2.3. Positionality of the researcher

In qualitative research, it is important to recognize what is the role of the researcher within a study in order to prevent that such positionality could influence the result of the study (Lincoln & Guba, 1985). Being an individual who has worked in the educational technology field for around six years, and four years as an instructional technology (IT) coordinator in the context where this study was conducted, it was easy to establish a good relationship with the participants of the study.

As a researcher, I do understand my role in the context of this study and the advisor-advisee relationship that exists between me and the lead subject of this study. Before the beginning of this study, I had multiple conversations with the participants in order to make sure that we were able to step aside from the advisor-advisee relationship and create a comforting buffer that prevents other kinds of interactions that an advisor might have with their advisee.

When it comes to the role I have in this context, I have been the "Instructional Technology (IT) Coordinator" of the different projects that this instructor supervises with different organizations within and outside of the University (e.g., partnerships with

afterschool organizations), for this I became part of the ("institutional culture" dimension of this study). Even though I supported technology integration in these projects, my role does not imply decision-making. My actions as a coordinator are focused on the consultation and serving as an "active listener"; such actions were carried through conversations with the instructor (participant of this study). The suggestions or options to implement technology were offered by me based on such needs, and the final decisions were always made by the instructor and the teaching assistants of the course.

Throughout my dissertation study, I was mindful about my biases in relation to online/remote instruction and ICT affordances for teaching and learning in higher education. When collecting the data, I was mindful to separate the role I played in the research context in order to prevent some responses and data to be assumed given my knowledge as a member of the studied context.

3.2.4. Data collection and analytic process

In ethnographic studies the methods and findings can hardly be separated or seen as different phases of the research process (Emerson, Fretz, & Shaw, 1995; Crawford, Kelly, & Brown, 2000), this is given that while collecting data, many of the preliminary or initial findings could lead to new lines of inquiry that were not considered at first, and this implies the inclusion of different methodological techniques.

The data collection process for this study happened in a cyclical process, where multiple artifacts were collected as the events unfolded (chronologically). The data collection started two weeks before the Spring quarter of 2020 started by collecting the **email exchanges** and **artifacts** (Websites, and training course) the university administrator sent and shared with the community informing about the different decisions made in relation to

campus closures, instruction continuity, and university/academic departments support provided to faculty to help with the transition to remote/online learning. During these two weeks (pre-Spring quarter) I collected the **emails exchanges** the Instructor of the course had with their two teaching assistants about the planning process of the course, the **first two drafts of the course curriculum design** were collected and tracked. Once the Spring quarter started (an academic quarter is 10 weeks long), **weekly conversations** (Skukauskaite, 2012) took place among the instructor, the two teaching assistants, and I (the instructional technology coordinator), these conversations were done to debrief and plan the course design as the Spring quarter unfolded. The final ethnographic archive is displayed on **table 1**:

Table 1

Ethnographic archive

Type of data	Description	Quantity	Length (if applicable)
Email Exchange	Messages sent by the chancellor to the university community Communications sent by instructional/consultation department offering training, consultations, and support Communications between the course stakeholder related to the course curriculum design	12	NA
Website	Website developed by the instructional/consultation department (ID) with recommendations/suggestions on transitioning to remote/online teaching	1	NA

Online training course in institutional Learning Management System (LMS)	Self-paced online training offered by the instructional/consultation department to faculty to prepare them to teach online	1	NA
Syllabi drafts	Progressive evolution of the course syllabus as curricular decisions were made along the spring quarter 2020	3	First draft: 10 pages Second draft: 11 pages Final draft: 12
Conversations (Zoom recorded)	Recorded weekly conversations between the course's stakeholders making curricular discussions, planning, and decisions	10	8 hours and 55 minutes

A log of events was constructed using these artifacts and served as an indexing system, which allowed access to different moments of the study to get a deeper understanding of the course actors' experiences during the studied event and to (re)present their stories and voices accurately (Crawford, Kelly, & Brown, 2000; Emerson, Fretz, & Shaw, 1995; Erickson, 1992). The selection of the event was led by the research questions, focusing on those aspects that were salient and counted as important to the curricular (re)design and technology integration of the online course (Crawford, Kelly, & Brown, 2000).

Three different event maps were constructed in order to have a better understanding of the (re)design and technology integration process and to have an insider perspective of the course's stakeholders and their experiences/stories and decisions made. One event mapping was organized based on those artifacts that helped in understanding the cultural context in relation to the coronavirus pandemic (e.g. institutional decisions made to transition to fully online instruction during the spring quarter of 2020)—see **Figure 1**; another event mapping

was constructed using the events related to the strategies developed or executed by the university in order to support faculty members in the transition to online instruction (see **Figure 2)**; and a final event mapping was built to track the process of the curricular design of the undergraduate online course (see **Figure 3**).

The first event map (**Figure 1**) provided a basis to explore—through textual artifacts (email exchanges/communications)—the institutional decisions related to the university community security/well-being in response to the Covid-19 pandemic.

Figure 1

Excerpt of event map of institutional context in relation to the coronavirus pandemic

Date	Event	Data type	Review of salient points
March 10	Chancellor's message	Email	Decision to transition to remote instruction from the end of Winter quarter until the end of April. Faculty were asked to, at least, make the required changes and adaptation to their classes (by using alternative modalities) to give remote instruction until the end of April.
			Faculty were asked to, at least, make the required changes and adaptation to their classes (by using alternative modalities) to give remote instruction until the end of April.
			Campus would work in a limited way
			Students who remained on campus during Spring quarter would still participate in remote instruction (no face-to-face instruction would be provided until the end of April)
March 12	Chancellor's message	Email	Students traveling during spring break are encouraged to stay away from campus until the end of April
			Students who were planning to stay on campus were encouraged to not traveling during the spring break
			The campus would still be open for those students who required to conduct critical research activities

The second event map (**Figure 2**) provided—through multimodal artifacts (email exchanges, Websites, and Online training course in the institutional LMS)—a basis for exploring:

- The different internal (academic department that houses the course being studied) decisions taken and support provided in relation to teaching continuity.
- The different ways the university created and offered resources to support faculty, instructors, and teaching assistants for the transition to online/remote modality, and resources provided to the faculty (e.g., staff assigned to help faculty navigate through the transition to remote/online modality, creating resources to train faculty in the use of digital technologies for instructional purposes, and pedagogical resources/considerations for best practices in online/remote instruction).

Figure 2

Excerpt of event map of strategies taken by entities within the university in order to support faculty in the transition to online instruction.

Event	Data Type	Review of salient points
Dean's message	email	The department's "Information Technology Group" would provide support to faculty in the usage of videoconferencing platforms and Software.
	email	Shared some Web resources—created by the university's pedagogical and technological consultation department—with recommendations for effective remote/online instruction
Department's chair message	email	Shared an internal workshop that will be provided by one facultyof the department who has already designed and taught an online course. This workshop was mostly focused on the pedagogical considerations and practices for remote/online instruction.
Pedagogical and technological consultation department's Website	Website	Shared a built online course with the "minimum" requirements for effective online instruction considering the short time faculty and instructors have to make such transition. This course was built on the University's Moodle-based Learning Management System (LMS).
		This online course include recommendations such as "how to be human" in online instruction, in order to: create a welcoming and inviting environment in the course, and prevent students from dropping out or feel isolated.
		Another aspect provided in this space is the suggestion to use videoconferencing Software (like Zoom—offered by the University) for office hoursa and live interactive sections/lectures.
		another recommendation provided is providing constant messages to students, including a welcome message by the start of the class, so students can get a glance of how the course will develop throughout the quarter
Pedagogical and technological consultation department's Website (update)	Website	This site provides a set of resources and guidelines to transition from face-to-face to remote/online instruction. The main six recommendations to faculty to start such transition are described below:
		The first suggestion is to have clear learning outcomes/goals for the course, having up to two objectives per week so it can be doable and real. Listing the content (materials/readings/videos) related to the subject matter. Being clear how students will engage with the content that will be assessed. Identifying what is the "take away" of each week.
		The second suggestion focused on making faculty being mindful and critical about the decision of what content can be delivered in asynchronous modality (e.g. recorded-at-home lectures, presentations, readings, videos, infographics, others) and what content is crucially needed to be provided in synchronous mode (e.g. live lecture/discussion).
		The third suggestion focused on the synchronous interactions with students. Here the consultation department provided a set of tips for faculty to set up and use the licensed videoconferencing Software (Zoom) for live lectures or sections. These tips are oriented to the technological aspects of the tools that are needed to master in order to deliver a effective—and pedagogically pertinent—synchronous interactions with students.
Preparing to Teach Online	Online training course in LMS	the consultation department also offered a self-paced, gamified online training course of how to prepare to teach online.
		Four areas of training: Course organization; Explaining content; Facilitating Interactions; Assessing student learning

The **event maps 1 and 2** (**Figures 1** and **2**, respectively) served as an analytical tool to understand the university context and its response to the Covid-19 pandemic, hence responding to the first line of inquiry (see ***section 3.2.1***) of this study. A narrative was built based on the artifacts collected and analyzed through these maps.

The **third event map** (**Figure 3**) provided—through multimodal artifacts (for this event email exchanges/communications, collaborative Google Drive documents, and Zoom audio recorded conversations were collected chronologically)—a basis to explore the different exchanges, ideas, decisions, and difficulties that took place for the course (re)design as it transitioned from a face-to-face to fully online/remote modality. This event map represents all the curriculum design and technology integration (e.g., tool selections, pedagogical strategies based on digital tool affordances, others) that began two weeks before the spring quarter started (labeled as "preparation weeks") and followed the ten weeks of the spring quarter (labeled as "execution weeks").

3.2.5. Analytic Framework

The analytic process used for exploring the pieces that constituted the **third event map** (see **Figure 3**) was guided by the dimensions proposed by Ertmer & Ottenbreit-Leftwich's (2010) framework (TKS; PB; and IC), which were used as analytical lenses (Gee, 2004) in order to get a better understanding of the different factors that counted as important/crucial in the curriculum (re)design and technology integration. The pieces collected were coded based on the three analytical lenses (see color codes on **Figure 3**),

highlighting and transcribing the salient points of each of the pieces (e.g., emails, conversations, documents).

For the coding process of the third event map, a first round of analysis was done through the transcriptions of the 10 conversations, exploring how the topics covered during the conversations and the decisions made had a relationship with the analytical lenses (TKS, PB, and IC). To code the data—using the analytical lenses—instances, words, and key decisions made related to each of the lenses guided the coding process, some of these are described as follows:

For the **IKS** lens, the coding was guided by instances of the instructor's skills on managing the basic LMS's tools to set up the course site (e.g., the instructor sharing in the conversation how they organized the course material; uploading screen casting videos; addressing some troubleshooting; the teaching assistants sharing their knowledge of Zoom for discussion and group-based activities; the instructor's openness to explore and try new digital tools).

For the **PB** lens, key decisions and expressions related to the course assessments, designing learning activities, caring about the students, sharing the course design process with the other stakeholders (teaching assistants, and me), and any decision that had immediate relationship with the curriculum and the course stakeholders' pedagogical practices were key for the coding process of the PB lens.

For the **IC** lens, instances of the instructor and teaching assistants reaching out to me (as the instructional technology coordinator) were key for the coding process; the connections made by the course stakeholders with workshops or training provided by the university; and any change/modification in digital tools or pedagogical practices as a result of

the recommendations (and influence) of the instructional/consultation department and me. The positionality of the researcher—me, as the instructional technology coordinator—and the ways such presence affected or modify the decisions made by the course's stakeholders was taken into consideration for the coding and analysis of the **IC** lens (for instance, see *"Researcher's positionality impact on decision made"* column on **Figure 3**).

After categorizing and coding the transcriptions, a second round of analysis was done highlighting the most salient points (based on the research question and lines of inquiry of this study) of each of the analytical lenses (see *"Review of salient points"* column on **Figure 3**). During the second round of analysis, relevant quotes from the transcriptions were added to the map to support the analysis done for each of the salient points (see *"Key analytic timestamps/quotes to note"* column on **Figure 3**).

Lastly, emerging salient points that did not align/fit under the analytical lenses were coded as "***emerging challenges***"—see example on **Figure 3**— (e.g., unexpected changes that had to be made to support students who were experiencing hardships; creating alternative activities for students who were struggling academically and keep them to drop the class). These coded instances constituted crucial factors that were not considered by scholars in research related to online/remote education before the Covid-19 pandemic.

Figure 3

Excerpt from the event map of the process of the curricular design of the undergraduate online course (third conversation of the spring quarter, 2020).

Date	Event	Data Type	Positio-nality	Review of salient points	Key analytics timestamps/quotes to note	Researcher's positionality impact on decisions made?	Duration (if applica-ble)
April 14, 2020	Third planning conversation	Conversation (Zoom recorded)	Instructional technology coordinator	The instructor made emphasis on the evaluation of the students' work, making a strong focus/emphasis on students' efforts in engaging in the class and their participation. The flexibility to gives "A's" or "Pass" to students comes from the formative assessment the instructor has.	**Instructor:** You know, in terms of grading and just staying up on the grading, I'm just gonna be honest with y'all. If anyone looks like they're totally checked out, then we look to see what they've done and just sort of determine as a team what they deserve. But, you know, for the most part everyone gets "A's" or "Pass,". If people seem to be checked out, let me know. I might do, you know, I'm gonna try to do a follow-up message after every live session.		44 minutes, 54 seconds
				The instructor showed themselve as a constant learner, and is aware of how unknown remote/online teaching is for them. But they have seen the circumstances as an opportunity to learn, and figure out how to have best pedagogical practices in online modality.	**Instructor:** "...and teaching online, damn, I'm learning how to teach online. Some of my ideas are not that great. So, you know, I think that's how we should think about it, not to tell everyone that they will definitely be engaged with kids but once we see a star rise to the surface, let's take a look at that as a team and go 'oh yeah!, this is viable!' "		
				The instructor was clearly concerned about the students well-being, they wanted to make sure this became a top priority throughout the Spring quarter.	**Instructor:** I just- I'm caring about people. We need to know if there's anyone who's got issues, suffering in any way, are they sick? What do they need? Do they need an extension?... So, we just wanna make sure that no one is suffering in silence. That's the big goal.		
				The instructor reached out to the IT coordinator to discuss about the way they designed/wrote the instructions to students. This exchange was based on the acknowledgement the instructor had about the IT coordinator experience in online/remote teaching, and how to best organize directions/guidelines for an online course	**Instructor:** [IT coordinator], I just did it with a list of things to do. With #1, do this, #2, do this. **IT coordinator:** I think I've seen like the more natural and clear, the better. So we prevent them to be confused on where to go and what to do and what your expectations are. Sometimes it's like the way to go when it comes to giving instructions and making sure they get what you want them to do. **Instructor:** Yeah, that's what I was thinking. I was just thinking what I would need. And it helps that I, too, have ADD, so I can do numbers and do this next, do this next [laughter]	Providing guidelines or suggestions on how to organize instructions to students so they do not get lost in the execution of activities and navigation of each course's weekly assingments	

Analytical Lens	Color code
Technology knowledge/self-efficacy	
Pedagogical Beliefs	
Institutional culture	
Emerging challenge	

4. Findings

The findings of this study emerged from responses to each of the lines of inquiry that constitute the main research question: What counts as important, under what conditions and for what purposes when an R1 practitioner University course must transition from face-to-face to fully online/remote instruction? This section is divided into four sub-sections.

The **first section** responds to the first line of inquiry of this study: what technological and pedagogical resources were available/provided by the university during the coronavirus pandemic?

The **second section** responds to the second line of inquiry of the study: How did the course actors transition the course's curriculum to remote/online during the COVID-19 pandemic? In order to respond to this, a narrative of two periods of time is shared: the **preparation weeks**—that explores the experiences lived and decisions made by the course actors two weeks before the start of the spring quarter of 2020—and the **execution weeks**—the encompasses the experiences lived, decisions made, and challenges faced by the course's stakeholders during the 10 weeks of the spring quarter of 2020. The three dimensions of the "Technology change" framework (technology knowledge and self-efficacy, pedagogical beliefs, and institutional culture) were used as analytical lenses for each of the two periods of time, highlighting the aspects of each lens that were salient to the research question. Finally, the second section ends up with an overview of the final course curriculum by the time the spring quarter 2020 ended.

The **third section** explores the **emerging challenges** lived and faced throughout the spring quarter 2020.

The **fourth section** shares an overview of the salient aspects of the course (re)design and technology integration process.

4.1. Line of inquiry 1: What technological and pedagogical resources were available/provided by the university during this time period?

The institution has an instructional/consultation department (ID) that offers multiple services to faculty in both pedagogical and technical aspects of education. Such services are divided into three main areas: Consultation, production services, and classroom services. The services provided by each of these three areas are described in **table 2**:

Table 2

Services offered to faculty by ID

Type of service	**Services provided**
Consultation	General consulting and workshops in pedagogical strategies, teaching and learning issues
	Evaluation of courses and courses resources/materials.
	Training on technology for teaching and learning (e.g., students response systems, podcasting/lecture capture, streaming media, test scoring, Course Management System/Learning Management System)
	Instructional improvement grants to support development of new curricular materials.
	Evaluation system of courses and instruction.
Production services	Digital production (photographic production, audio recording, printing, video recording, editing, post-production, duplication services)
	Video-conferencing facilities and support
Classroom services	Support classroom instructional technologies
	Film and video ordering
	Special events support (venues, technology, support, staffing, others.)

4.1.1. University's response to the Coronavirus pandemic

Given the massive outbreak of the Coronavirus in the United States by the end of February of 2020, many higher education institutions started to make different decisions in relation to their students', staff's, and faculty's wellbeing. Therefore, on March 10th of 2020, the chancellor of this institution made the decision to transition to remote instruction from the end of Winter quarter until the end of April. Faculty were asked to, at least, make the

required changes and adaptations to their classes (by using alternative modalities) to give remote instruction until the end of April. During this time, the campus would work in a limited way, and students who remained on campus during spring quarter could still participate in remote instruction (no face-to-face instruction would be provided until the end of April).

However, given the advancement of the virus outbreak, by March 12 of 2020, the Chancellor encouraged the following: students traveling during spring break to stay away from campus until the end of April; Students who were planning to stay on campus to not travel during the spring break; and that only those students who required to conduct critical research activities should go to campus.

On March 14 of 2020, the chancellor notified the community that remote instruction will be extended throughout the entire spring quarter, and that students were encouraged to leave (along with their personal belongings) campus housing for the rest of the academic year. Finally, on March 19 of 2020, the Chancellor gave the order to staff and faculty to work remotely and that only employees who oversee critical operations will be working on campus. As such, faculty were given approximately two weeks, including the use of spring break holiday, to transition their courses to online instruction.

Such critical campus-wide responses to the Coronavirus pandemic were followed by many different actions taken by administrative staff of the University to provide pedagogical and technological support for faculty/instructors and teaching assistants in the transition to online/remote instruction.

4.1.2. University's pedagogical and technological support during the Coronavirus pandemic

In order to help faculty, instructors, and teaching assistants during the transition process from face-to-face to remote/online instruction, many dependencies of the University started to take action by providing different sorts of resources and support (see **Table 2**).

Many departments of the University sent out a set of messages and resources to support the new changes for the spring quarter of 2020. Such pieces of communication included a message from the Dean of the Graduate School of Education notifying community members that their own information technology office would provide support in the usage of videoconferencing platforms and Software, specifically the Zoom app, for which the entire University owned a site license.

Faculty members also contributed to efforts in moving coursework to online platforms; one member within the education department with online teaching experience led a workshop on pedagogical considerations and practices for remote/online instruction. The invitation to this workshop was sent by the department's chair via email.

The University's pedagogical and technological consultation department created a website that hosted recommendations for effective remote/online instruction. The six main recommendations to faculty to start such transition are described below:

- The first suggestion is to have clear learning outcomes/goals for the course, having up to two objectives per week so it can be doable and real, and identifying what is the "takeaway" of each week. In addition, faculty should list the content (materials/readings/videos) related to the subject matter and be clear how students will engage with the content that will be assessed.

- The second suggestion focused on making faculty being mindful and critical about the decision of what content can be delivered in asynchronous modality (e.g., recorded-at-home lectures, presentations, readings, videos, infographics, others) and what content is crucially needed to be provided in synchronous mode (e.g., live lecture/discussion).
- The third suggestion focused on the synchronous interactions with students. Here the consultation department provided a set of tips for faculty to set up and use the licensed video conferencing Software (Zoom) for live lectures or sections. These tips are oriented to the technological aspects of the tools that need to be mastered to deliver effective—and pedagogically pertinent—synchronous interactions with students.
- The fourth recommendation focused on keeping the online course instructions organized. Being descriptive with every content and section helps students to navigate effectively through the course content and give them a clear idea of what to do. Creating a weekly pattern so students know how to prioritize their time while engaging with the different activities of the week, sharing deadlines of each assignment/activity, and keeping the gradebook up to date are suggested practices. Providing clear instructions can also promote a more active participation from students with the online course by encouraging them to interact with the content more than once a week.
- The fifth recommendation is related to building a community-like space by being more "human" in online/remote instruction, in order to create a welcoming and inviting environment in the course, and prevent students from

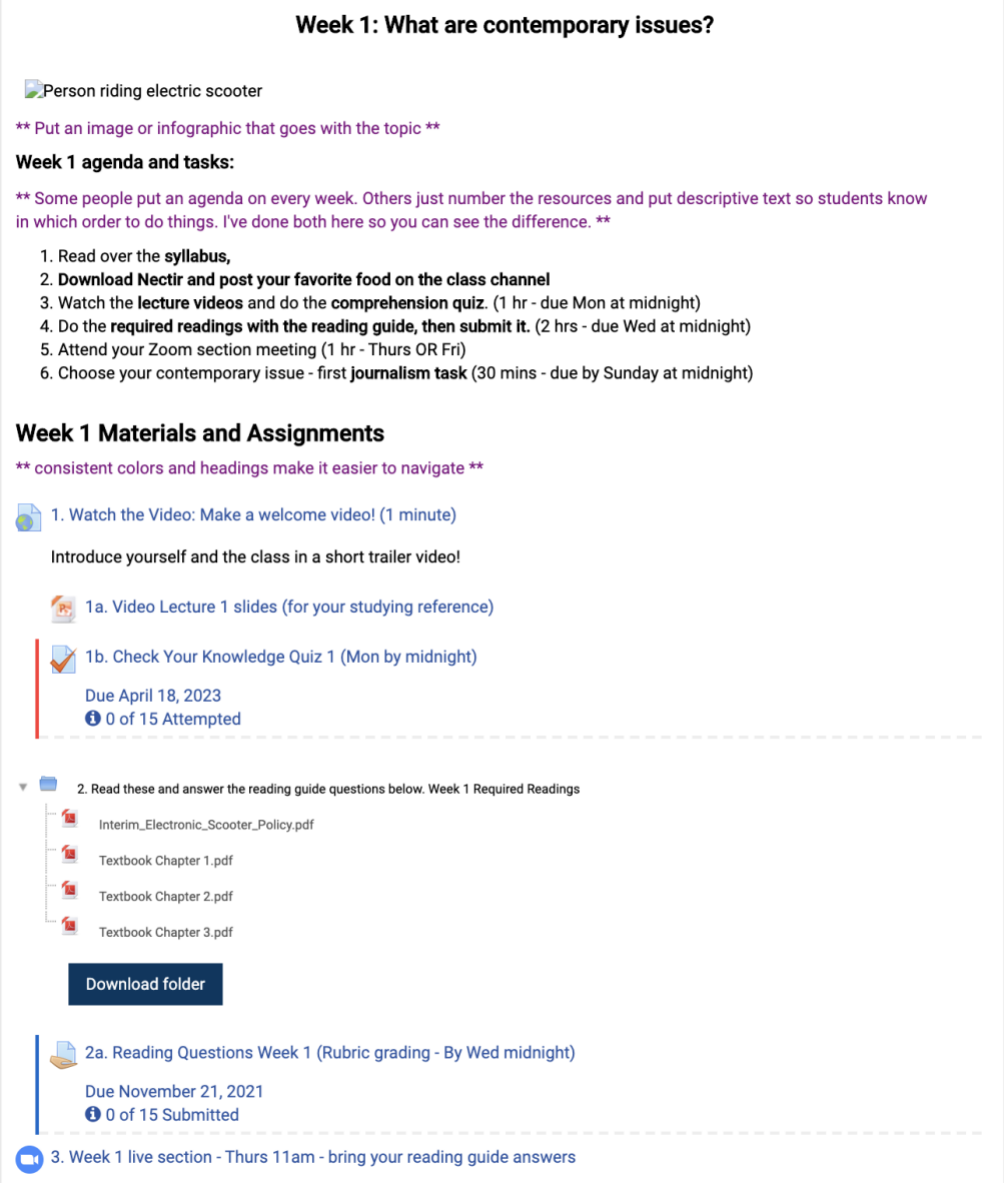
dropping out or feeling isolated. Part of these suggestions include the use of applications that allow active interactions among course members (students-instructor and students-students). A Slack-based application called Nectir—which license was purchased by the University—allows the creation of an instant chat room for each course. This platform allows students to interact among themselves, their teaching assistant, and their instructor. The app is suggested as a resource to provide a community-like environment and for queries to be responded collaboratively.

- The sixth (and last) suggestion is to build online assessments—both formative and summative—using the tools offered by the institutional LMS (e.g., online quizzes, peer-review writing assessments, and others) and assessments alternatives by using external resources or tools (e.g., encouraging students to create proposal, projects, multimedia content, portfolios, and others).

In addition to the Website, the consultation department built an online course where the tips and recommendations (previously listed) were modeled for faculty. This online course shows faculty the "minimum" requirements for effective online instruction considering the short time faculty and instructors have to make such a transition (see **Figure 4**). This course was built on the University's Moodle-based Learning Management System (LMS).

Figure 4

Model course's example of a week content and instruction for an online course



Lastly, the consultation department also offered a self-paced, gamified online training course of how to prepare to teach online. This course covered four main areas or themes (see **Figure 5**) that provide faculty, instructors, and teaching assistants key knowledge and skills for online course instructional design and remote/online instruction.

Figure 5

"Preparing to Teach Online" training course thematic distribution.

These four themes are described below:

- **Course organization** focuses on how instructors can: make their personalities and passion for the topic apparent in the course content, videos, and communication; simplify and organize their courses to make the work and interactions predictable; identify what content of the course can be prepared in advance just in case technology, health, or duties alter during the instruction quarter/semester; and, lastly, identify which technology tools can be used to provide a clear structure, meaningful interaction, and transparency of work/requirements to their courses.

- **Explaining content** centers on helping instructors to understand and identify: what students can learn in asynchronous interactions and the content that can only be learned through real-time (synchronous) interactions; what synchronous and asynchronous activities will be best for their students to engage with the course content and materials; what sort of digital tools or resources are being used in the institution by other instructors and teaching assistants.
- **Facilitating Interactions** focuses on supporting instructors to be able to: integrate asynchronous communications into their courses' structure in order to make their students feel connected with them; identify the different kind of interactions they can establish between their students and them while the course unfolds; identify the sort of meaningful online interactions and digital tools would be ideal for collaborative and cooperative learning.
- **Assessing student learning** centers on providing instructors the knowledge to help them in: being mindful of how they organize a combination of both summative and formative assessments so students can learn the course content and manage the activities and assignments' load effectively; being critical about the selection of tools for their assessments.

The comprehensive set of actions and resources for University faculty are part of the many initiatives that the University started to design and offer to instructors, faculty and teaching assistants in order to provide support during the transition to remote/online instruction and the respective course instructional design. Such contextual information provides a picture of what is available during this race to transform courses that are typically taught in person. While allowances for a "soft start" to courses (i.e., assigning readings and

tasks to be completed individually to be uploaded through course sites) gave faculty additional time to be more familiar with live sessions using the Zoom conferencing tool, the pressure to develop ways to connect with students and effectively teach course content solely through online spaces remained a shared reality.

4.2. Line of inquiry 2: How did the course actors transition the course's curriculum to remote/online during the Covid-19 pandemic?

In order to respond to the line of inquiry 2, the findings will be shared in a time-based organized manner and divided by each of the analytical lenses based on Ertmer & Ottenbreit-Leftwich (2010)—TKS, PB, and IC. Keeping in mind that, based on the academic calendar of the R1 University where this study was conducted, the Spring quarter of 2020 consisted of 10 weeks. The data sources, analysis, and findings were organized according to the progression of the course during the quarter (chronologically), starting from two weeks before the Spring 2020 quarter began (labeled as "preparation weeks") and the progression of the academic quarter (labeled as "execution weeks"). The analysis of each of the analytical lenses is done for both the "preparation weeks" and the "execution weeks".

4.2.1. Preparation weeks

Two weeks before the beginning of the quarter, the instructor of the course started the transition journey—of the course design—by accepting the challenge of offering this practitioner course during the Spring quarter of 2020. Such a decision was made via emails. The first email was addressed to the different members of the group of scholars (faculty, staff, and graduate students) that were associated with the afterschool programs that are connected to the practitioner course. The purpose of such email was to let them know that the

instructor will be working along with their two teaching assistants, and the support I provided on the course design. The second email was addressed to the two teaching assistants and I sharing how they envisioned the practitioner course in remote/online format.

In the second week of preparation, the instructor sent an email to their two teaching assistants with a first draft of the course curriculum. This draft included the design of the first two weeks (out of ten) of the course. The instructor opened up doors for their two teaching assistants to brainstorm about what readings or topics could be included to the table. They also introduced me as part of the team for the course's curriculum planning and as a support whenever the three of them needed technological support for the course design. This first draft document had the goals of the course, instructor's expectations and requirements, and the (draft) planning of the first two weeks of the course. The planning of each week is described as follows:

- The **week 1 curriculum** was designed to be fully asynchronous, having students complete a survey where they were asked about their backgrounds, previous experiences in education, skills that they could use to engage with kids in afterschool/informal learning contexts. Additionally, students were expected to watch two short films about different school experiences kids live in different cultural contexts. These two video clips will be part of the content to be discussed during week 2 (live section). Students are also expected to watch the documentary "Won't you be my neighbor?"(streamed via Panopto); and, lastly, read about "funds of knowledge" (i.e., the knowledge and expertise that students bring to a social context). Finally, the students were asked to do readings on funds of knowledge on teaching.

- The **week 2 curriculum** was designed to be synchronous, having students participating in a live session with the instructor and the two TAs. The live sessions were held through Zoom, and the breakout rooms functionality of Zoom was expected to be used to facilitate smaller group discussions. Students also have to complete a reading on fields notes, watch two videos (streamed through Vimeo) about how learning communities work; and, finally, the students had to participate in a Venn-diagram activity using their notes (taken while watching the two learning communities videos) for highlighting differences and commonalities between the two learning communities.

Following the email exchange sharing the first draft of the course's syllabus, the instructor sent a message to me. They wanted to explore possibilities of using digital tools for the Venn Diagram activity they designed for week 2 of the course. They asked if Google docs could be a good option for such activity, but leaving a door open for other tools that could afford the development of this activity.

Following up, I suggested the use of the tool Mindmeister, which would allow the creation of a mind map as a way to represent the Venn Diagram they want to use for the activity. I also emphasized the possibility of real-time collaboration using this tool. Also, they suggested—as an alternative—the use of Canva, taking advantage of some pre-made templates that could work out as a working space for the Venn Diagram. However, I emphasized some restrictions this tool would have for collaboration, making it a good choice if the instructor wanted the students to collaborate in creating the diagrams in smaller groups instead of the whole class working in one single document.

After getting these ideas, the instructor came up with an idea of using Canva for the Venn Diagram activity. However, they did not feel confident on how to use the tool for the collaborative dynamics they wanted. In order to facilitate a better understanding of the use of Canva and help the instructor in having a better understanding of the use of this tool, I provided a set of considerations for the use of Canva (focused on the purpose of the activity). Also, I made the suggestion of switching into using Padlet if the idea was to have all students collaborating in one single online working space.

Getting a better understanding of the affordances of the different digital tools I offered and suggested, the instructor decided to choose Padlet given the importance of the collaborative nature of the Venn Diagram activity. The instructor decided to keep the template I created and asked me questions about how to integrate the tool into the institutional LMS (Moodle).

In order to facilitate the integration of Padlet into the course site in the LMS, I facilitated instructions and consideration of how to provide students access to the Padlet activity (sharing a public URL). I also provided pedagogical considerations for keeping the students' participation accountable, in this case: making sure that the activity instructions asked for every participation to be signed by each student (and making sure each participatory effort would count towards the activity's assessment).

After getting these suggestions, the instructor felt confident in using Padlet as a collaborative tool for the course.

Following up on the Padlet ideas, I shared ideas of possibly integrating e-portfolios as a way to have students submitting reflections on each week's assignments and readings. I suggested a list of potential digital tools that could afford the creation of e-portfolios.

The idea of e-portfolios was being highly considered by the instructor since it seemed to offer many affordances for the course objectives (having students reflecting on the different topics and materials offered by the course). However, this suggestion also raised a series of inquiries of how to implement the idea in the course; most of these inquiries were focused on the uncertainty of what students would be allowed or capable to do given the remote instruction (and some of the students' unknown circumstances), and also technical aspects and considerations for implementing e-portfolios.

I provided some clarifications on possible ways to integrate e-portfolios into the course; this was followed by an idea of how to manage gathering all the students' e-portfolios' URLs (using a Google doc file). Also, I suggested that the creation of individual e-portfolios by each student was a better approach for the course, so each student could post their weekly reflections, essays, projects, and other assignments.

After the clarifications of managing e-portfolios, new inquiries emerged in relation to the pros and cons of having individual or group e-portfolios. The instructor expressed some concerns if the e-portfolios were going to be done by groups instead of individually: how to keep each individual participant accountable? and how to use each portfolio's contribution for other purposes (e.g., sharing some of the posts on the instructor's research group website)?

I made emphasis that—ideally—the e-portfolios should be individual so it would allow each student to post their own reflections on the course's weekly activities/readings/materials. I clarified that, if the intention was to have groups' reflections on the e-portfolios, a Wiki would be a better idea since it is more collaborative and allows multiple entries from different users. Additionally, I—based on previous experiences—

provided ideas of how to manage individual contributions in a Wiki (having every group participant using different colors). Finally, I re-emphasized, that having the e-portfolios done individually would be a better approach for the course.

After getting a better understanding of how individual e-portfolios would work for the course, the instructor asked for support materials or instructions that could help students set up and create their e-portfolios during week 1 of the course. Also, ideas of how to use the e-portfolios discussions and entries as a resource for the course's final project. Finally, I provided a document with some guidelines for blogging (as a e-portfolio) for the course's reflections. Additionally, I emphasized on the importance of giving students the freedom to choose whichever blogging platform they wanted for the e-portfolios.

Following the email exchanges between the course instructor and me, the instructor decided to include some of the suggestions/ideas previously discussed and, also, design week 3 and 4 of the course. It was evident that such selections were made taking into consideration how such changes/additions to the syllabus would help the course's objectives/goals to be achieved.

Among the changes added was the addition of the individual e-portfolio as one of the course requirements (modifying one of the existing ones). In these individual e-portfolios students would reflect on their weekly course activities/readings/materials. Additionally, the planning of week 1 of the course changed by adding the e-portfolio (blog) setup as one of the activities. Also, instructions were given of what kind of reflections were expected to be done and posted on the e-portfolios by the end of week 1.

For **week 2** of the course, more details were added to the Venn-Diagram activity, now including a link to the template created on Padlet allowing the students to access the

collaborative workspace. As an additional modification to week 2, instructions and expectations on what to post on the individual e-portfolios were given.

Besides making modifications to the first two weeks of the course, the instructor designed week 3 and week 4. The planning of these two weeks is described as follows:

- **Week 3 planning:** Week number 3 of the course was designed to be fully asynchronous. Starting with a video (Webinar) provided and made by the instructor about "Communicating with Young Minds: Engaging in (trans)languaging with Youth". Following the video, students are expected to read documents about critical pedagogy. Next, students should engage in a documentary about the ICE raids in Santa Cruz; before watching the documentary, students should do a reading of a document that provides information of the context and related work by the scholars behind the documentary. Finally, students will create a blog entry/post sharing critical connections between the two video resources and the reading of the week. For the blog entry, the instructor gives students the freedom of making such connections in any form they want (e.g., a short essay, poetry, a short story, etc.).
- **Week 4 planning:** Week number 4 of the course was designed to have a live/synchronous session with the instructor and a series of asynchronous activities. The live session focuses on sharing and discussing the previously assigned media (videos and readings), the blog entries done the previous week, and starting a brainstorm on the group projects. Following the live session, students would: engage with a webinar recorded and led by the course

> instructor about how to write for young minds; read about digital technology for learning (in K-12 contexts); read a paper related to participatory research with kids; and, finally, make a blog post/entry about ideas or connections students found related to the discussions done during the live session, the media they engaged with during the week, or the readings provided for the week.

This draft syllabus document shared by the faculty a week before the start of the quarter was the "starting point" of the curriculum design for the spring quarter of 2020. The instructor left a note to their two teaching assistants letting them know that the other five weeks of the quarter will be open to be co-constructed with them, leaving Weeks 5-9 to the two teaching assistants, and leaving week 10 (last week) for students to present their final work.

4.2.1.1. Technology knowledge and self-efficacy (TKS)

For the TKS lens, making the decision of offering the practicum course through digital means reflects the instructor's confidence that such transition would be possible. At this point, it was not fully clear what was the instructor's digital knowledge to provide instruction. However, the instructor was clearly aware of the many challenges they may have to face through the re-design process and transitioning to a fully online course, so they were certain that with their knowledge and the support I offered, the transition would be possible. This was stated by the **instructor** in one of the email exchanges:

> **Instructor [March 11, 2020]:** "Given the option to move online, I am working with my TAs and technology specialist to support those of you who will attend this class remotely through the month of April."

It is worth noticing that, in the **syllabus**, the **instructor** shared their vision of how they see the potentiality of digital technologies to connect people and create a community-oriented course.

> **Instructor [March, 22, 2020]:** "The course readings review current theories and research about what counts as literacy in this digital age of science and technological advancement, and ways to support critical engagement in literacy-based practices, with thematic topics that relate to environmental awareness and sustainability and using online technologies for connecting across community members that include youth."

While designing the first draft of the curriculum, the **instructor** showed confidence in suggesting setting up the institutional LMS by editing the visibility options so students would only see what they wanted to make visible in order to provide a "soft start" (as the instructor called it).

> **Instructor [March 22, 2020]:** "As part of our 'soft start' to the class, we can make visible only the first couple of weeks on our [LMS], and we reserved the right to edit this syllabus as needed throughout the course."

For the design of the activities and content of **weeks 1-4** of the course, the instructor showed skills and knowledge of how to create multimedia content and manage/set up a course site on the institutional LMS by: Adding reading-based content (like pdf files); Embedding Youtube content to the course site; recording their own screencast content for the welcome/introduction message to the course; sharing a digital documentary/movie as a multimedia content for the course; setting up Zoom live sessions for the "synchronous" classes on week 2 and 4 of the course. Another aspect that reflected the openness and confidence of the instructor in exploring and learning new technologies (or digital platforms) was their decision to include e-portfolios in the curriculum (after the suggestions I offered—

see “institutional culture” section). The guidelines and requirements of the e-portfolios were thus included in the curriculum across all the four weeks.

Additionally, for the design of the **Venn-Diagram** activity of **week 2** of the course, the instructor consulted me (via an **email** chain) about possible digital tools to execute the activity. Even though they were asking for ideas and support, they came to me with an initial idea developed with Google docs. This reflects the knowledge/skills they have of digital tools for teaching and learning, but also reflects the openness to explore and learn other tools:

> **Instructor [March 27, 2020]:** "I want to create an assignment that would allow for students to contribute to a single Venn-Diagram in virtual space. Is there a way to do this in Google Docs or another tool on [institutional LMS]?"

Among the salient aspects that were found through the **TKS** analytical lens during the preparation weeks I could find the instructor awareness of the challenges that could imply (re)designing the course for fully online instruction, their ability to identify, among the digital tools they knew before the Spring quarter, which digital tools would afford some of the community-based strategies they wanted to implement.

Additionally, aspects like the instructor’s knowledge of the institutional Learning Management System (LMS) and how to start the course structure/organization before the start of the Spring quarter (e.g., adding digital reading content [pdf, word files], embedding multimedia content in the LMS), their knowledge of basic Zoom knowledge to set up the meetings for the synchronous sessions of the class ahead of time, and the instructor’s openness to explore some digital tools for the learning activities design (e.g., exploring tools that could help simulating a Venn-Diagram, being open to implement e-portfolios) were salient in the **TKS** lens during the preparation weeks.

4.2.1.2. Pedagogical beliefs (PB)

Through the lens of PB, the instructor's "broad vision" of the course's assessments and goals emerged as a salient point. This vision was shared by the instructor in the email exchange sent to their two teaching assistants (Teaching Assistant E and Teaching Assistant F) and I:

> **Instructor [March 21, 2020]:** "This course will not be about tests and term papers; we will focus on effort and accomplishments in fostering sustainable futures for/by/with youth."

In addition to the general vision of the course's assessment, the **instructor** also shared how important it was going to be for the course to be more "flexible" compared to the "standard" face-to-face version of the course. This flexibility emerged given the different circumstances that Covid brought to our society (e.g., health and financial concerns).

> **Instructor [March 21, 2020]:** "This will be our big theme, one that directly acknowledges our changing climate and the pandemic that we find ourselves in. This isn't a time for pretending that course teaching will or should resemble business as usual."

Also, the instructor's vision of the course's assessment (formative assessment), and their openness to not expect the course to be a replication of what it used to be when provided in a face-to-face environment became noticeable in their expectations of the students' work and engagement. This statement and (clear) expectation of the instructor established what would become the backbone of the course design.

> **Instructor [March 21, 2020]:** "I see our enrolled students as a unique and creative task force that will work to brainstorm, plan, create, model, share, and connect with ways to meet the socioemotional and literacy (notice that I'm not using the word 'academic'...) demands and needs of our surrounding learning communities."

While designing the first weeks of the curriculum/syllabus, the instructor decided to open a space for their teaching assistants to contribute to the design of the following weeks. This is clearly a reflection of the collaborative/socio-constructivist approach of the instructor:

> **Instructor [March 22, 2020]:** "Hi there...well, I finally started to rework the [course] syllabus... Take a look when you can, but no rush. [Teaching assistant E] and [Teaching assistant F]... be thinking about particular course readings, videos, and activities/tasks that you think would be good to add. I offer comments here and there".

For the **Venn-Diagram** activity of **week 2** of the course, the final decision of the digital tool to use for the activity was led by the pedagogical and technological affordances of the tool (**email chain** conversation). This decision was influenced by me, but the final decision was provided by the instructor who considered that the use of Padlet would align with the course's pedagogical approach:

> **Instructor [March 27, 2020]:** "I think that, given this is a post-discussion activity after each student completes and submits their own notes, Padlet would be best for this purpose"

Among the salient aspects that were found through the **PB** analytical lens during the preparation weeks I could find: Establishing the course as a place that foster creativity, connection, and safe space for emotions to be shared; and defining the strategies that were going to be implemented in the course to foster collaboration among students and enabling a community-based environment.

4.2.1.3. Institutional Culture (IC)

For the IC lens, it was evident that the instructor looked for my support since I had knowledge of instructional technology (IT). Starting two weeks before the official start of the

Spring quarter, the instructor decided to include me in the email exchanges so they can provide them support whenever it was needed. This was stated by the **instructor** in the very first email exchange:

> **Instructor [March 11, 2020]:** "Given the option to move online, I am working with my TAs and technology specialist to support those of you who will attend this class remotely through the month of April."

When sharing the first draft of the curriculum with the two teaching assistants, the **instructor** stated, once again, my participation as a resource they could rely on whenever they had questions or inquiries about technologies or applications that could be used for the course's activities or content:

> **Instructor [March 22, 2020]:** "As I mentioned in my previous message, I included [the IT coordinator] so that he can see how I'm shaping the course and help us think about resources that may be helpful to us."

For the design of the **Venn-Diagram** activity of **week 2,** the instructor started an exploration (via an **email chain**) of digital tools suggested by me after they consulted them about what digital tools might be a better fit for the activity. They explored different tools and—after exploring the affordances provided by each—they decided to choose Padlet for the activity.

> **IT coordinator [March 27, 2020]:** "Hello [instructor]...in the past, I have used Mindmeister, its free version allows you to create up to 3 mind maps (in this case you would only create one for the whole class), and it does allow real-time collaboration. You can check it out. If you find any trouble figuring it out we can explore it together.....Another option would be using Canva —it does have different templates for VennDiagrams. It does allow collaboration. However, I would recommend this one if you want, for example, different groups creating their own Venn Diagram, downloading them as pictures or pdfs and then sharing them in the forum (which can create some kind of conversations/discussions about the different ones). Then you could create a 'final' venn diagram using all groups' contributions. Maybe this is a nice way to foster multiple collaborations, and you (and the TAs) engage as a contributor to the discussion. Let me know what you think!...Here are some technical aspects to consider about Canva. Each project (like the one you created) can be shared with other people (by inviting them through their emails). Given the fact that

> [the course] has more than 60 people involved. I would recommend that you give them the guidelines so different groups (let's say of 3-5 people) create their diagrams and then they share them with the rest of the class. If you want to have ALL 60+ participants to add differences and similarities to the diagram, then I would suggest using Padlet instead—I created an example/template of how they could add different notes on each column (3rd graders and scientists), each comment can have text, videos, images, etc. I can also add a third column for the 'similarities' of both communities".
>
> **Instructor [March 27, 2020]:** "I think that padlet will be one of the main communicative tools that I use for the course."

Besides making an impact in the decision made of including Padlet as a tool for the Venn diagram of **week 2** of the course, I also provided (in the same **email chain**) ideas of integrating **e-portfolios** as an strategy to have students reflecting on the course's materials and discussions, this exchange influenced the decision of including e-portfolios in the syllabus.

> **IT coordinator [March 27, 2020]:** "Another idea you could implement is having your students creating e-portfolios (e.g. using blogger, WordPress, Tumblr, Wix, Weebly, others) to write down their field notes and reflections. This could be a nice opportunity to have them being reflective of their experiences and also foster some digital literacies (encouraging them to add multimedia content to their different posts). So, by the end of the quarter, you will have 60+ e-portfolios with their reflections, activity designs (if they do them), and field
> Notes. The idea would be that every student will have their own e-portfolio. They can share their portfolio URL with you and the TAs. Then, this e-portfolio could be a frequent space for students to reflect on the course material, experiences, exchanges with kids (if this happens), share activity designs (if they do this), field notes, etc. I think this would be a good way to have weekly formative assessments (by posting every week about any of the points I mentioned)".
>
> **Instructor [March 27, 2020]:** "Thanks for sharing, do you have written directions about creating one's blog? With links to possible blog sourcing? Then I can insert it in the syllabus and [LMS] course site. Thanks for your help in thinking this through!"

Among the salient aspects that were found through the **IC** analytical lens—during the preparation weeks—I could find: The instructor's openness to identify external actors to support them in the integration and implementation of digital tools that could enhance some learning activities and/or pedagogical practices; the instructor reaching out to the me (Instructional Technology coordinator) to inquire about digital tools that could be implemented in the curriculum; and the potential that casual exchanges—conversations that were not triggered from an inquiry—with others have to bring new ideas to the course design (e.g., the ideas I provided about integrating e-portfolios to the course).

4.2.2 Execution weeks

Once the Spring quarter of 2020 started, the instructor planned weekly conversations with their two teaching assistants (**E** and **F**), and me, in order to plan the curriculum and address every situation/issue that could emerge as the quarter unfolded. There was a total of ten conversations throughout the spring quarter of 2020.

During the **first conversation**, the instructor brought up some ideas of how they envisioned the course's sessions for the spring quarter. The instructor shared the idea of having synchronous sessions every other week, allowing the students to work on their projects and collaborate during the asynchronous weeks. During the synchronous sessions, the instructor planned to focus on content sharing, and (mostly) foster community building by having the students get to know each other, work collaboratively, and have some in-class time to work on their projects.

During this first conversation, the instructor brainstormed with their two teaching assistants and I the different strategies, both pedagogical and technological, that would be

used for the quarter. First, they discussed the course's goals and the way assessment was going to be addressed. The instructor shared their views of how assessment will be done on this course, focusing only on the formative assessment of how the undergraduate students can create ways to engage and connect with the youth and their families. For the final project (which was going to be developed during the quarter), the instructor provided instructions to students to create/organize their groups during the first session, and such groups would be fixed throughout the quarter in order to create a good quality final project.

In this conversation, teaching assistant *E* supported the instructor's approach of focusing more on the "human" component rather than a "traditional"/test-based class, being mindful of the difficult times students might have gone through at the very early stages of the COVID pandemic (e.g. being lockdown, away from family, dealing with health/financial stress, and more).

During this first conversation, the instructor shared their openness to be able to use any possible digital tool through the LMS in order to achieve the course's goals. Additionally, there was a discussion of how to use Zoom properly for the class live/synchronous sessions, trying to figure out—along with the two teaching assistants and I—the affordances of Zoom for the desired class dynamics.

New knowledge of some digital tools' affordances was shared during this conversation. For example, teaching assistant *F* shared some knowledge acquired through some training provided by the University on how to use the co-hosting feature of Zoom (knowledge not known by me at the time), and this knowledge was taken into consideration for the course's synchronous sessions dynamics. Finally, teaching assistant *E* shared some concerns of the sessions/classes that were going to be led by the two teaching assistants, and

how “flexible” could be the material/resources provided to the students. The instructor allowed total flexibility for these sessions’ design/planning, highlighting that the focus was always going to be collaboration and “creativity.”

The **first conversation** ended with the instructor giving their teaching assistant some time to think about the planning of the weeks that they would lead later in the quarter.

Following this exchange, the **second conversation** started with the instructor sharing some technical difficulties with the video platform (Vimeo) they were using to stream two videos (created by the instructor) that were part of the course activities. With the support I provided, they found a solution to this issue so they could continue discussing and planning the course’s curriculum.

Additionally, the instructor shared some technical difficulties some students were having with their e-portfolios/blogs and reached out to me to see what possible solutions could be found. Also, the instructor discussed with the two teaching assistants what strategies they would use to provide clear instructions/guidelines and support to students for their course’s final project; such support was discussed to be provided in both asynchronous and synchronous sessions. In order to provide more thorough support to students, both teaching assistant E and F discussed possible ways in which they can provide more ideas or examples for students so they could visualize how their final project/product would look (e.g., a Youtube video, animations, among others).

During this conversation, the instructor brought up some email exchanges they have had with some students of the class who had been struggling with personal issues related to Covid (e.g., health, stress, etc.), and others reaching out expressing their desire to be part of

the class (which was considered doable given the fact that they were about to start Week 2 of the spring quarter).

Finally, the **second conversation ended** with the two teaching assistants sharing what ideas they had in mind in relation to the course's weeks they would be leading (week 5 through 8). Teaching assistant F shared their ideas of selecting content related to science education and identities and connecting these topics with projects they could work on taking into consideration the e-portfolios/blogs each student had, and possible ways to create content/resources for the kids of the local community. Following the ideas of teaching assistant F, teaching assistant E shared their thoughts of their two weeks focusing on sustainable education and how it has been implemented in schools overseas. These examples and content were planned to be brought through multimedia content (that TA E was still trying to identify), and some TedTalk videos that shared about non-traditional pedagogies in schools.

Following this meeting, the **third conversation,** the teaching assistants assigned themselves the groups they were going to be supervising and orienting throughout the Spring quarter (total of 17 groups—nine groups assigned to teaching assistant E, and eight assigned to teaching assistant F). In addition to this, the instructor noticed that some students were still confused on how the synchronous and asynchronous dynamics of the course worked. Teaching assistant E suggested that they could reach out to their assigned groups and clarify all the questions related to the live (synchronous) sessions and the asynchronous sessions and the work they should be doing on each of them.

The instructor also re-emphasized the formative assessment approach they will be using to evaluate the students' work, making a strong emphasis on students' efforts in

engaging in the sessions, group work, and activities/projects throughout the quarter. They also highlighted that there were no high expectations on how "perfect" the pedagogical approach of the students' work was, the instructor understood that most students—while being interested and passionate about education—did not have experience in teaching nor designing learning activities or curriculum. The expectation, as stated before, was going to be their investment, motivation, and engagement in the different set of activities and sessions of the class.

Additionally, the instructor expressed how self-aware they were about the learning process and getting used to how things work in remote/online instruction. This self-awareness kept them open-minded about the possible mistakes they could make throughout the course design and execution.

I was contacted by the instructor who had some questions about the ways in which instructions or guidelines could be provided clearly and effectively in online instruction. The instructor shared how they designed and wrote a set of instructions for the upcoming activities and shared them with me to make sure they were written based on the suggestions provided before.

Finally, the **third conversation ended** with the instructor sharing their concerns related to the students' wellbeing, stating that making sure everyone is doing well would be one of the main goals of both the instructor and the teaching assistants.

The **fourth conversation** started with teaching assistant F and the instructor sharing a couple new cases of students who have reached out expressing their concerns and difficulties related to their wellbeing, and having a decent workspace to access the classes without being disrupted by external factors.

Additionally, the instructor provided their insight in the need of keeping the assessment fully formative, stating that designing exams or tests should not be a priority for any class giving the different critical circumstances people were facing in different aspects of their lives (e.g., physical and emotional health of students and their relatives, financial hardship, others).

Moreover, the need to keep providing a socio-constructivist environment in the class was re-emphasized by the instructor and how they have been able to bring some of the face-to-face strategies and "replicate" them by using some Web 2.0 based tools that afford the kind of collaboration they wanted to have.

Some technical difficulties that emerged in the previous class with Google's Jamboard were discussed with me and tried to find a possible solution if the same situation emerged in future synchronous sessions with the students. Finally, the conversation ended with teaching assistant E sharing what they had designed/planned for their respective sessions (Weeks seven and eight), and how they were planning to connect the content and activities of such weeks with the activities and contents that were going to be led by teaching assistant F in the previous weeks (Weeks five and six).

During the **fifth conversation**, the instructor shared the case of a student who had been having issues with their involvement in the class (e.g., participation, meeting activities deadlines, meeting with the group they belong to for the final project, others) due personal problems. The instructor shared that such a situation had raised a red flag on the kind of things universities did not consider much in comparison to the academic issues that could emerge. Based on the instructor, most institutional efforts were made from the academic and technological perspectives, but not much was shared in relation to the students' wellbeing.

Based on the student's situation, the instructor re-stated how important it was for them to have started the course with a set of activities and assignments, so they could leave the other half of the quarter with more "low-stake" activities focused on the creation of their final group projects. The instructor also stated—after the two teaching assistants finished their weeks (Weeks five through eight)—that the last two weeks of the course would be focused on providing support to students, providing resources, and creating some "workshops" that could help students and their groups to finish their final projects effectively.

In addition to the instructor's plans for the last two weeks of the course, teaching assistant E shared a more detailed plan for their weeks (7 and 8), including the different resources that would be used as course content provided to students and how they planned to connect the activities and presentation with the two previous weeks (led by teaching assistant F). Finally, the **fifth conversation ended** with me providing some ideas and suggestions to teaching assistant E how to better use the synchronous and asynchronous weeks of their planning. I also provided a set of ideas for ways in which students could create a multimodal representation of their final project.

The **sixth conversation** started with teaching assistant F sharing how their live session went, making emphasis on the activity's interactions and how groups worked in their breakout rooms. Despite having some minor technical difficulties, the session went well, and feedback from students emerged from the activity. One of the main "findings"—after the exchanges and interactions—came from a "word cloud" activity teaching assistant F led during the live class: the students were indeed experiencing high levels of stress and dealing with a lot emotionally. Additionally, teaching assistant F shared that they have been

receiving many emails and messages from students who have been struggling with many hard situations (mentally, emotionally, and family-related issues), which made them re-state how important it was to keep providing a "community-like" environment in the class to help students find the class as a "safe space."

In addition to the messages received from some students, there were two additional cases of students that had been absent from the class and that had been difficult to contact. The instructor showed how concerned this made them given the fact that there were no clear "guidelines" for this sort of situation happening during Covid-19 times (also considering that the spring quarter was the very beginning of both the pandemic and the remote/online instruction transition), so many things were still "up in the air." The instructor discussed with the two teaching assistants about possible steps and decisions to make related to these two students. One possibility was to give the students an "incomplete" since it was difficult to provide an assessment of their work, and also reporting these students to the "distressed students" department.

Besides having a discussion of students experiencing hardships in many areas of their lives, teaching assistant E tried to think about possible ways in which more support could be provided to different groups at the same time. They reached out to me to figure out how to have more than one co-host per Zoom meeting/session. However—even though I tried to explain how that would be possible and how to set it up—the instructor jumped in and let teaching assistant E know that they knew how to do it already, and then the instructor provided the respective instructions and guidelines to have the two teaching assistants as co-hosts so they could navigate freely between the different Zoom breakout rooms and support all the student groups.

The conversation ended with the instructor summarizing the different tasks each member would do—focusing on teaching assistant E—for the upcoming class (live session).

The seventh conversation started with the instructor sharing the situation of some students who had not been very active or responsible for the course activities, including their e-portfolios posts and their groups' project contribution. The instructor shared with the teaching assistants how to best respond to this situation, opting to provide some students the opportunity to switch from the course to taking some "independent study" units by doing some of the work of the course. Additionally—for those students that have been "partially involved" in the course—the instructor suggested reaching out to them to see if they needed any additional support so they can re-connect and engage with the course activities and sessions.

Additionally, the instructor shared their thoughts that they did not believe that all students were prepared for the remote/online instruction, especially given the different hardships some have been going through both emotionally and physically.

The instructor also realized how difficult it was to make some students understand that the course was not intending to grade or assess them in a summative way (the instructor kept receiving inquiries from students about the status of their grade, about how to get "extra credit" for missed sessions, etc.) and that all that really counted for the course was their involvement and effort on the different activities and sessions.

The seventh conversation ended with the instructor summarizing the plans for the final two weeks of the course curriculum.

On the **eighth conversation**, the instructor starting sharing the ideas for the upcoming last two weeks, identifying the activities the students would be doing: making a final e-

portfolio/blog post; and making a reflection (through a digital survey/form to prevent students getting confused about formatting, word-limit, and others) of the group work dynamics and experiences lived throughout the quarter.

In addition to the general plan for the last two weeks, the instructor discussed with the teaching assistants about the situation of students that had not been active or responsive in the course activities. Four out of the six students that have been struggling were suggested to drop the course and take independent units so they could still get academic credits/units by doing some of the course activities (e.g., e-portfolios/blogs posts/reflections, and other side-activities). However, only two of the four students responded and accepted this suggestion made by the instructor. These two students—who did not respond to the instructor—raised some concern for the instructor who wondered what would be the best solution possible for their situation so their academic stand did not get affected. The instructor decided to reach out to the "grading department" of the university to decide if the students should get an "incomplete" grade or not. Finally, for the other two students (the ones that were not offered independent study units since they did participate in the course at the beginning of the course, but then dropped their involvement significantly), the instructor offered alternative activities so they could still get academic credits/units for their work.

The eighth conversation ended with the instructor summarizing the plans for the last two weeks of the course (Weeks nine and 10), focusing on providing guidelines for the student groups' projects presentations (e.g., presentation style, timing for presenting, submission link, others), and providing space for the teaching assistants to have some final exchanges/words with the students.

In the **ninth conversation** the instructor updated the teaching assistants on the situation of those students who had not responded to the emails or messages sent by the instructor in order to find possible solutions for their lack of work and involvement in the class. Additionally, the instructor notified that the two students who had not been very active and participative in their group work had serious struggles and hardships related to Covid-19; one of them got sick because of the virus and the other one lost a family member due the virus.

The ninth conversation ended with the instructor providing to the teaching assistants the plans for the last class session, focusing on sharing a summary of the most important aspects of the different topics covered throughout the quarter. Also, the instructor shared their desire to make the last session a space to share, celebrate, and reflect on the experiences and goals accomplished during the quarter.

Finally, in the **tenth—and last— conversation**, the instructor shared with the two teaching assistants what would be last two steps for the course in terms of the curriculum, providing to the students a recording of the last live session and a message that would serve as a reminder for students to submit their final course reflection. This conversation ended with the instructor sharing their gratitude and satisfaction with the course design as well as the way things turned out despite the difficulties and uncertainties brought by the Covid-19 pandemic.

4.2.2.1. Technology knowledge and self-efficacy (TKS)

For the TKS lens there were many aspects that came up during the **first conversation** of the four course's actors' technology knowledge and self-efficacy while making decisions related to the course's curriculum.

The instructor brainstormed about the different technologies known and offered to students (LMS and zoom, for example), and how these could support the achievement of the course goals/objectives.

> **Instructor:** "Every other week when we are not meeting—and I'll emphasize this [next live session]—is an opportunity for the groups to meet, and so engage in, chat, their own zoom sessions to plan and brainstorm".

Additionally, the instructor brought up some inquiries about how to best integrate and use Zoom for the live session and the collaborative work they wanted to foster during the live sessions. Even though there were many inquiries about best practices or exploring the affordances of Zoom for instructional purposes, the instructor clearly did not bring these questions without prior knowledge of how to use Zoom. There was some knowledge of the tool and its affordances that would help in learning more complex/advanced features of Zoom.

> **Instructor:** "I have heard of one cohost; I have not heard of two. But it would be good to clarify that. It would be great to know if co-hosts have the same responsibilities that I recall in my last conversation with a group, and I don't remember who it was, that co-hosts do not have the same responsibilities as the lead host."
> **IT Coordinator:** "that is an alternative option assuming that we have to activate to enable the co-hosting as an option."
> **Instructor:** "So, that would be the biggest thing to learn how to do with our live sessions. We will have a total of five, and each live session it would be nice to be able to break out and do some kind of group work...five live reviews, so it's every other week with the off weeks, as I said would be for group work."

Finally, while discussing the dynamics/strategies for the teaching assistants' sessions, Teaching assistant E inquired about the different possible resources (e.g., readings, videos, materials, etc.) that could be used for the curriculum planning. The instructor showed total

openness to a diverse array of options for the course design, not being limited to academic-only readings.

> **Teaching assistant E:** "so we can assign some reading or even would a Ted Talk be up to level?"
> **Instructor:** "Sure, I mean, you saw some of the videos that I assigned. Whatever you think will spark creativity, maybe some ideas. You know, inspiring stuff."

In the **second conversation**, the teaching assistants and the instructor discussed what strategies they would use to provide students with clear guidelines for their final projects. For such strategies they took into consideration the different tools and media allowed/provided by the institutional LMS and the digital tools they have been using. They discussed how to respond to the students' inquiries both synchronously (during the Zoom sessions) and asynchronously (through discussion forums; and an instructional video created by the instructor).

> **Teaching assistant E:** "Even to check how they are evolving as a group in terms of the project because a lot of them seem like super engaged and motivated. But kind of too spread out. Like, okay we need to help them to kind of get focused and like these are the steps to follow in order to design the project."
> **Instructor:** "Yes, so I'll look at that, and create a link for that and do a little video overview. I'll send the draft template before I put together the video, so you guys can help."
> **Teaching assistant F:** "On [the institutional LMS] we can set up a discussion forum, so they can submit questions".
> **Instructor:** "That's a good idea. How about why don't you start [Teaching assistant F]?"
> **Teaching assistant F:** "I'll add the questions that came up at the end of section".
> **Instructor:** "Perfect!"

As a complement to these ideas of support, the two teaching assistants and the instructor discussed alternatives to provide more technological resources to the students for their final project (e.g., providing examples or guides to prevent them getting lost in the process). The instructor provided some ideas of the type of content that could be used as an

example by the teaching assistants, including different multimedia artifacts that could be used as a resource for the students to prepare their final projects, or examples of digital content that could be created (by them) for the kids of the local community.

> **Teaching assistant E:** "Do you think it would be helpful for them at some point to have maybe some examples of these types of projects or activities?"
> **Instructor:** "Yeah, I mean you can think about like there are so many read aloud now, you know how you read aloud to kids online or just even going on YouTube, and seeing ones that are really cool. Just to give them an idea of what's possible, and it doesn't have to be a video of course. It can be an animation or it can even be a set of guidelines, obviously one of the questions would you know for our Spanish speaking community how are we going to make that accessible? So, then it's using the resources that we have in the class, there is going to be someone that can translate, and of course we have support beyond that translated."
> **Teaching assistant E:** "Do you want us, [teaching assistant F] and I, to start sort of like a list of these examples, or?"
> **Instructor:** "Yeah, you could, you know, maybe within the discussion forum if there is a way of linking some of these examples and trying to hit an example for each of the major themes that we identified: the cooking, the farming, the gardening. You know, fun homework help, anyone who has some fun little tips they have used for kids creating that list and adding it to the top of the discussion forum would be a nice, useful place for it."

During the **third conversation,** it was interesting to see the instructor positioning themself as a constant learner, and how they recognized how unknown remote/online teaching was for them. However, they saw the circumstances as an opportunity to learn, and figure out how to have best pedagogical and technological practices in online modality.

> **Instructor:** "...and teaching online, damn, I'm learning how to teach online. Some of my ideas are not that great. So, you know, I think that's how we should think about it, not to tell everyone that they will definitely be engaged with kids but once we see a star rise to the surface, let's take a look at that as a team and go 'oh yeah! this is viable!' "

In the **fourth conversation** the instructor shared how they have tried to bring their socio-constructivist and community-based approach (collaborative) to her asynchronous

sessions, and how some digital tools have been working out to provide a similar environment as they would have it in a face-to-face scenario.

> **Instructor:** "I'm still getting used to talking through this… it's not as dynamic as if we were working together in the same room. I like the white board once the students got a chance to figure out how to use it and the fact that they haven't used it before, most of them, tells me that a lot of classes are much more traditional. I used the white board technology and also [Google's] Jamboard, and that was fun to see everyone's scribbles. I got to sense that they are still really in the brainstorming phase."

During the **fifth conversation**, teaching assistant E shared their plan for weeks 8 and 9, and brought up a different set of multimodal resources that would be used for the course material (e.g., using videos as part of the content, creating presentations, and using Zoom for groups' brainstorming and debriefing).

During the **Sixth conversation**, the teaching assistants and the instructor discussed how the interactions and dynamics worked during teaching assistant F's session. Some observations and recommendations were brought up by Teaching assistant E who wanted to provide more support to teaching assistant F, but had struggles with the navigation among Zoom breakout rooms while overseeing the different group projects. Teaching assistant E asked me if there was a way to make the two TAs co-host of the meeting so the navigation between breakout rooms would be possible. I provided support on this request/concern. However, the instructor also knew the answer of how to assign a co-host to a Zoom meeting, the support I provided was not needed since the answer was already provided by the instructor (who learned how to assign cohosts through Teaching assistant F).

> **Teaching assistant E:** "I wish I had helped you more by jumping around groups. I think maybe that's the one thing we need to figure out because I feel like I wasn't helping enough, like jumping around, you know? I was in room five, but I couldn't figure out how to get out of room 5 because I wasn't cohost. We can't have three cohosts, or can we, [IT coordinator]?"
> **Instructor:** "Sure we can, can't we?"

IT coordinator: "Yeah, yeah you can for sure. I can make all of you co-hosts of this meeting."
Teaching assistant E: "I made a mistake, how do I go from one room to the next room, [IT coordinator]?"
IT coordinator: "I think you just need to…"
Instructor: "Oh, down below, as soon as I was pushed into a breakout room. Down below, it says breakout rooms and you click on that and you're able to go into different rooms."
IT coordinator: "As a co-host, you can choose whatever room you want to go to"
Teaching assistant E: "Let's say [teaching assistant F] had assigned me to Room number five. If I don't want to go to Room number five"
Instructor: "So, you go there first, and then you get out into another thing. And that's what I learned, actually I learned that from [Teaching assistant F], I think. [teaching assistant F] just threw me into a room, and then I was able to jump from one room to another. So, yeah you should be able to do that and that's along the bottom where it says, you know, 'react' and all that."
Teaching assistant F: "You didn't want to go in room five? I remember assigning you to room five and you were just like. I didn't know you- did you want to go to room five?"
Teaching assistant E: "No I went in, but it was only Natasha and then we talked and then we went back, but it kept popping up and I'm like "Nobody's in room five, Zoom!" Like what are you saying?"
Instructor: "But that's okay cause when you get in there you move around and jump around."

In the **eighth conversation**—while planning the last two weeks of the course—the instructor shared ideas of how they envisioned the last activities for the students based on some digital tool affordances. For example: deciding to use a Qualtrics-operated form/survey (to collect the students' reflections of the group work dynamics throughout the quarter) since that would prevent students having issues with some formatting, length, and other formatting aspects.

Instructor: "So, in terms of plans for the remaining weeks, as I said before, I'm going to keep it really simple. The only things that I will have them do is a blog posting. There will be a final reflection to upload into Qualtrics, I'm going to put it in Qualtrics. I think that in itself will simplify because some people are going to ask: 'this is double space or single space?'; 'How many words?'…I think Qualtrics survey will allow—like—all you have to do is enter information. So, I'm going to do that for the final reflection… it'll give students a chance to share any frustrations that they felt working with their peers…but I won't frame it that way. But I, I know that it will be

> important for a good number that they feel…validated… in some of the struggles that they experienced, especially—even though it's hard for some students—I think there are some legitimate issues and there's also so this general lethargy that we would normally experience…And that's just been exasperated…that's just been further, you know, affected from the COVID response."

Among the salient aspects that were found through the **TKS** analytical lens I could find: the teaching assistants' knowledge of some different digital content that could help the delivery and discussion of some of the course's themes/topics (e.g., usage of video documentaries that could support the course content); the instructor's and teaching assistants' knowledge of digital tools to provide synchronous and asynchronous support to students (e.g., debating how to use Zoom; creating multimedia content with clear guidelines and recommendations; and using the institutional LMS asynchronous tools [like discussion forums] to respond to students' inquiries about the course materials and the course's final project).

Additionally, aspects like the instructor's and teaching assistants' ability to select tools that would help fostering a community-based environment (e.g., using collaborative tools like Padlet, Zoom's whiteboard, Google's Jamboard, and Google's collaborative documents and presentations); the instructor's knowledge on how to use more advanced functionalities of Zoom (managing co-hosts during a meeting), and how the teaching assistants got to know these functionalities through the instructor; and the instructor's ability to identify affordances of digital tools to make the activity design more efficient from both the instructor's and the students' perspective (e.g., deciding to use Qualtrics—digital surveys/forms tool—for the students' final reflection activity, given the fact that such a

format would prevent students from getting confused with aspects like formatting and word limit/length of their entries) were salient in the **TKS** lens during the execution weeks.

4.2.2.2. Pedagogical beliefs (PB)

For the PB lens, there were many aspects that came up during the **first conversation** of the four course's actors' pedagogical beliefs that defined many aspects of the curriculum.

One of the aspects shared by the instructor was re-stating the goal of the course, focusing mostly on the social interactions and bonding with the youth they serve through the different afterschool programs connected to the course, and how undergraduate students can support this idea/initiative.

> **Instructor:** "I am thinking of all kinds of ways in which we can socially connect online. In ways that we can hook the kids that the district will not be able to do because they are so focused on school, you know curriculum, and I'm going in a different direction. I want to connect, grow, create, with kids. Give them the space to rest their feelings and fears."

The pedagogical view of the instructor was highly reflected in the decision of having synchronous sessions every other week instead of weekly. The focus of the course was defined to be on creativity and teamwork/collaboration.

> **Instructor:** "the reason why I have us meeting as a class every other session, every other week it just felt right to me in terms of the rhythm I hope for us to have which is really focusing on the creations and innovations that might happen in some of these groups because not everyone is going to spark you know. But, we don't know where it could come from. It will come, you know that's how people are, we are very creative, innovative people and when we are given the time and space to think we do amazing things. So, I am actually really excited about that."

Additionally, the instructor shared how important it was to keep the focus on community-building among each team they were going to create/organize for the course.

Having every team member to know each other in order to allow a more fluid and smoother collaboration.

> **Instructor:** "Maybe what we need to do is just look at the list, and start to identify, the problem is that it would be ideal if we can identify these groups before our live session. So that we can create breakout chat rooms, for the groups to get to know one another."

On the assessment part of the course, the instructor shared their views of how they wanted to focus only in formative assessment, keeping the focus on the different ways the undergraduate students can engage and connect with the youth and their families.

> **Instructor:** "This is not about term papers, we are not grading term papers, this is about what are you going to create for kids and families."

As the major product or assessment strategy, the instructor decided that the final project of the course would be built collaboratively throughout the quarter in order to provide enough time for the teams to create a quality product. Additionally, the final project of the course would encourage the undergraduate students to create new, fun, and meaningful experiences for the youth, using their own talents, knowledge, and skills.

> **Instructor:** "this is really digging in and creating something brand new. You need the time to do it, and a quarter is about the most minimal time to create something, you know, to do something amazing...so, because this is an educational class, it would be good that there would be something created or crafted. It can be something where kids get a chance to share what they know and teach their, you know, peers. I am okay with that, but I do think that it should be more geared towards the talents, and the knowledge and the funds of knowledge."

The teaching assistants of the course supported the instructor's pedagogical approach of how to deliver the course. Teaching assistant *E* clearly supported the instructor's idea of bringing the students' prior knowledge and skills to the course. Also, Teaching assistant E

highlighted the need of being more humane during this unprecedented time, focusing more on the "human warmth" instead of the "wow factor."

> **Teaching assistant E:** "I think it was important that we understand where they are, what they bring to the table. Even if any of them have been doing some sort of volunteering like 'online; I know a couple of friends back at home have younger brothers and sisters, and they are like volunteering, like tutoring other kids online'. This is a time that it seems that people are doing not extraordinary things, but like very compassionate things."

In addition to the previous pedagogical aspects related to the course collaborative dynamics, the instructor shared their idea of the dynamics of the live sessions (synchronous) of the class, making them more discussion-based and collaborative. The live sessions, based on the instructors' teaching belief, were going to be oriented to the students, so they could discuss and share their questions related to the weekly readings and/or their projects. Also, the instructor shared how they envision the first live session to happen. Focusing, again, in connecting with students and their respective team/groups. The instructor shared some ideas of how to use Google Slides as a medium to foster collaboration among all teams' members and as a digital space to gather and collect all their ideas. The first live session would end with a socialization/sharing of the different creations by each group (e.g., commonalities among team members, creation of the name of the team, etc.).

> **Instructor:** "So, this is what I have planned for my live session, and see if it sounds good to you. What I have planned is of course a little introductory remark, I don't plan to take more than five minutes. Then, I plan to have some time and space for people to ask questions about all of the readings so far, I plan on talking about 'how you looked at this and read such and such'; 'what questions are swimming around you?'; and 'let's put those questions in the chat box'; then 'what we would do is look and see those questions'; or 'they can raise their hands'; and... so there will be some Q&A. So, I think that is a good way of dealing with our live sessions initially, a little intro, a Q&A based on the readings and the assigned tasks in case there is any confusion. And, if one person is confused, it is likely that five or six are confused. So, it is good to just share with the group".

> **Instructor:** "I plan to create a series of activities that each group has to do. One is an ice breaker activity, I want them to think about the most bizarre thing they all have in common, and use that bizarre thing as a way of incorporating the group name like their team name. So, that will be like a brainstorming activity, and then once they have their team name, I am thinking that they will introduce themselves. Their team name and whatever memes they want to include on a Google slide. So, we will have a Google slide that each group will contribute to and introduce themselves to the whole group after the group has some time to do some brainstorming. In that brainstorming, I want them to think about things they think might be cool projects...so, each group will share themselves, you know and we will have you know 12 groups maybe I don't know. We'll think about it, but every group will share themselves after, so we'll introduce, sort of Q&A, some instructions, group projects, and then come back to share, and that is kind of the system that I have".

Additionally, the two teaching assistants shared some concerns about how the instructor envisioned their sessions to be executed (e.g., class dynamics, strategies, content, complementary materials, etc.). They wondered if it would be a more asynchronous style, lecturing, or more dialogical/discussion-based.

> **Teaching assistant E:** "so, for the live sessions, including the ones that [teaching assistant F] and I will lead, do you want us to do like a whole hour of us just talking like we should just see how to do the first live session? Or like, a lot of the classes I am taking have been like...they are sending like videos, like the Professors are just recording themselves. What is the format that you want for these live sessions? I don't mind lecturing but... like doing it almost like a dialogue where students can raise their hand and ask questions, and then there is something that we assign."

The first conversation ended with the instructor fostering a collaborative approach on the course's curriculum design/planning (e.g., activities design, materials, etc.), allowing them to think and plan together the weeks they were going to lead later in the quarter. These ideas would be shared during the next course planning meeting/conversation.

> **Instructor:** "So, [Teaching assistant E] and [Teaching assistant F] if you have time to think about the kinds of activities, I would just use Google Doc to think about it. So, next week when we can debrief what the live session was like and any changes we want to make to the general thing, maybe we can talk a little bit about your ideas."

During the **second conversation**, the instructor discussed with the two teaching assistants about the ways they can best organize and create clear guidelines and support for the students' final projects. The instructor also provided agency to their two teaching assistants so they can take a lead role as well in the coordination and supervision of the projects.

> **Instructor:** "what I also want to do is also send a general message about the group projects. And, maybe this is something that I thought about doing, but maybe it's an opportunity for you, [teaching assistant E] and [teaching assistant F] to put something together...what I was going to create a little video overview and sort of a template of questions they could fill out...So, one thought I have is... if we get good ideas of questions from kids and teacher and families; the groups can see the most prevalent questions and can create little 'How To's' in fun ways like it would be a fun versions of Khan Academy because Khan Academy are basically sketches which is fine because it's helpful, but maybe we can the kind that makes it easy, make it sort of easy, sort of a no tears sort homework help center"

The **second conversation** ended with the instructor asking the two teaching assistants about their plans for Weeks five to eight of the course, and how they are envisioning these weeks' activities or dynamics to happen. As stated before, the openness of the instructor to leave an open space for their teaching assistants to bring their knowledge and expertise into the course design is a clear reflection of the socio-constructivist and community-based pedagogical philosophy/belief of the instructor.

Teaching assistant F shared their plans for the weeks' they would lead. They shared some ideas of how to include science identity as the main topic of their weeks' planning and how to integrate already established pedagogical strategies of the course (e.g. using the students' e-portfolios/blogs; Zoom group discussions/interactions). Additionally, teaching assistant F proposed a potential product of the activities they were designing: a digital story to share with kids.

> **Instructor:** "So, plans for weeks 5-8 some general ideas that you had?"
> **Teaching assistant F:** "So, I was thinking of talking about science identity and I found one of my favorite papers of Science Identity. It talks about unthinkable identities about how students develop their unthinkable identity by going to identity bonding works that they haven't thought of being able to do things like a summer camp. About environmental education where students who thought they weren't able to touch animals or work with nature, they find themselves being able to be open themselves and think they are actually good at it. So, I was thinking since they have a blog post for each student after each reading, that paper they can share their stories of their experiences exploring their past experience that were outside of their boundaries and outside of their comfort zone, but found they were actually good at it, and then maybe as a group discussion or a small group discussion maybe creating a small, a short digital story that we can share with kids".
> **Instructor:** "I love it!... just looking at the general notes I took, so this idea of science identity is a good foundation that Estefania can take up her week. That's great, I love that, unthinkable Identities. I love that it's powerful, it's intriguing. So, you'll have a reading, a blog assignment, and the small group project. I think that's good. I think that's awesome for the two weeks".

Following the contributions of Teaching assistant F, Teaching assistant E shared how they were envisioning the course week that they were going to lead. They decided to focus on ways in which schools all over the world have been adapting non-traditional pedagogies and start fostering creativity and innovation among their students. In addition to this, the planning included sharing examples of schools that have been covering themes that are needed in the 21st Century, such as social equity, sustainability, and democracy. As for the technological and pedagogical aspect, Teaching assistant E planned to include multimedia content showing the examples described above, along with a TedTalk about pedagogies.

> **Instructor:** "[teaching assistant E] what are you thinking? What are your thoughts?"
> **Teaching assistant E:** "I wanted to share with them, first like ask if it would be okay to watch a TedTalk from Sir Ken Robinson, one our schools healing creativity cause it's very much linked to the development of non-traditional non-standardized schools, so I wanted to give them a very general overview or like global cause that's my experience is, like, I don't want to only focus in the States. But, just show them outside of the World there are many amazing schools that are integrating academic excellence, but at the same time they are hitting social equity, they are doing community outreach, they are doing environmental conservation, they are including democracy. So, I wanted to give five examples of schools around the world, and

educational projects. So, I just want to give them an overview or tour of around the world, their creativity wasn't killed and maybe those identities were found from the directors of these schools and created this programs that one is helping with conservation, one is helping with social equity, the other is helping with environmental education whatever, and just like an overview so they understand a school doesn't have to be what they experience in their elementary or their high school. A school can be a completely different thing, but it is still creating like amazing individuals and somehow if I can think of more I can connect it with [teaching assistant F] and do a follow-up assignment but I really haven't thought of an assignment."
Teaching assistant E: "I just wanted to inspire them, and like you were saying a lot of them people that are leading this amazing project don't not have PhD's, a lot of them do not have a background in education, a lot of them did it out of a passion, and seeing a social or an environmental and they just took the leap, and I think it can inspire them and make them realize that like you were saying anyone can be an inventor , a designer of something impactful. I'm going to try to include examples like how I saw exercise, yoga, culinary, farming, being done at these schools and included the communities and how that helped with social equity and democracy and all that stuff and align them with stuff we already have."
Instructor: "That sounds great!... so I now see the schedule happening so maybe over the next week or so just start filling in the [institutional LMS], your respective weeks. You can see them even though they are hidden, right? Because I made you guys co-instructors, so I was hoping that you can do everything I can do."

The **third conversation** started with the two teaching assistants assigning themselves the different students' groups to supervise their respective projects' development (a total of 17 groups). The instructor decided to oversee the class as a whole by being available in case any inquiry or need emerged. Each of the teaching assistants selected the group they would supervise based on their skills and knowledge.

Instructor: "We have to assign mentors to each group.. Oh yeah. So we've done that, including email addresses… So who am I assigned to?"
Teaching assistant E: "Oh, we didn't assign you to anyone. I took 9 and [teaching assistant F] took 8. We weren't sure if we needed to assign you".
Instructor: "No, that makes sense and that way, I can move around."
Teaching assistant E: "You can kind of supervise us"
Instructor: "Yeah. And I can hit the tough issues that rise up."
Teaching assistant E: "Yeah and [teaching assistant F] took like cooking and what was it? Arts? And I like environmental stuff, and exercise."
Instructor: "Great. That's great. And, okay, so...looks like we made some really good progress."

In addition to the teaching assistants assigning themselves the different students' group to oversee/support, the instructor identified that some students felt confused with the dynamics of the synchronous and asynchronous sessions (being alternated weekly). In order to solve the situation, the two teaching assistants decided to contact every group they were supervising in order to clarify the situation, check on their progress, and provide orientation/support throughout the quarter.

> **Instructor:** "So, it seems like students are still kind of confused but hopefully after this week of reminding them that we don't meet every single Monday, they get it. But I think the pressure will be on making sure the groups actually meet."
> **Teaching assistant E:** "Maybe us as mentors can email each of our groups and tell them: 'Hey, I'm your mentor, I just wanted to reach out so that you know and check in. Can you send me like a summary of what you guys talked yesterday, because you're supposed to meet on Mondays when we're not live.'"
> **Instructor:** "Yeah, yeah. Something like that and say, 'If you haven't met yet, please let me know soon as you can when you plan to meet so one of us can potentially join'. So that way we keep kind of a sweet pressure on the momentum of- I think just getting them practice to connect. So then it won't feel weird for them. That sounds good. So then [teaching assistant F] and [teaching assistant E] check in with respective project groups."

The instructor emphasized the evaluation of the students' work, making a strong focus/emphasis on students' efforts in engaging in the class and their participation. The flexibility to give "A's" or "Pass" to students comes from the formative assessment the instructor has.

> **Instructor:** "You know, in terms of grading and just staying up on the grading, I'm just gonna be honest with y'all, I'm just gonna go gonzo. If anyone looks like they're totally checked out, then we look to see what they've done and just sort of determine as a team what they deserve. But, you know, for the most part everyone gets "A's" or "Pass," whatever, you know? So don't kill yourselves with checking in and making sure everyone- just in that first bit. Just so the students at least got their blogs going. If people seem to be checked out, let me know. I might do, you know, I'm gonna try to do a follow-up message after every live session".

In addition to the flexibility of students' work, the instructor re-emphasized in how they see the students' final projects, and how they do not have a "perfectionist" expectation of what the final product should look like. They highlighted the importance of the process of creating and trying to design an interesting and meaningful experience for kids, even when some of these projects will not be officially shared with the kids. The instructor, clearly, brought up their vision of a formative assessment.

> **Instructor:** “This is what I’m thinking: my thinking is we have 17 groups. Some of those groups are gonna be amazing; some of those groups, it will be an interesting experiment. I don’t necessarily think the children are going to be benefitting from all of the ideas that might be generated. But at the same time, I’m not about evaluating based on how useful a resource is for kids. So, that’s just sort of a bonus result of the work that they are currently doing is how I’m thinking. So there are many things that they can do that don’t really involve them having to share with actual children. But, you know, I suspect a good handful are gonna be pretty interesting and possibly really cool for kids. But I would imagine there’s gonna be lots of duds because that’s just— you know— teaching is an art. It takes forever to figure it out.”

During the **fourth conversation,** the instructor re-stated the need—even more during a pandemic and the hardship students were dealing with—to move from traditional exams and summative assessment to a fully formative assessment approach.

> **Instructor:** "We just said we’ll get a soft start which is what we did. I don’t know what would have been helpful, I think what would have been helpful is to let some of the faculty to know that you cannot do exams, this is not an exam period."

Teaching assistant E asked the instructor for some guidelines or expectations of how their upcoming sessions should look like (e.g., length, resources used, pedagogical strategies). However, the instructor gave total freedom to them, and made emphasis on keeping the community-building feeling a priority during the sessions.

> **Teaching assistant E:** “[Instructor], do you have a suggestion on how much time do you want both of us to do the sessions...you know: talking, slides, and…like…the examples.”

> **Instructor:** "Whatever, you feel, I was going with the flow. I just wanted to give a brief sort of highlight, it's easy to take up a lot of space, so I use slides to help minimize the amount. So, like, just a quick sort of grounding. I enjoyed seeing their images pop up on the white board I thought that was fun. But I noticed some kind of like… everyone contributes and it's about something more intimately connected helps establish more of a community feel, and then doing those highlighted conversations like allowing for Q&A would be good. Moving towards some kind of group collaboration is good, so I would definitely use it as a time for the respective groups to work on something and to have a concrete goal will push them beyond the brainstorm."

Finally, teaching assistant E shared their ideas of what they were planning to do during their sessions (Weeks 7 and 8 of the quarter). They provided a more detailed plan of how they were selecting the different examples of schools around the world with low resources but high motivation to become agents of change in their communities. They also shared ideas of what additional resources would be used for those two weeks, including multimedia content (a TedTalk), and readings that could contribute to the students' work/projects. The instructor also provided ideas of how to best integrate these resources, and suggested that readings might be needed given the point the students were at in their projects (halfway through the quarter), but being mindful by not overwhelming the students with a significant number of readings.

> **Instructor:** "Alright, plans for weeks 7 and 8, where are we on that? I know we talked about it."
> **Teaching assistant E:** "Yeah, I was going to send you the draft tomorrow. What I was hoping was, that I kind of time myself like 30 minutes in a really fun way show them these really educational projects around the world, that they had a very big need for creating a resource for their community, and had very little money so creativity was like the driver—the gasoline—and, of course, the connection with the community. So, just give them five examples, and what I was thinking was I can ask them to watch a TedTalk before class. What I was going to do this afternoon was go through different articles and just two to give them choices, like which is the best like I don't know. Should I do two articles? Should we make them read more, so the TedTalk and the article?"

> **Instructor:** "I think for now we only assign readings when we have an extreme need for them to read something, you know, for the activities we want to do. I'm okay, but less is more."
> **Teaching assistant E:** "I'm trying to be creative, how I can connect that with [teaching assistant F] session with Identity, so maybe trying to cultivate the idea that through the creative process you might find these different identities you might have not known; maybe you have like an explorer or an educator; maybe you realized you are great online, and you can lead a group of people in a dance sessions for like energizers. So, trying to create to link both of our sessions together somehow."

In the **fifth conversation,** the instructor shared some ideas they had for the last weeks of the quarter, focusing on "low-stakes" activities and providing students enough time for completing their final projects. The instructor also made emphasis in providing enough support to students and their final group projects, and making sure they would not get stuck in the process.

> **Instructor:** "So, I'm glad I did the five or six things for the first couple of weeks, I think for week nine, which would be the last time, you know, I might do a survey for week ten, just sort of an exit survey. But I'm just going to keep it really simple: one reading, one viewing, you know, just stick really simply for week nine and 10. And then, you know, just helping people with tools so it might be more like a workshop. So, you know, depending on what projects they're working on...I think we could do like a survey…and, maybe, I could add that during week seven. It's just sort of a survey that would be just for the group. You know, a member of the group. So, the next steps for me is to get this started and I'll share the project with both of you so you can take a look and say 'well, maybe it'll be good to add this item and it'll be like maybe five questions', and then we could send messages to each group, you know, and since you split it in half…But the idea is just one member per group respond, and they can respond to it during their Check-In time with each other. So that way we can kind of get a sense of where they are, what questions they got, if they're stuck."

In addition to the instructor's ideas of planning the last two weeks of the course, teaching assistant E shared their curriculum design for the weeks 7 and 8 of the course, and how the themes, presentations, and activities would overlap or connect with teaching assistant F's planning (week 5 and 6 of the course). Additionally, teaching assistant F shared the different collaborative strategies they wanted to execute during their weeks, and how

different sorts of resources would be used as course materials (e.g., readings, videos, Websites, presentations). One of the main goals or expectations established by teaching assistant F was fostering critical thinking and creativity in students, helping them develop an entrepreneurship spirit while discussing or creating resources related to education.

> **Instructor: "**I got a chance to review [teaching assistant E] plans, which looks really good. You want to share just a little bit about that?"
> **Teaching assistant E:** "Yeah. So, I tried as much, [teaching assistant F], to build upon what you did and try to make that connection. Because you seemed like that identity that they're discovering. So, they're going to watch the TED talk by Sir Ken Robinson about our schools killing creativity, which basically helps them kind of see schooling and the learning process as an opportunity for them to discover all of these other identities rather than just learning for grades. Then, there are really cool and short articles. Well, it's more like an extract that [instructor] shared yesterday. I really loved it. It's about these kids that figure out how to pollinate plants, that we're not producing fruit because the natural pollinator didn't exist. So, you do it by hand, right? And then the other one, it's just an article that links—It's not too heavy—creativity and entrepreneurship…and kind of introduces them to the idea that entrepreneurship can be anything, right? It doesn't always have to be strict business… then what I hope to do after that is…Show them—in like 30, 35, or 40 minutes—these five examples of different educational programs from around the world, that they had a need, they didn't have money. So, creativity was the best tool platform for them to design these solutions for the, you know, the specific issue that they had…And then after showing them these examples, I was hoping that, you know, they will be all motivated, they will be bringing ideas from the TED talk and the readings. And then in groups, in [Zoom] breakout rooms, they can just share if this pandemic has made them kind of use that creativity to figure out a way to either help the neighbor; help their parents that are away; help themselves…And if creativity has sparked within them because of this pandemic, considering that the pandemic sort of the need, the crisis. And then, after that, they go to their groups and they just discuss how they can further utilize creativity and the examples to polish and strengthen their ideas for the final project. And then there's a couple of questions that I included, like, you know, do you have a new identity? The process through these assignments that [the instructor] has been given you guys have you guys found yourself a new identity?... So, trying to connect that to what [teaching assistant F] did in the previous week, sort of like that."
> **Teaching assistant F:** "I think it's a great connection with the topic that I'll be dealing with. And I think it would give them the time and the opportunity for them to think back what they've been doing in the course and go now and think about what they've learned over the course during this time. It's like week number eight, right? So, I think it's a good time for them to, like, think about what they've been working on and connecting like the course material that we've been discussing. I think it could be like a great wrap up as well before we actually get into sharing the project."

> **Teaching assistant E:** “So, I'm trying to do it a little bit less academic from, I'm sure, the classes that they're having, and be more like [instructor’s] style. More like ‘discover yourself’, and then try to finish designing these project ideas by tapping into these—hopefully—new identity that [teaching assistant F] inspired them to discover, plus all these examples of creative solutions that are actually tackling a challenge.”

In the **sixth conversation**, the instructor shared an overview of the next steps for the upcoming weeks, and the tasks teaching assistant E would be working on for their sessions (weeks 7 and 8), just to make sure the planning team is on the same page.

> **Instructor:** “So, we have next steps: getting me the links to the bits and pieces, [teaching assistant E] starting to think what that initial brainstorming cloud meditative beginning might look like for our next live session. I’ll be uploading the slides and the session with the little brief message, probably by tomorrow at the latest.”

In the **seventh conversation**, the instructor made clear that it had been hard for some students to understand that their class is not aiming to assess them in a summative way. The instructor wanted to provide the students a different experience focused on their efforts to engage and be part of the community feeling the course was offering.

> **Instructor:** “I think that—and I am honestly saying this—the way that I designed this course is super helpful to the bulk of feeling connected, feeling a little bit of ease. I had one visitor, and he was like, so he wanted to know how many points he earned, and I kept telling him: ‘We aren’t even thinking that way, and I told him he has an *A*’... I started to get a little frustrated when he wasn’t listening like: ‘you have an *A* in this class, all you have to do is try.’”

In the **eighth conversation**, the instructor summarized what the last two weeks of the course would look like, by providing guidelines of how the activities would take place. The instructor decided to create guidelines for the groups’ presentations, and also provided the two teaching assistants a space to contribute to the last session of the course (by providing a "final message" to students about the themes/topics they covered in the weeks they led).

> **Instructor:** "So, in terms of next steps. For our final live session, I will send instructions for the live session presentation. That will be two minutes per group. So, it's not very long because two times 17. Well, let's say 20…40… That's 40 minutes right there. It's just really, you know, maybe we have an intro; I do sort of a review. What I would like from each of you is maybe prepare a slide or two that would be a part of what you want to say, like big ideas, insights…Anything you want to share… like final messages. You know, think about using pictures that are anchors for some of the topics covered, especially for your respective weeks…And then I prepare template for final project submissions…And it's really going be a template where are they share any links or resources, you know, links to resources or the project itself, and a group reflection…and there was one final thing…I wanted a chance for other groups to give a peer review of the project plans that are being submitted…and I think it would be so much easier if in those project plans people put—in the top right corner—all their names and email addresses. So, when it gets sent to another group, all they have to do is look at those e-mail addresses and just send their feedback to that group…and I will draft a peer review template…And these won't be difficult. So, I'm hoping to send these within the next few days so you can take a look at them and then we'll upload them to the [institutional LMS]."

In the **ninth conversation**, the instructor ended the meeting sharing their plans for the last session of the class, planning to provide a summary or final message for the students with the most important/salient points of the topics/themes covered in the course. The instructor also planned to provide a space for students to share, reflect, and celebrate the things that were accomplished through the quarter.

> **Instructor:** "I'm putting together a full recap of our entire quarter including last week's live session, and some final messages to our students. So, I'll be working on that all day today, and potentially tomorrow morning. But I'm going to try to get it out as soon as I can, cause I'm hoping they can watch it sometime before our last live session on Monday… it's really going to be about celebrating on Monday. I want Monday to be a celebration of everything that we accomplished this quarter. Can you believe it, we are almost done!... It's going to be celebratory; it's going to give people a chance to share, and reflect!"

In the **tenth conversation**, the instructor shared the final tasks to be accomplished (by the instructor directly) before the quarter ends: sharing the recordings of the final session, and sending a clarifying/reminder message to students so they do not forget to submit their final reflections of the course.

> **Instructor:** “What I also happened to do is send a message showing the recording of last night's sessions. I also had a couple people send me links to their final project and I don’t think they realize that they still have to turn in their final reflections, so I am going to reiterate that, because I had a group that did share their project… and, like, no... they have a whole thing they have to write up, so I am going to do that today or tomorrow. I’ll write up that message.”

Finally, the instructor ended the conversation expressing how happy and satisfied they felt of all the hard work put by them and the two teaching assistants on the course design, its execution, and the emergent issues and other Covid-related unprecedented situations with students. This reflects, once again, how community oriented the curriculum design was, and how it was reflected in the work dynamics of the instructor and the two teaching assistants.

> **Instructor:** "I think we were a good team, and we worked very well together. We all have very different, but very complementary strengths. So, I think it worked really well, so I give props to you two [Teaching assistant F] and [Teaching assistant E]. Just keeping track of all the concerns and that by itself was a stressor.”

Among the salient aspects that were found through the **PB** analytical lens during the execution weeks are: the acknowledgement of the importance of making the course a “warm” environment/space for students to engage and feel safe emotionally during such an unprecedented time; defining the perspective from which assessments were going to be taken, focusing on fully formative assessments strategies (e.g., deciding on having group projects, e-portfolios for individual student’s reflections, etc.); establishing the course synchronous and asynchronous sessions’ distribution (alternating every other week) and establishing the focus of each session (e.g. synchronous sessions focused on the course material/content, and offering spaces for students to share their questions related to the content and their projects, and asynchronous sessions focused on the students independent work and group projects’ planning).

Additionally, other aspects of the **PB** lens were salient during the execution weeks of the course, like: establishing a collaborative approach on the course's curriculum design process, allowing teaching assistants to take over the curriculum design of some of the weeks of the quarter, and be part of the assessment processes of the course (e.g. providing support to students, assessing students' work); understanding the importance of flexibility (e.g., deadlines, projects' length, groups' organization) during such a hard time for students; providing clear guidelines of how student work was going to be assessed (expectations); allowing the students to reflect on the course material and fostering connections between the course content and their funds on knowledge, life experiences, and prior knowledge; providing less "dense" activities for the last weeks of the quarter so students could focus and complete their final projects; and creating a space—to wrap up the course—to summarize the most important points and theories covered throughout the quarter.

4.2.2.3. Institutional Culture (IC)

For the IC lens, there were many aspects that helped in shaping the way the course's dynamics were going to develop throughout the Spring quarter. During the **first conversation**, the instructor shared with me some doubts about technical aspects of Zoom to facilitate multiple breakout rooms and assign their two teaching assistants as co-hosts of the live session.

> **Instructor:** "How do we create chat rooms? ...Because I read those directions twice and I don't understand. I get it when people join the live Zoom session and I am the host. Am I able to switch hosts to either [Teaching assistant E] or [Teaching assistant F]?... See here is my problem! I get the whole group, but what I understand is that only the host is able to hop around from one chat room to the next, is that right?"
> **IT Coordinator:** "Right, because you are the one that assigned the participants their breakout rooms."

In addition to the ideas and contributions I provided, it was evident that pedagogical and technological support provided by the University helped the course's actors in knowing how to better address the transition to online/remote instruction. ***Teaching assistant F*** shared some questions and information they heard from some of the training provided by the University. This exchange of information shaped the way Zoom was going to be used throughout the quarter to manage the small groups and their bi-weekly discussions.

> **Teaching assistant F:** "So, what happens if [the instructor] assigns [teaching assistant E] and me as cohosts? I think there is a function that the host can assign someone as co-host, so they can also work with the breakout rooms...I heard if the students raise their hands, then the host can join their group. There is like a raise hand function as well."

During the **second conversation,** the instructor had to face technical difficulties on the video platform Vimeo, where two of the video materials of the course were uploaded. Since these videos were not accessible for students, they have to find a way to solve the problem. The instructor reached out to me to figure out what was going on and what could be a solution for the issue. With my support, the instructor was able to find the original files on their computer and—based on my suggestion—these videos would be uploaded to the institutional video streaming platform (an instance of Panopto) instead of Vimeo.

> **Instructor:** "This is two videos that the students have to view today, or this week and I wasn't able to see the videos at all, and it had this kind of message"
> **IT coordinator:** "Is that Vimeo?"
> **Instructor:** "It's in our [LMS], so yes it is through Vimeo. They're two Vimeo videos...it totally just happened today. So, maybe it's just a glitch, maybe they're doing maintenance work or something."
> **IT Coordinator:** "But, the weird thing is that the video is not loading, the website is loading, but the video itself is not playing at all...Does anyone have the right to download it or just you as the owner?"
> **Instructor:** "I could download it, I don't know if anyone else can".

IT Coordinator: "No, it seems like I cannot. So, if you download them, maybe we can just upload it to [institutional video stream platform], to the course folder. Does that make sense?"
Instructor: "Okay, I will work on this today, like right now I'll work on that cause I actually probably have it on my computer somewhere cause I uploaded them from my computer...so I'm just going to have to track it down. I probably have it somewhere. How do I locate the original source on my computer and not, [IT coordinator] does that make any sense?"
IT coordinator: "Oh!, you can do command, space and there will be like a bar search box appear on your computer and then you can type down the name of the file. Command space."
Instructor: "I don't see a movie icon on any of these. How do I look at what videos I have on my computer? Is there a way to do that?"
IT coordinator: "Yeah, if you go to the finder Window, there is like a Gear Icon on the top, very close to the search box. Then, you can just have filters for your search. Then, you can find by type, video type. Does that make sense?"
Instructor: "Yeah, I see a bunch of videos I'm just going to have to go through it all...well, there it is Sand Observations. Yup, I found one, Houston I have one!"
IT coordinator: "Try to find the folder that contains the actual file and maybe that is the same folder that contains the video of the Observation of Scientists"
Instructor: "I did, I got it! I got them both. Okay, so I'll just upload them after we are done. See I can do these things! [laughter]. Okay, so that's done, I'll figure it out and I'll upload it through [video streaming platform]."

In addition to the video platform issue faced by the instructor, they also shared some technical difficulties found with the some of the e-portfolios created by the students, having difficulty to access to some of them, they asked me for some support in order to find a solution and have the students working on their e-portfolios without any issue. In order to solve this issue, the instructor and the two teaching assistants relied on my support.

Instructor: "There is something about the WordPress... I can't see any of their blog posts. There's two of them, I can't see either blog post, and I created my account. You know, but it still won't let me see anything."
IT coordinator: "No, no, no, the thing is not about having an account, so I talked to one of them and asked them to be very careful when it comes to WordPress and Wix. There is a different approach to saving your content and publishing your content. So, in Wix I can make changes and save it, but not publish it. So, that's a big deal, you as the owner, as the manager of the website, you can see what you did but not to the general users. So, I told [students] to be very careful about that."
Instructor: "well, there are two things that we can do. First of all, maybe [teaching assistant F] or [teaching assistant E] can one maybe sometime in the next day or two

> see how many blogs you can see and not see, and then CC [IT coordinator] on a message to those students. And then, [IT coordinator] can explain, who knows... follow up on a message to say 'Hey we tried to bask in your glory' say something fun and light, you know. 'We can't enjoy your thinking', 'we can't get in', then say, '[IT coordinator], help us. What is happening?' Then, [IT coordinator] would say, "Oh, here is what I would recommend, and then say 'Well, we'll check-in in a couple of days, hopefully we can see your beautiful work.'"

During the **third conversation,** the instructor reached out to me to discuss the way they designed/wrote the instructions and guidelines to students. This exchange was based on the acknowledgement the instructor had about my experiences in online/remote teaching, and how to best organize directions for an online course to prevent students from getting lost among the course materials and activities/assignments.

> **Instructor:** "[IT coordinator], I just did it with a list of things to do. With number one, do this, number two, do this."
> **IT coordinator:** "I think I've seen like the more natural and clearer, the better. So, we prevent them to be confused on where to go and what to do and what your expectations are. So I think that's totally fine- that sounds very behaviorist but sometimes it's like the way to go when it comes to giving instructions and making sure they get what you want them to do."
> **Instructor:** "Yeah, that's what I was thinking. I was just thinking what I would need. And it helps that I, too, have ADD, so I can do numbers and do this next, do this next [laughter]"
> **IT coordinator:** "Honestly, I think that the help that's gonna work out pretty well because all of them may not be used to online instruction and being self-regulated."

In the **fourth conversation,** teaching assistant F and the instructor shared with me some technical difficulties they had in the previous class while integrating Google's Jamboard into some collaborative discussions and brainstorming. Some students had difficulty adding their ideas and saw other students' contributions on the Jamboard's white board. Even though these difficulties occurred, they did not make a significant impact in the

class dynamics and goals. The instructor asked me if I could be present during the next synchronous session in case something similar happened again.

> **Teaching assistant F:** "At first, I don't know what the issue is but, for the [Google's] Jamboard, when I think of some device or I don't know if it's a browser thing. But, for some students they weren't able to draw on the jam board and they couldn't see the scribbling at all, just the sticky notes. The group that I had to join, they were having trouble trying to write on the jam board, but then we figured out that it was device issues or some of the browsers. The ones who were having trouble with drawing issues couldn't see the other drawings as well. But other people that were in the Jam board could see other people drawing, so it was just the students who had issues with the drawing part they couldn't see".
> **IT coordinator:** "That's super interesting maybe they were not looking at the right page? You know Jamboard allows you to have multiple pages, and maybe they're in page number four and you're in page number five, and you could not see what the other people are going."
> **Instructor:** "So, basically you are looking at the same slide, but some people can only see the sticky notes that are added and not the drawings and they aren't able to make the drawings. What if maybe it's a limitation to using it from your smartphone device? Maybe there is some weird limitation."
> **IT coordinator:** "And the Jamboard… I'm just checking it right now, the sharing settings allows anyone with a link to edit it, so they should've been able to do it. Well, if you have trouble replying to the Jamboard again, just let me know. I could have just joined just in case, I mean…It's hard to tell right now because we cannot backtrack and replicate the situation. Did it work out at least?"
> **Instructor:** "In general, it worked out fine…And, then yeah…anyway, I was impressed."

In the **fifth conversation**—after discussing the ideas planned for teaching assistant E's weeks (Weeks seven and eight)—I suggested some instructional strategies that could be included in the curriculum planning: switching some of the group activities from the synchronous (live) sessions to the asynchronous sessions, leaving the live session to be focused on the content presentation, and groups' brainstorming. Additionally, I suggested potential ways in which students could create multimodal content to represent their final group work (e.g., infographic), and provided a set of digital tools that could be used for these purposes. Teaching assistant E found this exchange of ideas as an opportunity to re-think

how the integration of teaching assistant F's weeks and their class could happen seamlessly, and provided an opportunity to re-think the guidelines of the activity for Weeks seven and eight.

> **IT coordinator:** "I was wondering maybe if you want to transform part of this activity into an asynchronous session. I mean, after the live class is over, it will be like an assignment for the whole week. Maybe having each group after debriefing with a random group and having some time to polishing their ideas in their groups' breakout rooms. And then having them create something like an infographic, identifying—in a graphical way—the identity, the solution, what the problem is… You know what I mean? Like, you know, like some like something super graphical, and maybe they can upload that later to their blog. But maybe you should give them very clear guidelines like 'hey, I want you and your infographic to highlight these points: like the identity, the problem, the solutions, and then use whatever tool you want'. They can create them in paper and digitize it, or use Canva, or PowerPoint. They would be using infographics as a way to represent information in a very brief way but communicating a full message with graphical representations."
> **Teaching assistant E:** "That's really neat. Yeah. And then in that way, it's almost like an assignment for both [teaching assistant F] and my session. It's like merging both."
> **IT coordinator:** "Yeah. Yeah, exactly. You could have them working—during the class time—identifying those three, four, or five points that they want to show in the infographic…it's going to feel like a script in some way. And then, the assignment for the week would be building the actual thing [infographic]."
> **Teaching assistant E:** "Because I was going to do something more like traditional. Like a less progressive creative assignment where they kind of just gave us a draft with the outline of their ideal goals, like: Which is a target and population or beneficiaries? and blah, blah, blah…But I think that's cool. Like way more interesting, the infographics, they're still having to think about the product, the service, the idea you want to be the beneficiary, how they're going to deliver it."
> **IT coordinator:** "So, it could be just like taking advantage of that they're working from their houses and, you know, fostering pure activity doing something totally different…maybe they are like 'oh my God, I have five classes and they have to post on the forum for all of them this week' or they have to prepare for a quiz…so trying to make this a little bit more like a collaborative…forums are fine, but if we can just like change the recipe for a week…they might appreciate it. So, they can feel like, 'oh, this is online. But this class is totally different'."
> **Teaching assistant E:** "Yeah. We want them to do something a little more Hands-On, more different than just writing another paper."
> **IT coordinator:** "Yeah, and just like making sure that this class pretty well knows how to separate assessment from learning because you cannot just reach learning just through an assessment. So, they can be learning and not being assessed in a summative way, and everything they are doing is part of their learning process, even when there is no letter or grade associated with their work."

> **Teaching assistant E:** "If you want, [instructor], I can write all of those ideas and then share it with the three of you. So, you can give me the thumbs up eventually at the end of the week to upload it to [institutional LMS] for that final assignment for both [teaching assistant F's] sessions, and my sessions."
> **Instructor:** "That sounds good. That would be great. In fact, it could be due on week nine, so they have time. You know, it could be towards the end of the quarter."

Among the salient aspects that were found through the **IC** analytical lens I could find: The support I provided—as the instructional technology coordinator—to the instructor in how to manage breakout rooms on Zoom in order to execute the groups' dynamics during the synchronous sessions and for finding alternative ways to fulfill a digital tool's functionality—with another tool—when it stops working (e.g., finding a Vimeo alternative when it was out-of-service; solving minor issues with Google's Jamboard during synchronous sessions); The technological and pedagogical support provided by the University (e.g., technology workshops) allowed teaching assistant F to provide answers/support to the other course's stakeholders about advanced settings of co-hosting on Zoom; the importance of the support provided by me in creating educational tutorials so students could solve technical problems with the tools they were using for the course activities (e.g., tutorials on how to create an e-portfolio with some suggested tools); and the relevance of the ideas I provided on how to re-think some of the course's learning activities in order to make them more multimodal (e.g., having students create infographics, posters, and videos related to the course's content/materials).

4.2.3 Final course curriculum

After twelve weeks of hard work and trying to figure out how to best provide a meaningful learning experience to students during a difficult time, the instructor and their

two teaching assistants were able to design a solid community-based and socio-constructivist remote/online course (see **Appendix A**).

After the spring quarter of 2020 was over, the final course curriculum—after the redesign and technology integration process—clearly reflected the pedagogical approach and beliefs of the course's three main stakeholders (instructor, and the two teaching assistants).

When it comes to the pedagogical aspects, the course clearly reflects a socio-constructivist approach with active learning strategies that include collaborative-work (e.g., discussions, Padlet boards, Google docs, Google slides, project-based activities). Additionally, the synchronous sessions of the course (executed through Zoom), fostered team-work and discussion-based classes where students had time to debrief the course materials provided by the instructor and the teaching assistants. These strategies allowed students to create meaningful connections with other students, the instructor, and the teaching assistants, creating a community-based environment and a safe space for all participants (a crucial aspect during Covid times, especially during its early stages).

As for the curricular integration of technology, the tools used by the course's three main stakeholders afforded a wide set of socio-constructivist strategies: discussion-based strategies using Zoom's breakout rooms features; using Padlet boards to have students contrasting, comparing and analyzing content (e.g. activity "Observing Two Communities of Learning" from week 2 of the course—see **Appendix A**); using e-portfolios to have students reflecting on the course materials and synchronous sessions every other week; and having a collaborative final project to work on throughout the quarter.

It is important to highlight how my role as the instructional technology coordinator influenced some of the decisions made in relation to digital tools used for teaching and

learning. For example, the implementation of e-portfolios was a decision made by the instructor based on suggestions I made during the ***preparation weeks,*** so was the decision to use Padlet as the tool for the Venn Diagram activity ("Observing Two Communities of Learning" activity, from Week 2). The use of Jamboard resulted from my interactions with the course instructor who identified the tool would be an effective mediation to foster collaborative discussion during the synchronous sessions on Zoom.

4.3. Emerging challenges

There were many unprecedented situations that emerged throughout the spring quarter of 2020, situations that were not considered in the two weeks faculty had to start transitioning their courses from face-to-face to fully online/remote modality. These situations represented new challenges for the instructor and their teaching assistants while designing and executing the course. These emerging challenges were not considered by other research studies of curricular integration of technology given the nature of the "emergency transition" to online/remote instruction, and the emotional and physical health concerns that students and educators went through as they tried to figure out how to best navigate through such transitions.

These emerging challenges are described in this section and organized as they emerged throughout the course's curriculum's planning conversations.

During the **second conversation,** the instructor found students reaching out about personal issues (e.g., health), and they saw this as a sign that the students were finding the class, the instructor, and the teaching assistants as someone they can trust. Additionally, other students have reached out expressing their desire to be part of the class. This situation showed how emotional aspects that emerged from the unprecedented situation affected the

wellbeing of students and the way they engaged/participated in the class, and how important it was to create an environment where students could feel safe, respected, and understood.

> **Instructor:** "I have gotten people reaching out to me. We have one student, who is sick... sounds like a sinus issue.. it doesn't sound like the Coronavirus, but I just love that fact that she reached out to us and told me that she, that we're a source of comfort. So, I felt like that was a good sign that we set a good tone. I had one student who I had not seen before, reach out to me asking to come into the class; at this time, well okay, this is how I am because it's still week two I think because the groups have already gotten together and bonded."

In the **third conversation**, the instructor clearly expressed how concerned they were about the students' wellbeing, and how they wanted to make sure this became a top priority throughout the spring quarter.

> **Instructor:** "I just- I'm caring about people. We need to know if there's anyone who's got issues, suffering in anyway... are they sick? What do they need? Do they need an extension?... So, we just wanna make sure that no one is suffering in silence. That's the big goal."

During the **fourth conversation**, the instructor and teaching assistant F shared a couple cases of students dealing with difficult emotional situations related to COVID-19 and how it was affecting their quality of life and academic performance. This situation raised a red flag to the instructor, acknowledging that this is an issue that was not considered by the University once the institution started to provide resources to faculty to support their transition to remote/online teaching.

> **Instructor:** "I didn't even show you the messages I got yesterday, [teaching assistant F] and [teaching assistant E]. Oh my gosh, this poor girl, let me just read part of it…It's from [student]... 'I'm sorry to come to you like this because I feel weak in admitting this but today has been a hard day for me mentally, I was living in [college town] alone until recently and then I came to spend time with my family. I love being around them, but sometimes they do not understand how overwhelming things can be. I am first generation, and my parents have had a hard time grasping how everything is going on with Covid-19 and it has affected my mental health, and my academic responsibilities. Today was one of the harder days where it was hard to get them to understand, with that being said I will not be attending today's lecture. I don't have

> any private space here at home because there are six other people living here and with my mental state I do not see myself focusing, and interactive in our discussion today. I'm so sorry about this, but I will be back in [college town] soon for our next discussion and will be ready to participate then.' Here's my problem, I don't know where she's traveling from, she can go to a gas station, she can go to a store, and she is trying to reconnect academically, and putting herself at risk. I just forwarded to our department because I think this is what we did not address as a university."
> **Teaching assistant E:** "We also received one like that, and I copied both of you. I remember she was late and asking for permission to post her blog on Monday morning and it was literally the same content: 'My family does not understand, they think I'm watching movies all day long, so they are constantly coming in and out of the room kind of checking on me and it's draining me, and I can't focus or anything.' She was really upset, she emailed back saying thank you, yesterday, but it was late. It's interesting because it was two students from the same group with the same issue, with the parents not being supportive or understanding. Like I can picture my mom being the same way like: 'What are you doing all day on the computer?'"

Besides the need of being mindful of the students' wellbeing while navigating family-related tensions, the instructor raised an important aspect that was not deeply considered by other faculty members at the University: not trying to replicate the "typical " classroom while teaching remotely/online in a very stressful and unpredictable public health situation.

> **Instructor:** "Yeah, I don't think we thought through as a University of the hardship, we just thought all we needed was the technology which we did. But, we also need to figure out this is not business as usual and I know professors are like "how am I going to be submitting exams?" People should not be submitting exams, they should not be creating exams. This is a missed opportunity to envision what education can be like so I was very honest in my survey that goes to the whole [university] system. I'm sure other faculty and the fact that our faculty leadership wanted more time and at least two more weeks to get a handle on how we would approach these classes and we did not get that."

In the **fifth conversation**, the instructor started the discussion with their two teaching assistants about a student case, who had been having different personal and academic problems throughout the quarter. The instructor raised how concerned they were about these cases, and tried to use institutional resources (such as counseling) to provide the students the support they needed. It was insightful to realize that—in order to make a decision of how to

solve or mitigate the student situation—and how this may affect others—the instructor analyzed the situation (e.g., by checking how much work the student had been able to do, how many interactions were they able to do with other students) and then made a decision of what could have been best for both the students in distress and their classmates (taking into consideration that most of the work of the course was group-based).

> **Instructor:** "I don't know, but I'm concerned about [student], so as you saw, I sent a message—copied you as well—to the Distressed Students Counselor. So, even if there's a little bit of [student] just trying to shirk responsibility, I could easily say, "Oh this kid's just trying to get out of doing work," or whatever. But just even looking at his blog, he has one entry, and it looks like he hasn't even touched some of the other stuff. So, I think he's really overwhelmed, and I think some of this sort of passive-aggression is a strategy for coping. I think he just, he's overwhelmed, and he needs support...So, I think with that and then just feeling behind and not having strong strategies to get through tough times, we're seeing him sort of devolving. And so, I, at this point, just want him in an independent study. And I checked during our faculty meeting yesterday and independent studies will count for credits for many classes. So, I think that's better than disrupting a group in motion, you know. That's sort of what I'm hoping we can move him to but he has to respond, so you know, I'm just going to message that therapist [for counseling] until we track him down and hopefully we'll get a response from [the student] soon."
> **Teaching assistant F:** "So last week, the group also asked me about his presence in our course and they were asking if he's going to join them because they wanted to move forward but they just don't want to have him behind. So, I told them that I'll check with him and then yesterday was when we got the response, right? So, should I reach out to the group that they can just continue on doing their own work and we'll be catching up with him separately?"
>
> **Instructor:** "He's going to work in a different way. Just say we're redirecting his work right now and we want you all to go forward. So, for his independent study, that will move on and. You know, it's all about his blog. He's just going to write in his blog. That's how I'm seeing it, because it's just not worth it. It's not like he can do much else. I mean, if you're so overwhelmed… if you need counseling… it will give him the space."

The instructor raised an additional concern to students' academic performance, and the positionality of some faculty in universities, who—based on the instructor's and teaching assistant E's perspectives—saw the transition to remote/online instruction during Covid-19

pandemic as a "replication" of the regular face-to-face instruction (including assessments strategies) with the means (technology) being the only difference. To the instructor and teaching assistant E, this approach to remote/online education would not be effective and would not consider the students' wellbeing.

> **Instructor:** "And, yeah, you're right, students in this kind of situation are probably going to fail classes like chemistry or whatever. And, honestly, I don't know if instructors should be failing anybody at this time."
> **Teaching assistant E:** "No, they should not! It's too hard going on. Like, I'm doing well, sort of with the workload because I can pick and choose. Sadly, I'm going to be honest with you, there are some things that I'm like, 'no, I am not going to do this'. I understand what I really, really need…but it is like everybody's trying to figure it out, so they are overwhelmed with assignments because I understand they want to be sure that they're doing a good job."
> **Instructor:** "Yeah! Yeah!... And I… and I think it's hard because you can't think 'OK, we're going to this, it is just going to be the same except for online'. No, no, no, no. I think that that's half the problem…And I'm wondering for people who have a lot of experience teaching online, that in and of itself may not be good. You can't do business as usual."

During the **sixth conversation**—after one of the sessions led by teaching assistant F (Week 5 of the quarter)—the instructor realized that there was a shared feeling among the students: feeling stressed. This situation raised another concern to the instructor who shared how they have been in some situations where students face uncertainty and emotional stress (e.g., like the 9/11 event). However, the instructor perceived that the Covid-19 pandemic as something that went beyond something ever lived before (in modern times), and the consequences of it were being shown in the students' wellbeing.

> **Instructor:** "I was teaching in middle school. I was a reading specialist…I remember that morning very clearly, 2001, everyone just stood still and looked at the TV in the office, like all of us who were trying to get last minute copies and, you know talk, with the secretary, making sure someone, you know, some kids are truant make sure they come. All this like normal, daily grind and we all just stopped and stared at the TV trying to make sense of two planes going through the Twin Towers. I remember that moment! And we're like looking and we're like what the heck... And I do recall feeling extreme anxiety and concern for our students, and that doesn't even touch this

> [Covid-19 pandemic]. Like, this is affecting so many families on such a fundamental level, just seeing that word cloud, which I'm so glad we did, [teaching assistant F], I think that it's something that I want to share. I got invited to speak on a panel for the university on teaching during this crisis and I'm going to share that word cloud, because 'stressed' is just beautifully, like, just embedded and there's like little moments, right, of grateful and thankful, but it's just telling where students are and how they are feeling, and I don't want us to let go of that. Actually, I think that's where we begin every time with a 'where are we? You know, how are we doing?'...I don't want to lose that sense of humanity. I think we need to like continue to have that space."

Additionally, teaching assistant F shared how their session went, focusing on how the dynamics of the students sharing how they felt emotionally—using a digital word cloud as a pedagogical strategy—allowed them to have a closer exchange with students to a level they were never able to do before. Even though minor technical difficulties happened to teaching assistant F, the connection with the students was not affected. Additionally, teaching assistant E shared how they have gotten more messages from students letting them know how stressed they are, and how such feelings were reflected in the word cloud they built during the synchronous class session. Finally, teaching assistant E raised a point about how important it was to provide a sense of community through the class, given that it could help students to feel supported emotionally, and that such support may not be provided in other classes.

> **Teaching assistant F:** "So, first of all, I thought, um, the word cloud went really well… I was like 'well, should we do discussion more? And take out the word cloud?'… But I thought that the word cloud should be the priority so I put it in. But I really appreciate it because they were more honest than I thought, and they put their real feelings. They were like really talking about, themselves and having like really deep discussions so I was really impressed when they were having those kind of discussions when I popped in…until my computer turned off….I mean, like the technical issues they always come, like, you never know like when it's coming, so [laughter]."
> **Instructor:** "Well, to build on that, what I was able to do—that I haven't been able to do before—is have real conversations with a couple of groups. It actually enabled an opportunity for me to talk to them about their project and I think I genuinely helped spark ideas. I love coming up with new ideas and innovative ways of connecting and thinking about kids and what they're into. And sometimes we can think too hard. You know, just think about the ways in which memes kind of grow naturally in our social

media and how powerful those memes are. That's- that's just, um, an idea that I saw over and over again is ways that you can take a simple act or simple behavior and allow kids to build on it. I was able to interact with them, so that was nice. And I was able to go to a group that had a lot of questions. So, I think staying stationed in the main room is really working. Like, that way I can go and then come back and then go again. So, I was able to get a better idea of what they were doing which I think is a real success. [teaching assistant E], what did you think?"
Teaching assistant E: "I loved it! I don't think that the technical glitches were perceived by anyone like 'Oh, we're having these issues', it was more like 'They're figuring it out'… and everyone seemed to be really engaged and actually like they needed to write all those words. I was just surprised just how quickly. I thought, you know, it was going to take them two or three minutes of us like, "Tell us how you feel." It was like they had it right in their mouth, and then just like 'Bloah!' and they just like put all these words that they had in their hearts and like it's pretty obvious they're all going through a lot. I keep getting emails, I mean, I'm always copying both of you, but yeah. Everyone is just like 'I'm overwhelmed', 'I'm just having too much trouble finding motivation when even though I'm watching a recording of a class, later in my own time', that lack of maybe even structure—'oh you have to go to class at 4 pm'—it's making it harder for all of them. So, it's just really important I think- I mean these are classes about community. So, I think making them understand that we're all in the same kind of situation was really meaningful... and it was, like on a personal level, it was so nice to read that and see that 'Oh, they're all feeling like me! I'm not the only one!', that's nice."

Additionally, the instructor brought up two cases of students that have been absent for the class and have been difficult to reach out to. The instructor was highly concerned about how to best support these students when there has been a low-to-none response from them. There was a high concern about the assessment and how the instructor and the two teaching assistants should face each of the two students' situation. They debated if it would be better to refer these students to the 'distressed students' department or if giving them an 'incomplete' would be best (or both). This situation clearly became a struggle and a causation of stress to the instructor and the teaching assistants, especially given the fact that they were not trained or told (by the University) how to best respond to these unexpected situations during the first quarter of remote/online instruction.

Instructor: "...and then, missing students. So, about [student 1], I am not going to respond to him anymore. I have given so many responses. He's consistent- he's only responded to me twice. And, um, it's definitely a problem. And I kind of hope it's only—I hope that he's being rude. I really hope that it's rudeness and flakiness…and it's possible that he is in incredible hell right now. What I plan to do with him—unless some movement happens—I am definitely planning on giving him an incomplete. I can't grade this. So, there's one other student that I'm concerned about, is that [student 2]".
Teaching assistant F: "Yeah, so I talked to the group yesterday and they said she [student 2] reached out to the group like last week. And then, one of the group members, she explained all the stuff that they went through and like she gave all the information about what they've been working on. But then they never heard back from [student 2] again. They're still waiting, but then they were like 'well, she didn't confirm about the proposal at all' and like they never heard back after [student 2] reached out to them like talking about her difficulties. But they have no idea if she's still here or if she's still in the course. So, I don't know. They were like, if she decides to join us any time in the future, they're open to it because they understand her situation, but they just don't know if she'll be there cause she never responds."
Instructor: "So, can you start a message, reach out to her, cc [teaching assistant E] and I and say we're concerned about you, similar to what I wrote to [Student 1]. We would like to schedule a time to meet with you, you know, and let us know what time is available. Whoever, looking at all of our schedules, whoever's available, we will join that meeting to try to listen and help her get back on track. If she does not reach out after 48 hours, I will report her to distressed students. And, when I report her, I will respond to her directly. I will say, 'Now we're worried'. And then it'll be the same deal as it is with [Student 1]. I want to know, is there any effort out there to rethink the grading policies at this point in time, or are there professors out there thinking they're doing business as usual and just throwing all their stuff online and then whoever doesn't respond gets an 'F'. You know what might be helpful, maybe getting statistics from the office of distressed students to see how many referrals they have compared to previous quarters. It might be, data might be more compelling to some of these professors in the natural sciences who are thinking 'well no, it's important to maintain quality instruction during this time, I got to keep my'—so, I mean, one thought is to get the stats and say we've got kids who are in huge distress."

During the **seventh conversation**, the instructor discussed some difficulties that emerged with five students who have been struggling to keep the course pace, and have not been responsive to the course activities (e.g., contributing to their groups' project, and working on their e-portfolios). The instructor tried to solve this problem by reaching out to some of them (through the teaching assistants, and by the instructor themself) to make sure if

there is any support the instructor and the teaching assistants can provide to them. It is interesting noticing that the instructor provided alternatives "routes" to get credit for their work to those students who have been harder to reach out, or that have been having personal issues (e.g., health, family concerns, emotional struggles) but that have been—to some extent—responding to some activities. This decision showed how involved and concerned the instructor was about the students, by providing the students alternatives to still get credit for the work done (e.g., providing some students the alternative to have "independent studies" credits/units instead of staying in the course).

> **Instructor:** "So, any way to move to more course work related things, so two of our students are going to drop the class and take independent study with me. I have done everything I could possibly do to help [student 1], I gave him the form I partially filled it out, I bcc'd his therapist at University, and he has yet to do anything. This is an interesting phenomena, not knowing what to do. The extreme anxiety of having to contact someone new, that alone is such a challenge for [Student 1], and we'll see if [Student 2] is a part of that. But, [Student 2] has already said this is much better let's do an independent study."
> **Teaching assistant E:** "So, I just got an email from one that was from [one of the student groups], I emailed you [teaching assistant F] and [Instructor] about these kids. Because, there are two people from one of the groups that don't do anything. So, I emailed the two students and [Student 3] just replied and said 'I'm trying my hardest, please let me just coordinate with my team'. I just reached out, like 'what do you need? It seems like your group shared some concerns about your participation'…and, he seemed more connected, but [Student 4] is totally missing… and the other one that I have been emailing here and there is [Student 5]… she emailed me, 'yeah, can you help me with all the research?'...and I said 'how can I help you?', but she's totally missing."
> **Instructor:** "You know, I think at this time [Student 5] needs to do her own thing. Is she responsive to you at all?"
> **Teaching assistant E:** "So, I emailed her May 6, I was like 'hey, how are you', cause her team came to Office hours and said, 'We are just overwhelmed, this girl is doing nothing'. So, I said 'send the submission with your names in parentheses, so you can see what each member did'… so there is something to add as a hook to email [student 5] like 'hey, I'm a little concerned because I didn't see your name in the submission, what's going on? Do you need any assistance?'… And, she said 'Yes, I would love some help. I was extremely overwhelmed with the amount of work that has piled up so quickly, it would be amazing if you could help me with the research. Thank you'. That's the last I've heard of her."

> **Instructor:** "That just sounds like another independent study possibility. Okay, that's my next one, I will send a message to her today. So, then you can notify the group that they don't have to worry about [Student 5], so I'll deal with [Student 5]".
> **Teaching assistant E:** "And, let me see what [Student 4] says, because [Student 3] responded and said he'd give it a try. So, let's give her one more day."

The instructor and teaching assistant E discussed the implications the pandemic brought to the students' lives, and how the remote/online instruction was not ideal to some students—in particular, those who were facing strong emotional/health hardship. Teaching assistant E emphasized how important it had been to some students to have been part of a community-based course where they can feel comfortable, safe, and social.

> **Instructor:** "For some students, they should not be attending school right now, and so we are dealing with that. The fact that we are dealing with four people is probably a good sign that we are doing our best, I think without that I think we'd have half the class go nuts."
> **Teaching assistant E:** "A couple things that they mentioned was that they actually looked forward to the class because they are being honest, but they are still learning from the class and don't feel overwhelmed. But, at the same time you can tell they are super high achievers, and they are super frustrated that their teammates are not contributing evenly."

In the **eighth conversation**, the instructor shared how the situation has evolved with the six students that had been struggling to engage and being involved in the course. The instructor expressed how much they cared about these students, and tried to provide the support they needed in order to make it through the course without affecting their academic standing. The instructor provided to four students (out of the six students) the alternative to drop the course and do independent study units by doing some of the course work (not including the group projects); however, only two of these students responded. The other two students—who dropped their involvement in the course—were reached out by the instructor and the teaching assistants, but they got no response, leaving the instructor wondering if

these students should be referred to the "academic standing department" of the university so they could follow up with them directly.

> **Instructor:** "There are four students that I have recommended moving out of [the course] and getting an independent study, and only two of them have made that effort to even move…[Student 6] was just overwhelmed. You could just see how overwhelmed she is emotionally, and she wants to be an art teacher. And when I talked about [a graduate student that specializes in art], she lit up. So, I've already connected her with [the graduate student] who is going to be her mentor. So, she's super happy. When it comes to [Student 2], I tried to meet with her, and she hasn't responded to me since…and I just reached out to both her and [Student 1]. They're the last two on my concern list. I think I'm going to have to ask [the grading department], what do I do?... I'm going to give them incomplete. If they haven't done anything… I feel really bad, because—just to let you know—when you give an incomplete, that automatically gives the student a year to make up that incomplete. But if they don't make up that incomplete, it goes immediately to an 'F'…I would much rather have them drop than to eventually get an 'F'…And I have yet to hear back from [Student 1]… I'm really concerned about him. He has not been communicating for—well—months now. I don't know what to do. But they're going to have an incomplete if they don't move."

The instructor decided that the remaining two students (out of the six) could be offered a side-activity—course related—so they do not affect the student groups' dynamics. This way these two students could still get credit for their work without affecting their original group members, and without having to drop the course.

> **Instructor:** "I have an idea for all the remaining students who are still needing to connect with groups, we are done with that...So, there is no more connecting with groups. You know what they have to do? They have to give feedback on five group progress plans."

In the **ninth conversation**, the instructor followed up with the teaching assistants about the students who had affected the student groups' work and dynamics by not participating and being absent from the course and group work. The instructor let the teaching assistant know that two of the missing students have had difficult circumstances due to COVID, one being sick because of the virus, and the other one faced emotional hardship

by losing one family member due to COVID. The instructor suggested being more flexible with the groups, allowing them to do "less work" as a way of acknowledging that some have missed group members and it would be unfair to push them to do some extra work. Once again, this decision is the result of the unexpected situations that emerged during the COVID pandemic, and also a reflection of the instructor's view of assessment (being more understanding of the situation and being more flexible with the students' work expectations).

> **Instructor:** "I think there were two groups that are missing some students that have not shown up. Let them know that whatever they have done now is fine. Let them know they are not going to be penalized for doing a lot of work, or maybe not finishing. Let them know they don't have to do anything more, unless they want to. That way we can kind of acknowledge they put in a lot of effort."
> **Teaching assistant F:** "I actually checked in with [Student 7] when the groups talked to us, and she got back to me saying she had a Covid scare with her family recently that made it so stressful, that's why she missed that class. So, that's what I got from her email, and I reached out to her letting her know that she has to reach out to her group members as soon as possible because they were trying to move forward. But I haven't heard back."
> **Instructor:** "For groups that are missing members…I will let them know that we are working with them to make sure they aren't doing more work than half a group should be doing. So, it's a lot easier to give more work when you have four people working hard, than only two, and I don't want it to be unfair. I'm going to put that in my message, so just follow up with groups that have lost their members, and you [teaching assistants] can tell [group's name] that one of their members—missing member—has lost a close family member due to Covid, and is working individually and receiving intensive therapy, and the other missing team member is having illnesses with Covid as well, and…so… it's just the way it is. The group doesn't have to do more work than they already have done."

Among the salient aspects that were found through the ***Emerging challenges*** I could find:

- The importance of making the course a safe space for students to release emotional stress, feel respected, and understood during the uncertain and stressful Covid-19 times.

- Priority given to the students' wellbeing and how this became the main priority for the instructor throughout the academic quarter.
- How the students' emotional health was affecting their life quality and academic performance, and how such challenges were not considered by the University when they offered training in preparing faculty and instructors for remote/online teaching during the Covid-19 pandemic.
- The concerns raised by the instructor after knowing that many faculty members decided to replicate the same pedagogical strategies (e.g. instruction and assessments) they did before the Covid-19 pandemic, and not taking the time to reconsider how Covid-19 was affecting the wellbeing of students and, therefore, their academic performance.
- The importance of tracking students' involvement in the class (e.g., attendance, participation, engaging in the individual and group-based activities) in order to identify the best way to provide support to them.
- The importance of establishing a community-based environment that allows students to feel safe enough to share their feelings and personal/emotional concerns.
    - Giving value to emotional and social interactions that can help instructors to get a better understanding of the students' situation and levels of engagement/involvement in the course.
- The concerns that were raised given the uncertainty of how to best support distressed students during the Covid-19 times, and how there was lack of preparation/training provided by the University—from the instructor's and

teaching assistants' perspectives—of how to best deal with this kind of situation.

- The importance of providing flexibility and alternative tracks/options (e.g., providing a set of activities/tasks to be completed independently to make up the work that was not accomplished during the "regular timeline" of the course) for those students who were "falling behind" with the course activities given a personal/financial/emotional/health hardship.

4.4. Overview of salient aspects of the course (re)design and technology integration process

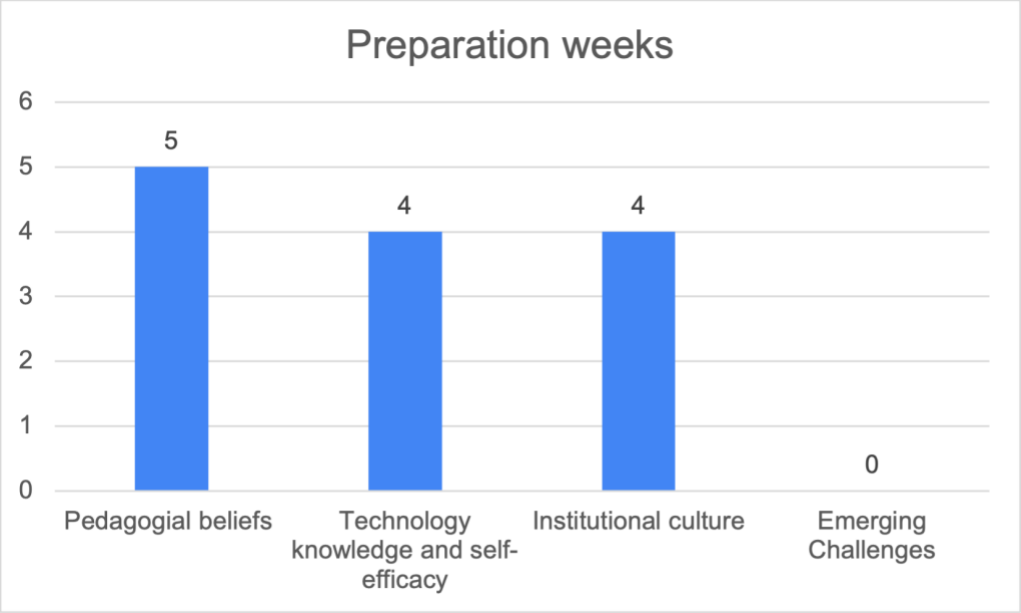
After getting a deep exploration of the course's stakeholder actions, decisions, and challenges during the course's redesign and technology integration process during the academic spring quarter of 2020, there are some aspects that are worth noting from the different moments or periods of the spring quarter of 2020.

During the "**Preparation weeks**" period (two weeks before the start of the Spring quarter of 2020), the data analyses show that the instances of the analytical lenses reflected that only pedagogical, technological, and institutional culture aspects were salient during this first period of the course curriculum redesign, there were no instances of emerging challenges (see **Figure 6**). The instances identified through each respective lens were very similar; five out of 13 (38%) identified instances were associated with "***Pedagogical beliefs****"* while "***Technology knowledge and self-efficacy***" and "***Institutional culture***" lenses were each associated with four instances (31% for each). This distribution gives an idea of the aspects that counted as important at the early stages of the Covid-19 pandemic, where the instructor had only two weeks to prepare the Spring quarter. During this period, it was evident that the instructor made some decisions on the course's curriculum design for the

first four weeks of the quarter. However, the instances of the "***Technology knowledge and self-efficacy***" lens show that some digital skills were used in order to think and choose some digital tools for the course's learning activities (e.g., knowledge of the institutional LMS, screen-casting tools to record lectures, selecting multimodal materials/resources to support instruction, others). Additionally, the "***Institutional culture***" lens' instances show how important was the external support to the instructor when it came to deciding what tools would fit best the course's activities design and the instructor's community-based approach (e.g., reaching out to me—instructional technology coordinator—to inquiry about tools for collaboration, Venn-diagram, and getting the suggestion to use e-portfolios as an strategy to have students reflection on the course's materials and synchronous sessions).

Figure 6

Instances of the analytical lenses during the "preparation weeks" period.



During the **first half of the quarter** period (from the first week through the fifth week of the Spring quarter of 2020), the analyses show that the instances of the analytical lenses increased compared to the ***preparation weeks*** period, with instances (for the first time) of the *emerging challenges* (see **Figure 7**). The first half of the quarter (first five weeks) encompassed the most dense part of the curriculum design: making crucial decisions on the course materials, learning activities' design, creating a community-based environment (e.g. creating student groups, creating spaces for the groups to interact and know each other, building rapport among the instructor, teaching assistants, and the students), figuring out the technical aspects that would mediate the teaching and learning process (e.g. exploring Zoom and its affordances for remote instruction), and deciding which digital tools would support/mediate the course's activities and dynamics and help students achieve the course's goals and learning objectives.

The instances of the "***Pedagogical belief***" lens was the highest during this period of time (21 instances out of 42, or 50%—see **Figure 7**), which allows us to see that pedagogy and pedagogical practices ruled over the other lenses during the course's curriculum redesign and the technology integration process, including the socio-constructivist and community-based approach the instructor and the teaching assistants used for the course dynamics and the design of the course's instruction (for both synchronous and asynchronous sessions) and its activities; establishing formative assessment as the only type of assessment of the course; establishing roles for each of the course stakeholders (instructor in charge of most of the instruction of the course, teaching assistants overseeing the progress of the students and providing support and feedback when needed); providing flexibility (when needed) to students to turn in their assignments.

The instances of the "***Technology knowledge and self-efficacy***" lens (8 instances out of 42, or 19%—see **Figure 7**), reflect that the knowledge of technology and the confidence in the use of technology was the second most relevant aspect during the first half of the Spring quarter of 2020. Among the main aspects that were highlighted from this lens are: the knowledge of digital resources/tools that could support the instructional practices of the course; the use of technologies' affordances to foster collaboration and discussion in online environments; and the ability to identify and implement digital tools that could enable a collaborative (socio-constructivist) learning environment.

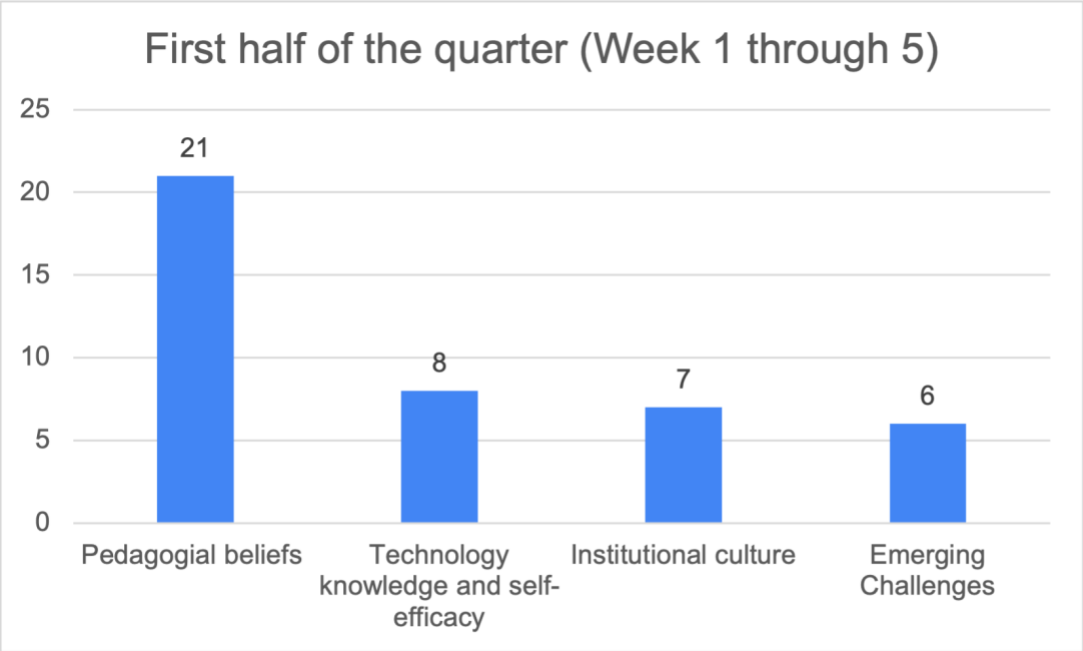
The instances of the "***Institutional culture***" lens (7 instances out of 42, or 17%—see **Figure 7**), shows that this lens was the third most relevant aspect during the first half of the Spring quarter of 2020. Among the main aspects that were highlighted from this lens are: the support received by the instructor in the management of the video conferencing platform in order to have better interactions and collaborative practices with students (e.g., the use of breakout rooms on Zoom); the technical knowledge—provided by the University's trainings— acquired and used by the teaching assistants in how to best make usage of the co-hosting options of Zoom to manage groups' interactions; the support needed by instructors when a digital tool stops working (e.g., finding alternatives to replace a tool without affecting the designed course/activity); the support received by the instructor to provide instructional guidelines for students to use the digital tools suggested for different learning activities (e.g. tutorials to create e-portfolios with different tools); the importance of external support to have important pedagogical considerations implemented in the online course design (e.g. clear guidelines of the course activities every week); and the relevance of the support received by the instructor to gather ideas of how to design activities that request students to

create multimodal content/projects (e.g. having students creating infographics, videos, graphical representations of the course material/content, digital presentations, others).

The instances of the "***Emerging challenges***" lens (six instances out of 42, or 14%—see **Figure 7**), reflect how unexpected situations became an important aspects when it came to making decisions regarding the course: making the course a safe space for students to be heard, understood, and supported during the unprecedented hardships Covid-19 brought to their lives; making students' wellbeing a priority before other "crucial aspects" of instructions (e.g., assessments, covering the expected content—based on the original course planning, having a firm/strict approach to the course's assignments' deadlines, etc.); making sure that the instructional approach/practices of the course were not trying to replicate the pedagogical strategies used before Covid-19 times; keeping track of students' involvement in the class and making sure everything was okay with them and—when needed—providing the support they needed to succeed in the course.

Figure 7

Instances of the analytical lenses during the first half of the Spring quarter 2020.



During the **Second half of the quarter** period (from the sixth week through the tenth week of the Spring quarter of 2020), the instances of the "***Pedagogical beliefs***" lens (six instances out of 16, or 37.5%—see **figure 8**) show how important the pedagogical aspects were during this period of the academic quarter, being the lens with the second high instances (only behind the emerging challenges). Among the pedagogical aspects that were salient during the second half of the quarter were providing space for the two teaching assistants to take the lead in some of the sections of the course (collaborative curriculum design); providing clarification to students who found formative assessment hard to understand (some students were only used to summative assessment); making sure students have clear guidelines of their final projects were going to be assessed; and creating a summary of the most important theories or contents covered throughout the quarter as part of the wrap-up session of the course.

The instances of the "***Technology knowledge and self-efficacy***" lens (eight instances out of 42, or 19%—see **Figure 8**), show that the knowledge and confidence of the use of

technology was the third most relevant aspect during the second half of the Spring quarter of 2020. Among the main aspects that were highlighted from this lens are: the explorations of more intermediate-advanced features of the Zoom video conferencing platform to manage students' interactions through co-hosting; and the ability of the instructor and teaching assistants to be critical while selecting the digital tools for the course activities based on their functionality and limitations (e.g., use of Qualtrics for students' reflections to avoid doubts about formatting).

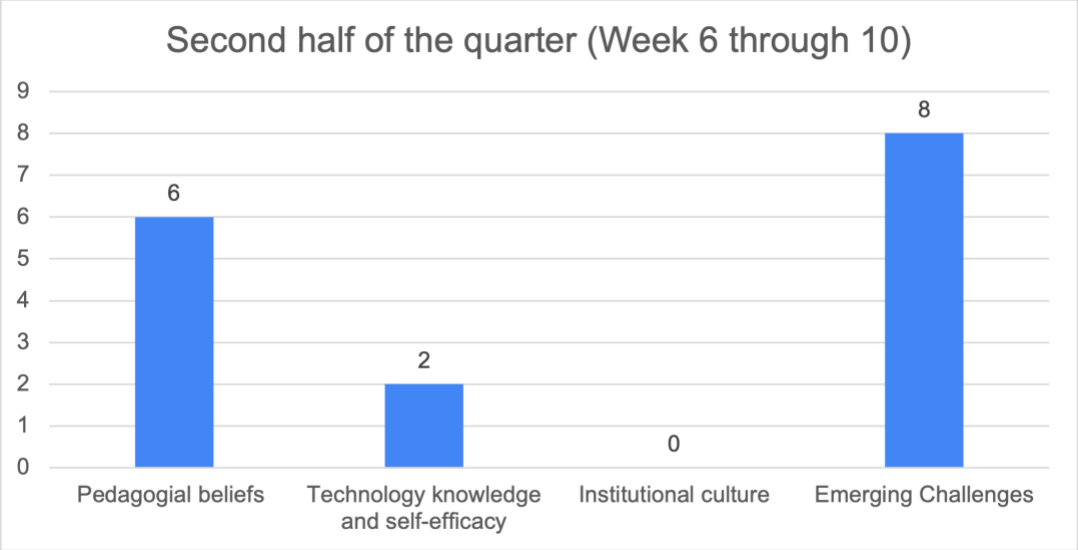
The lack of instances of the "***Institutional culture***" lens (see **Figure 8**) reflects that by the second half of the quarter, the course already had a pedagogical and technological foundation in relation to the pedagogical strategies, assessments, and digital tools that were established for the course execution, leaving a small space for potential external support from the institution itself (IT services, pedagogical and technological consultation support [ID], and academic department) and/or from me.

The instances of the "***Emerging challenges"*** lens (six instances out of 42, or 14%—see **Figure 8**), reflect how unexpected situations became the most relevant aspect of the second half of the spring quarter 2020, when most of the instances of the challenges were—to a great extent—connected to the challenges that emerged during the first half of the quarter, including: making sure the course is still providing the academic and emotional/personal support to students who have been facing hardships due COVID-19; finding distressed and disengaged students hard to support and finding out how unprepared the university was (during the first stage of the COVID-19 pandemic) to face these situations, making decision making challenging for faculty and instructors; making sure that flexibility

was offered to students with difficulties by offering them flexibility with deadlines and/or alternative tasks/assignments in order to help them thrive.

Figure 8

Instances of the analytical lenses during the second half of the spring quarter 2020.



As it can be seen on **Figures 7** and **8**, the number instances of the "***Pedagogical beliefs"*** and the ***"Technology knowledge and self-efficacy"*** lenses varied significantly among the two periods of time. This change could be due to the significant decisions made by the instructor and the two teaching assistants in regards the course dynamics, pedagogical strategies, assessments, and planning of weeks' contents/materials, leaving not many aspects of the course to be (re)designed or planned.

When it comes to the "***Institutional culture"*** lens, it can be noticed how the technological and pedagogical support the instructor and the teaching assistants needed and received throughout the quarter was prominent during the preparation weeks (**Figure 6**) and the first half of the spring quarter 2020 (**Figure 7**). During these two periods of time, the curriculum design process was being done (including general design aspects of the last weeks

of the course—part of the second half of the course planning). Additionally, technological support was highly needed during the first stage of the quarter, given that this was the time when the instructor and teaching assistants would determine what would be the main digital tools and media to use throughout the course (e.g., establishing Zoom as the main synchronous communication tool, having e-portfolios as a recurrent reflection-based activity, among others).

Finally, the increase in instances of the "***Emerging challenges"***, was due the different hardships and emergencies students faced as they lived the Covid-19 related uncertainties in areas like finances, and emotional and physical health of themselves and relatives (e.g. students having housing issues, dealing with stress and depression, financial issues/uncertainty, and having relatives' health affected by Covid-19).

5. Discussion

The literature on curricular integration of technology and emergency online education—specifically in the higher education context—consists of a set of frameworks and theories that aim to provide an understanding of aspects and issues that should be taken into consideration for integrating technology efficiently into the curriculum, and how online education—through digital means—could help in responding to unprecedented emergencies in order to keep instruction going. In early 2020, with the appearance and massive spread of the Coronavirus (Covid-19), there were many aspects that were shared through studies—that constitute an important part of the literature, both in terms of technology integration and emergency online education, that were relevant and useful to educators in order to be better prepared to keep instruction going in remote/online modality during this public health

emergency. However, there were many unexpected challenges that the Covid-19 pandemic brought that were not present in literature of these two mentioned areas of study.

Through this telling case study (Mitchell, 1984), I took an ethnographic approach to get an emic (insider) perspective (Berry, 2007; Pike, 1967; Spradley, 1979) on the main stakeholders of a community-based undergraduate course in education—the instructor and their two teaching assistants—to explore what counted as important as they (re)designed the curriculum and integrated technology in order to offer instruction in remote/online modality. I used the analytical lenses based on the "Technology change" framework proposed by Ertmer & Ottenbreit-Leftwich (2010)—Technology knowledge and self-efficacy, Pedagogical beliefs, and Institutional Culture—to explore salient points throughout the archive I created. I found that even though the analytical lenses used from the technology change framework (Ertmer & Ottenbreit-Leftwich, 2010) were confirmed to be relevant and important for the curriculum (re)design and technology integration process, there was a series of emerging challenges related to the students' physical, emotional, mental, and general wellbeing that could not be captured by this framework and were not considered by this higher education institution. Such challenges developed during the first stage of remote/online teaching and grew during the Covid-19 pandemic that, indeed, influenced pedagogical decisions in the curriculum (re)design process.

5.1. Relation to research literature

Findings from this study show similarities with previous studies in the aspects that counted as important for the instructor and the teaching assistants for the curriculum (re)design and technology integration process. The analyses based on the three analytical

lenses highlighted such similarities and supported what the literature have said and confirmed through other research studies.

5.1.1. Pedagogical Beliefs

The instructor's and teaching assistants' pedagogical beliefs shaped and guided the curriculum (re)design and the way technologies were integrated and used for the course execution. The course was designed as a community-based and collaborative environment where students were able to share, create, and learn together from all the course members (students, instructor, and teaching assistants). The technology integration (like the digital tools selection) was clearly guided by the pedagogical strategies and goals established by the instructor and the teaching assistants (e.g., collaborative discussions, co-construction of knowledge, project-based learning, formative assessments, etc.), and required their ability to identify what technological tools could provide enough affordances for the learning activity design, and, thus, promote a better learning experience for students (Ertmer & Ottenbreit-Leftwich, 2010; Keengwe et al., 2009; Surry & Land, 2000). Additionally, the instructor's and teaching assistants' pedagogical beliefs were reflected in the way technological tools were implemented in the course: from collaborative and group based discussions through synchronous sessions on Zoom, asynchronous group-based project activities throughout the quarter—that allowed students to use their own skill sets while responding to the course learning activities' expectations, the creation of digital spaces for students to collaboratively construct knowledge and discuss (e.g. padlet board, Google docs, Google slides, Google Jamboard), to the creation of multimodal artifacts and having weekly reflections through e-portfolios.

5.1.2. Technology knowledge and self-efficacy

The technology knowledge, that the instructor and teaching assistant had, enabled them to select, use, and implement digital tools into the curriculum design and their instructional practices (Gilster, 1997; Goodfellow, 2011; Gourlay, et al., 2013; Hall et al., 2013). Additionally, the ability that the instructor and the teaching assistants had to identify digital tool affordances for their pedagogical practices and purposes—by identifying how a digital tool can serve as a good resource to mediate the teaching process (e.g., evaluating the best ways to share the subject matter content with a tool; identifying the affordances of a technology to reach the desired curricular outcome; or using a digital tool to afford collaboration)—allowed them to create a community-based approach that aligned to their pedagogical beliefs (Khan & Bhatti, 2017; Prendes & Gutiérrez, 2013). Finally—as for technology self-efficacy—the confidence in trying out new and unfamiliar digital tools for instructional and pedagogical practices (e.g., exploring the different tools for multimodal content creation; implementing the tools suggested by me—like Padlet, e-portfolios, etc.) was an important aspect while making decisions on what technologies to integrate in the curriculum design as the spring quarter 2020 unfolded (Ertmer & Ottenbreit-Leftwich, 2010; Kagima & Hausafus, 2000; Compeau & Higgins, 1995; Olivier, 1985).

5.1.3. Institutional Culture

The pedagogical and technological support offered—by the University and I—support affiliated with the instructor and teaching assistants' immediate context (i.e., me as the instructional technology coordinator) played an important role in the decisions taken in regards to the course's curriculum (re)design and the way technology was integrated in it. The University's response to the Covid-19 pandemic was an important and useful resource to

instructors and provided an opportunity for showcasing the affordances, possibilities, and potentialities of digital tools for teaching and learning in higher education (Surry & Land, 2000). Such showcasing, along with the pedagogical and technological services (provided by staff or consultants) and associated faculty workshops, were powerful strategies to model what good practices could look like during the emergency remote/online teaching (Bennett & Bennett, 2003; Keengwe, et al., 2009; Orr et al., 2009; Surry & Land, 2000). Additionally, the support I provided served as an immediate support to the instructor and the teaching assistants as the spring quarter of 2020 unfolded (being that this support was available in a more direct way—for being a program member within in their immediate academic context), this support was more prominent and needed during the first half of the quarter as the curriculum and learning environment was still under construction. The support and services provided—by both the staff/consultants and I—contributed to the instructor's and teaching assistants' technology knowledge and self-efficacy—supporting the insights shared by scholars like Geoghegan (1994), Surry & Land (2000), Keengwe et al. (2009), and Birch & Burnett, (2009)—by opening the doors to explore digital tools that could transform their pedagogical and instructional practices in remote/online modality.

The main contribution of this study is related to those aspects that were not fully considered or contemplated by the literature and the University's initiatives to support instructors in their transition to remote/online modality as a response to the Covid-19 pandemic. The findings of this study highlight the importance of educators to make their teaching and learning environments a *safe space* for students, allowing them to "be human" and to consider their instructors/teachers/teaching assistants a supportive figure whenever

they go through any sort of hardship (emotional and/or physical, financial, personal/family-related, etc.) considering how much hardships can negatively affect students' quality of life, academic engagement and performance. In addition to this, there was a red flag raised by the participants of this study related to other higher education educators wanting to keep their regular instructional strategies, assessments, and expectations for students regardless of the severity of the public health crisis the world was going through, and how many uncertainties the pandemic brought to the students' lives and their communities.

Additionally, navigating through a curriculum (re)design and selecting digital tools while transitioning from face-to-face to remote/online modality during a pandemic, helped participants recognizing some pedagogical approaches and considerations that moved instruction from a "rigid" pedagogical approach to a more "flexible" approach—such actions should be considered for fostering an engaging and supportive learning environment to students. Such a flexible approach includes keeping track of students' engagement during the synchronous and asynchronous activities/sessions of the course to identify how to best support students' academic performance. The support provided should allow students to get opportunities to meet course goals while the instructor creates alternative tracks or pathways for individuals who are struggling due to any sort of hardship.

5.2. Practical implications

This study suggests that higher education educators and Universities' pedagogical and technological support units should consider students' emotional and physical wellbeing as an important consideration for what counts as a good pedagogical and instructional practices for both face-to-face and technology-mediated teaching (remote/online, and hybrid). Traditionally, higher education institutions provide pedagogical and technological support to

faculty, instructors, and teaching assistants through a specific academic division/department and/or the diverse array of academic disciplines' departments, these supports varies from consultations of how to innovate, rethink, and reflect on the instructional practices educators have and apply for their undergraduate and graduate courses (Batson, 2011; Ertmer & Ottenbreit-Leftwich, 2010; Nakano et al., 2013; Orr, Williams & Pennington, 2009; Zellweger, 2007). While these supports and consultations focus mostly on moving to a socio-constructivist approach (e.g. exploring active pedagogies), offerings of technological workshops on how to use technology for administrative and pedagogical purposes, integrating technological tools for teaching and learning (for face-to-face, hybrid, or online modalities), there were some layers of pedagogical practices that were not considered before the Covid-19 pandemic that raised concerns among those faculty that decided to embrace a more active and "caring" pedagogy while the world faced one of the most unprecedented events of the 21st century.

Additionally, the findings of this study highlight the importance of higher education educators to be open to a "flexible" approach of their instructional practices that can respond and serve best the students' need (e.g. providing alternative paths to students to complete their coursework and/or assignments given an unprecedented event/hardship or emergency) by providing more spaces with formative assessment and allowing students to use their prior knowledge and personal/professional interest (e.g., creating learning activities that celebrate/honor the multidisciplinary group of students that are taking the course).

5.3. Future Research

While this study was conducted in an education minor practicum course, it would be worth studying the stories and experiences within other academic disciplines and course

types and how affiliated educators worked to (re)design their curriculum, integrated technology, and reshaped pedagogical practices during the transition to remote/online teaching in the Covid-19 pandemic. Analyzing other experiences within other disciplines might help us gain a better understanding of the similarities, differences, and limitations in curriculum design, pedagogical and instructional practices (e.g., digital technologies usage, curriculum design, learning activities design, and assessments practices) as well as the kind of support these educators received, or should have received during the first stage of Covid-19, and how they addressed such challenges that emerged during this time period. Understanding these perspectives would help higher education institutions to be more prepared and know what aspects to consider when it comes to providing support to faculty, instructors, and teaching assistants for responding to remote/online courses transformation and/or a potential future emergency response to keep instruction going.

Additionally, an exploration on what lessons learned from the Covid-19 pandemic should be kept and applied by faculty and instructors in a post-Covid era, research questions to be explored could include: what pedagogical practices were modified by some educators after the experiences they had during the emergency remote/online teaching times during the Covid-19 pandemic?; what technological usages and technology-mediated practices were adopted by faculty and which practices are not necessary in a post Covid-19 era?; to what extent the perspectives and beliefs educators had on assessment and active pedagogies changed or evolved once Covid-19 times are over?; how did educators' perspectives on online/remote teaching changed after the Covid-19 era? Finally, a series of deep ethnographic explorations on students' experiences and perspectives is highly needed for

both Covid and post-Covid times on engagement, instructional practices, assessment, course design, and active pedagogies.

7. References

Abrahams, D. (2010), Technology adoption in higher education: A framework for identifying and prioritizing issues and barriers to adoption of instructional technology. *Journal of Applied Research in Higher Education, 2*(2), 34-49. https://doi.org/10.1108/17581184201000012

Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*, 1-13. Advance online publication. https://doi.org/10.1080/10494820.2020.1813180

Arnett, T. (2016, December). Teaching in the Machine Age: How innovation can make bad teachers good and good teachers better. Christensen Institute. https://www.christenseninstitute.org/publications/teaching-machine-age/

Bao, W. (2020). COVID −19 and online teaching in higher education: A case study of Peking University. *Human Behaviour and Emerging Technologies*, *2*(2), 113–115. https://doi.org/10.1002/hbe2.191

Barbour, M. K., LaBonte, R., Kelly, K., Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A., & Hill, P. (2020). Understanding pandemic pedagogy: Differences between emergency remote, remote, and online teaching. *Canadian eLearning Network*. https://doi:10.13140/RG.2.2.31848.70401

Batson,T. (2011, April 6). Faculty 'buy-in'—to what? *Campus Technology*. http://campustechnology.com/articles/2011/04/06/faculty-buy-in-to-what.aspx

Bauer, J. & Kenton, J. (2005). Toward Technology Integration in the Schools: Why It Isn't Happening. *Journal of Technology and Teacher Education, 13*(4), 519-546. Norfolk, VA: Society for Information Technology & Teacher Education. Retrieved August 12, 2021 from https://www.learntechlib.org/primary/p/4728/.

Baytiyeh, H. (2018), "Online learning during post-earthquake school closures", *Disaster Prevention and Management*, Vol. 27 No. 2, pp. 215-227. https://doi.org/10.1108/DPM-07-2017-0173

Bennett, J., & Bennett, L. (2003). A review of factors that influence the diffusion of innovation when structuring a faculty training program. *The Internet and Higher Education, 6*(1), 53-63. https://doi.org/10.1016/S1096-7516(02)00161-6

Bennett, S., Bishop, A., Dalgarno, B., Waycott, J., & Kennedy, G. (2012). Implementing Web 2.0 technologies in higher education: A collective case study. *Computers & Education, 59*(2), 524-534. https://doi.org/10.1016/j.compedu.2011.12.022

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39(*5), 775–786. https://doi.org/10.1111/j.1467-8535.2007.00793.x

Benson, S. N. K., & Ward, C. L. (2013). Teaching with technology: Using TPACK to understand teaching expertise in online higher education. *Journal of Educational Computing Research, 48*(2), 153-172. https://doi.org/10.2190/EC.48.2.c

Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research, 79*(3), 1243-1289. https://doi.org/10.3102/0034654309333844

Berry, J. W. (2007). Imposed etics—emics—derived etics: The operationalization of a compelling idea. *International Journal of Psychology, 24*(6), 721-735. https://doi.org/10.1080/00207598908247841

Birch, D., & Burnett, B. (2009). Bringing academics on board: Encouraging institution-wide diffusion of e-learning environments. *Australasian Journal of Educational Technology, 25*(1), 117-134. https://doi.org/10.14742/ajet.1184

Branch, R. M., & Dousay, T. A. (2015). *Survey of instructional design models*. Association for Educational Communications & Technology. https://aect.org/docs/SurveyofInstructionalDesignModels.pdf

Brenner, M. E. (2006). Interviewing in educational research. In J. Green, G. Camilli, & P. Elmore (Eds.), Handbook of complementary methods in education research (pp. 357-370). Erlbaum.

Brinkman, M. A. (2013). *A focused ethnography: Experiences of registered nurses transitioning to the operating room* (Order No. 3570586). Available from Publicly Available Content Database. (1420357372). Retrieved from https://www.proquest.com/dissertations-theses/focused-ethnography-experiences-registered-nurses/docview/1420357372/se-2?accountid=193300

Cennamo, K. S., Ross, J. D., & Ertmer, P. A. (2010). *Technology integration for meaningful classroom use: A standards-based approach*. Wadsworth.

Coll, C. (2004). Psicología de la educación y prácticas educativas mediadas por las tecnologías de la información y la comunicación. Una mirada constructivista. Sinéctica, (25). https://sinectica.iteso.mx/index.php/SINECTICA/article/view/277/270

College Factual (2020). UCSB Diversity & Demographics. Retrieved from https://www.collegefactual.com/colleges/university-of-california-santa-barbara/student-life/diversity/

Compeau, D. R., & Higgins, C. A. (1995). *Computer self-efficacy: Development of a measure and initial test*. MIS quarterly, 189-211. https://doi.org/10.2307/249688

Crawford, T., Kelly, G. J., & Brown, C. (2000). *Ways of knowing beyond facts and laws of science: An ethnographic investigation of student engagement in scientific practices*. Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching, 37(3), 237-258. https://doi.org/10.1002/(SICI)1098-2736(200003)37:3<237::AID-TEA2>3.0.CO;2-6

Emerson, R.M., Fretz, R.I., & Shaw, L.L. (1995). *Writing ethnographic fieldnotes*. Chicago: University of Chicago Press.

Erickson, F. (1992). *Ethnographic microanalysis of interaction*. In M.D. LeCompte, W.L. Milroy, & J. Preissle (Eds.), The handbook of qualitative research in education (pp. 202–224). San Diego: Academic.

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). *Teacher beliefs and technology integration practices: A critical relationship*. Computers & education, 59(2), 423-435. https://doi.org/10.1016/j.compedu.2012.02.001

Ertmer, P. A., & Newby, T. J. (2013). *Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective*. Performance improvement quarterly, 26(2), 43-71. https://doi.org/10.1002/piq.21143

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). *Teacher technology change: How knowledge, confidence, beliefs, and culture intersect*. Journal of research on Technology in Education, 42(3), 255-284. https://doi.org/10.1080/15391523.2010.10782551

Ertmer, P. A., Ottenbreit-Leftwich, A., & York, C. (2006). *Exemplary technology-using teachers: Perceptions of factors influencing success*. Journal of Computing in Teacher Education, 23(2), 55–61. https://doi.org/10.1080/10402454.2006.10784561

Felder, R. M., & Brent, R. (1996). *Navigating the bumpy road to student-centered instruction*. College teaching, 44(2), 43-47. https://doi.org/10.1080/87567555.1996.9933425

Ferrés, J. (1992). *Vídeo y educación*. Barcelona: Paidós.

Flaherty, C. (2020, April 23). *Grading for a Pandemic*. Inside Higher Ed.

https://www.insidehighered.com/news/2020/04/23/how-lenient-or-not-should-professors-be-students-right-now

Galvis, A. (2004). *Oportunidades educativas de las TIC*. Colombia Aprende. Retrieved from http://www.colombiaaprende. edu. co/html/investigadores/1609/articles-73523_ archivo.pdf

García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande, M. (2020). *Online assessment in higher education in the time of COVID-19*. Education in the Knowledge Society, 21. https://revistas.usal.es/index.php/eks/article/view/eks20202112/22274

Gee, J. P. (2004). *An introduction to discourse analysis: Theory and method*. Routledge.

Geoghegan, W. H. (1994). *What Ever Happened to Instructional Technology?*. Paper Presented at the 22nd Annual Conference of the International Business Schools Computing Association, July, Baltimore, MD. https://eprints.soton.ac.uk/260144/

Gilster, P. (1997). *Digital literacy*. New York: John Wiley

Goodfellow, R. (2011). *Literacy, literacies and the digital in higher education*. Teaching in Higher Education, 16(1), 131-144. https://doi.org/10.1080/13562517.2011.544125

Gourlay, L., Hamilton, M., & Lea, M. R. (2014). *Textual practices in the new media digital landscape: messing with digital literacies*. Research in Learning Technology, 21(4). https://doi.org/10.3402/rlt.v21.21438

Gutiérrez, I. (2011). *Competencias del profesorado universitario en relación al uso de tecnologías de la información y comunicación: Análisis de la situación en España y propuesta de un modelo de formación*. España: Universitat Rovira I Virgili.

Hall, M., Nix, I., & Baker, K. (2013). *Student experiences and perceptions of digital literacy skills development: engaging learners by design?.* Electronic Journal of e-Learning, 11(3), 207-225. https://academic-publishing.org/index.php/ejel/article/view/1670

Head, J. T., Lockee, B. B., & Oliver, K. M. (2002). *Method, media, and mode: Clarifying the discussion of distance education effectiveness.* Quarterly Review of Distance Education, 3(3), 261-68.

Heritage, M. (2007). *Formative assessment: What do teachers need to know and do?.* Phi Delta Kappan, 89(2), 140-145. https://doi.org/10.1177%2F003172170708900210

Heritage, M. (2010). *Formative assessment and next-generation assessment systems: Are we*

losing an opportunity.? Council of Chief State School Officers. Retrieved from https://files.eric.ed.gov/fulltext/ED543063.pdf

Hermans, R., Tondeur, J. van Braak, J., & Valcke, M. (2008). *The impact of primary school teachers' educational beliefs on the classroom use of computers*. Computers and Education, 51, 1499–1509. https://doi.org/10.1016/j.compedu.2008.02.001

Hodges, C., Moore, S., Lockee, B., Trust, T., Bond, A. (2020). *The difference between emergency remote teaching and online learning*. EduCAUSE Review. https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Ibáñez, J. (2008). *Innovación educativa y uso de las TIC*. Universidad Internacional de Andalucía.

Jha, A. (2017). *ICT Pedagogy in Higher Education: A Constructivist Approach*. Journal of Training and Development, 3, 64-70. http://dx.doi.org/10.3126/jtd.v3i0.18232

Johnson, L., Adams, S., & Cummins, M. (2012). *Technology outlook for Australian tertiary education 2012-2017: An NMC Horizon Report regional analysis* (pp. 1-23). The New Media Consortium. https://files.eric.ed.gov/fulltext/ED532405.pdf

Johnson, T., Wisniewski, M. A., Kuhlemeyer, G., Isaacs, G., & Krzykowski, J. (2012). *Technology adoption in higher education: Overcoming anxiety through faculty bootcamp*. Journal of Asynchronous Learning Networks, 16(2), 63-72. http://dx.doi.org/10.24059/olj.v16i2.240

Jonassen, D.H. (1991). *Evaluating constructivistic learning*. Educational Technology, 31(9), 28–33. http://www.jstor.org/stable/44401696

Jonassen, D. (1999). Designing constructivist learning environments. In C. Reigeluth (Ed.), *Instructional design theories and models: A new paradigm of instructional theory* (Vol. II, pp. 215-239). Mahwah, NJ: Lawrence Erlbaum Associates.

Juniu, S. (2006). *Use of technology for constructivist learning in a performance assessment class*. Measurement in Physical Education and Exercise Science, 10(1), 67-79. https://doi.org/10.1207/s15327841mpee1001_5

Kagima, L. K., & Hausafus, C. O. (2000). *Integration of electronic communication in higher education: Contributions of faculty computer self-efficacy.* The Internet and Higher Education, 2(4), 221-235. https://doi.org/10.1016/S1096-7516(00)00027-0

Keengwe, J., Kidd, T., & Kyei-Blankson, L. (2009). *Faculty and technology: Implications for faculty training and technology leadership*. Journal of Science Education and Technology, 18(1), 23-28. http://dx.doi.org/10.1007/s10956-008-9126-2

Khan, S. A., & Bhatti, R. (2017). *Digital competencies for developing and managing digital libraries: An investigation from university librarians in Pakistan*. The Electronic Library, 35(3), 573-597. http://dx.doi.org/10.1108/EL-06-2016-0133

Koehler, M. J., & Mishra, P. (2009). *What is technological pedagogical content knowledge?*. Contemporary Issues in Technology and Teacher Education, 9(1), 60-70. https://citejournal.org/volume-9/issue-1-09/general/what-is-technological-pedagogicalcontent-knowledge/

Krumsvik, R. J. (2008). *Situated learning and teachers' digital competence*. Education and Information Technologies, 13(4), 279-290. https://doi.org/10.1007/s10639-008-9069-5

Lawless, K. A., & Pellegrino, J. W (2007). *Professional development in integrating technology into teaching and learning: Knowns, unknowns, and ways to pursue better questions and answers*. Review of Educational Research, 77, 575-614. https://doi.org/10.3102/0034654307309921

Lee, J., & Lin, L. (2009). Applying constructivism to online learning: A new instructional design map. In *Information technology and constructivism in higher education: Progressive learning frameworks* (pp. 58-73). IGI Global.

Leszczyński, P., Charuta, A., Łaziuk, B., Gałązkowski, R., Wejnarski, A., Roszak, M., & Kołodziejczak, B. (2018). *Multimedia and interactivity in distance learning of resuscitation guidelines: A randomised controlled trial*. Interactive Learning Environments, 26(2), 151–162. https://doi.org/10.1080/10494820.2017.1337035

Lincoln, Y. S. & Guba, E.A. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Mahmood, S. (2021). *Instructional strategies for online teaching in COVID-19 pandemic*. Human Behavior and Emerging Technologies, 3(1), 199-203. https://doi.org/10.1002/hbe2.218

Means, B., & Olson, K. (1997). *Technology and education reform: Studies of education reform*. Washington DC: U. S. Government Printing Office.

Mitchell, J. (1984). Typicality and the case study. In R. Ellen (Ed.), *Ethnographic research: A guide to general conduct* (pp. 237–241). London: Academic Press

Morales, L. E. A., & Maldonado, E. D. C. Á. (2013). *Creencias de autoeficacia de docentes de*

la Universidad Autónoma de Chile, y su relación con los resultados de la evaluación docente. Revista de Psicología, 2(4), 33-56. https://hdl.handle.net/20.500.12536/534

Mueller, J., Wood, E., Willoughby, T., Ross, C., & Specht, J. (2008). *Identifying discriminating variables between teachers who fully integrate computers and teachers with limited integration*. Computers and Education, 51, 1523–1537. https://doi.org/10.1016/j.compedu.2008.02.003

Nakano, T., Garret, P., Vásquez, A., & Mija, Á. (2013). *La integración de las TIC en la educación superior: reflexiones y aprendizajes a partir de la experiencia PUCP*. En Blanco y Negro, 4(2), 65-76. https://revistas.pucp.edu.pe/index.php/enblancoynegro/article/view/8936

Olivier, T. A. (1986). *The relationship of selected teacher variables with self-efficacy for utilizing the computer for programming and instruction*. Doctoral dissertation, University of Houston, Houston, TX. Dissertation Abstracts International, 46 (1985), p. 1501

Orr, R., Williams, M. R., & Pennington, K. (2009). *Institutional efforts to support faculty in online teaching*. Innovative Higher Education, 34(4), 257. http://dx.doi.org/10.1007/s10755-009-9111-6

Ottenbreit-Leftwich, A. T. (2007). *Expert technology-using teachers: Visions, strategies, and development*. Unpublished dissertation. Purdue University, West Lafayette.

Partnership for 21st Century Skills. (n.d.). Learning for the 21st century. Retrieved from http://www.p21.org/storage/documents/P21_Report.pdf

Persky, A., & Pollack, G. (2010). *Transforming a large-class lecture course to a smaller-group interactive course*. American Journal of Pharmaceutial Education, 74(9), 1–6. http://dx.doi.org/10.5688/aj7409170

Pike, K. L. (1967). *Language in relation to a unified theory of the structure of human behavior*. The Hague. Netherlands: Mouton.

Prendes, M. P. & Gutiérrez, I. (2013). *Competencias tecnológicas del profesorado en las Universidades españolas*. Revista de Educación, 361, 196-222 https://dialnet.unirioja.es/servlet/articulo?codigo=4328681

Prensky, M. (2001). Digital natives, digital immigrants. On the Horizon, 9(5), https://doi.org/10.1108/10748120110424816

Pryor, J. & Crossouard, B. (2008). *A socio-cultural theorisation of formative assessment*. Oxford

Review of Education, 34:1, 1-20. https://doi.org/10.1080/03054980701476386

Putnam, R. T., & Borko, H. (2000). *What do new views of knowledge and thinking have to say about research on teacher learning?*. Educational Researcher, 29(1), 4–15. http://dx.doi.org/10.3102/0013189X029001004

Ragupathi, K., & Hubball, H. (2015). *Scholarly Approaches to Learning Technology Integration in a Research-Intensive University Context: Impact of a New Faculty Initiative*. Transformative Dialogues: Teaching & Learning Journal, 8(1). https://www.kpu.ca/sites/default/files/Transformative%20Dialogues/TD.8.1.5_Ragupathi&Hubball_Learning_Technology_Integration.pdf

Reigeluth, C.M., Beatty, B.J., & Myers, R.D. (Eds.). (2016). *Instructional-Design Theories and Models, Volume IV: The Learner-Centered Paradigm of Education* (1st ed.). Routledge. https://doi.org/10.4324/9781315795478

Ribeiro, R. (2020, April 14). *How university faculty embraced the remote learning shift*. EdTech Magazine. https://edtechmagazine.com/higher/article/2020/04/how-university-faculty-embraced-remote-learning-shift

Ricardo, C., & Iriarte, F. (2017). *Las TIC en educación superior: Experiencias de innovación*. Universidad del Norte.

Samson, P. (2020). *The coronavirus and class broadcasts*. EDUCAUSE Review, 3. https://er.educause.edu/blogs/2020/3/the-coronavirus-and-class-broadcasts

Schindler, L. A., Burkholder, G. J., Morad, O. A. and Marsh, C. (2017). *Computer-based technology and student engagement: a critical review of the literature*. International Journal of Educational Technology in Higher Education, 14:25, 1-28, DOI: 10.1186/s41239-017-0063-0

Schunk, D. H. (1991). *Self-efficacy and academic motivation*. Educational psychologist, 26(3-4), 207-231. https://doi.org/10.1080/00461520.1991.9653133

Schwartz, H. L., Ahmed, F., Leschitz, J. T., Uzicanin, A., & Uscher-Pines, L. (2020). *Opportunities and challenges in using online learning to maintain continuity of instruction in K–12 schools in emergencies*. Rand Corporation. https://www.rand.org/pubs/working_papers/WRA235-1.html

Skukauskaitė, A. (2017). *The systematic analyses of layered meanings inscribed in interview*

conversations: An interactional ethnographic perspective and its conceptual foundations. Acta Paedagogica Vilnensia, 39(39), 45-60. https://www.journals.vu.lt/acta-paedagogica-vilnensia/article/view/11771

Skukauskaite, A. (2012). *Transparency in transcribing: Making visible theoretical bases impacting knowledge construction from open-ended interview records*. In Forum Qualitative Sozialforschung/Forum: Qualitative Social Research (Vol. 13, No. 1). https://doi.org/10.17169/fqs-13.1.1532

Snelbecker, G.E. (1983). *Learning theory, instructional theory, and psychoeducational design*. New York: McGraw-Hill.

Solano, I. M., Sánchez, M. y Recio, S. (2015). *El vídeo en Educación infantil: Una experiencia colaborativa entre Infantil y Universidad para la alfabetización digital*. RELAdEI. Revista Latinoamericana de Educación Infantil, 4(2), 181-201. https://revistas.usc.gal/index.php/reladei/article/view/4889

Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). *Digital competence and digital literacy in higher education research: Systematic review of concept use*. Cogent Education, 5(1), 1519143. https://doi.org/10.1080/2331186X.2018.1519143

Spradley, J. P. (1979). *The ethnographic interview*. Waveland Press.

Surry, D. W., & Land, S. M. (2000). *Strategies for motivating higher education faculty to use technology*. Innovations in Education and Training International, 37(2), 145-153. https://doi.org/10.1080/13558000050034501

Tobías-Martínez, Miguel-Ángel, & Duarte-Freitas, María-do-Carmo, & Kemczinski, Avanilde (2015). *Un repositorio digital de contenido fílmico como recurso didáctico*. Comunicar, XXII(44),63-7. https://www.redalyc.org/articulo.oa?id=15832806007

Tondeur, J., van Braak, J., & Valcke, M. (2007). *Curricula and the use of ICT in education: Two worlds apart?*. British Journal of Educational Technology, 38, 962-976. http://dx.doi.org/10.1111/j.1467-8535.2006.00680.x

Van Lier, L. (2007). *Action-based teaching, autonomy and identity*. Innovation in Language Learning and Teaching, 1(1), 46-65. https://doi.org/10.2167/illt42.0

Vygotsky, L. S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.

Vygotsky, L. (1986). *Thought and Language*. Transl. and ed. A. Kozulin. Cambridge, MA: The MIT Press.

Watkins, R. (2005). *Distance education's role in university disaster planning*. Distance Learning, 2(6), 31-33. https://www.proquest.com/scholarly-journals/distance-educations-role-university-disaster/docview/230713848/se-2?accountid=193300

Watson, C. E. (2007). *Self-efficacy, the innovation-decision process, and faculty in higher education: Implications for faculty development* (Doctoral dissertation, Virginia Tech). https://vtechworks.lib.vt.edu/bitstream/handle/10919/26751/Watson_Dissertation.pdf?sequence=1&isAllowed=y

World Health Organization (January 30, 2020). *Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV).* Retrieved from https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

Wozney, L., Venkatesh, V., & Abrami, P. C. (2006). *Implementing computer technologies: Teachers' perceptions and practices*. Journal of Technology and Teacher Education, 14, 173–207. https://www.learntechlib.org/primary/p/5437/.

Zellweger, F. (2007). *Faculty adoption of educational technology*. EDUCAUSE quarterly, 30(1), 66-69. https://er.educause.edu/articles/2007/1/faculty-adoption-of-educational-technology

Appendix A: Summary of Final course curriculum

Course week	Activity	Resources	Digital tool/medium used
Introductory content	Watching welcoming video	Welcome message video	Panopto - Screencast video recording
	Syllabus reading	Course syllabus and grading policies	PDF document
	Course group project overview information	Course group project guidelines	PDF document
			Panopto - Screencasting
Week 1 (Asynchronous session)	Responding to assessment survey (for groups creation)	Online survey	Qualtrics
	Setting up blogs/e-portfolios	Blog/Website creator tool of preference	Tools suggested by the instructor: Blogger, Wix, and WordPress
	Watching documentary	Video/documentary "Immersion"	YouTube
	Watching documentary	Documentary "Won't you be my neighbor"	Panopto video streaming

	Academic readings	Readings of "Funds of knowledge"	PDF document
Week 2 (Synchronous session)	Watching class sessions recording (after synchronous class is over—optional)	Synchronous class recording	Panopto - Screencast video recording
	Checking class session slides (during and after synchronous class)	Class session slides	PDF document
	Academic readings	Readings on "How to write field notes"	PDF documents
	Activity: Observing Two Communities of Learning.	Video "Sand observation" (kids working together)	Vimeo video
		Video "Scientists discussing data"	Vimeo video
		Video transcripts (for the two videos)	PDF documents
		Template for notes gathering (to submit)	Microsoft Word document
		Global/collective Venn Diagram (similarities and differences between the two videos/learning communities)	Padlet board
	Blog entry	Guidelines for blog's post	Text content on institutional LMS
Week 3 (Asynchronous session)	Watching documentary/video	Video "Communicating with young minds"	YouTube video (video produced by the instructor)

	Academic readings	Readings on “Critical Pedagogy”	PDF documents
	Watching documentary/video	Video/documentary “ICE raids in Santa Cruz, CA”	Video file shared through Google Drive
	Blog entry	Guidelines for blog’s post	Text content on institutional LMS
Week 4 (Synchronous session)	Watching class sessions recording (after synchronous class is over—optional)	Synchronous class recording	Panopto - Screencast video recording
	Brainstorming about the course content (during the synchronous session)	Digital “white board” for brainstorming	Google’s Jamboard
	Checking class session slides (during and after synchronous class)	Class session slides	PDF document
	Watching documentary/video	Video “Writing for young minds”	YouTube video (video produced by the instructor)
	Academic readings	Reading on “Digital Technology ”	PDF documents
		Reading on “Critical Youth Studies and Participatory Action Research”	
	Blog entry	Guidelines for blog’s post	Text content on institutional LMS
Week 5 (Asynchronous	Drafting group project	Guiding questions for project summary	Text content on institutional LMS

session)	summary		
	Academic reading	Reading on "'Unthinkable' Selves"	PDF document
	Blog entry	Guidelines for blog's post	Text content on institutional LMS
Week 6 (Synchronous session)	Watching class sessions recording (after synchronous class is over—optional)	Synchronous class recording	Panopto - Screencast video recording
	Checking class session slides (during and after synchronous class)	Class session slides	PDF document
	Creating a digital story about "unthinkable selves" (week 5's reading)	Guidelines for digital story	Text content on institutional LMS
	Sharing digital stories	Shared document to compile the different stories's URLs	Google Doc file
	Blog entry	Guidelines for blog's post	Text content on institutional LMS
Week 7 (Asynchronous session)	Working on group project	Guiding questions for project summary, and identifying next steps	Text content on institutional LMS
	Watching documentary/video	Video "Did schools kill creativity"	TED talk platform/Website
	Academic readings	Reading on "The value of creativity"	PDF documents

		Reading on "How to fly a horse"	
	Brainstorming/ Taking notes	Guiding questions to reflect on the video/documentary watched about creativity	Text content on institutional LMS
Week 8 (Synchronous session)	Mindfulness	Exercises to practice mindfulness	Led directly by the teaching assistant during the class session
	Introducing innovating schools around the globe	Multimodal presentations of five innovative schools around the world	YouTube video
			Schools' Websites
	Sharing and discussing innovative ideas	Create a shared document with creative process/solution that has inspired students (using week 7's brainstorming/ notes ideas)	Google doc file
	Sharing and discussing in breakout rooms	Guiding questions and instructions for discussion	Text content on institutional LMS
			Zoom's breakout rooms
Week 9 (Asynchronous session)	Completing group project: Progress Plans	Guidelines for reporting the group project's progress plan	Text content on institutional LMS
		Submitting progress plan	Assignment tool of Institutional LMS
	Preparing Group Presentations	Guidelines for group presentations	Text content on institutional LMS
		Space for Group presentation preparation	Zoom's breakout rooms

	Peer reviewing other group's progress plan	Guidelines for peer reviewing (giving feedback) other group's progress plan	Text content on institutional LMS
	Blog entry	Guidelines for blog's post	Text content on institutional LMS
	Reviewing/summarizing the course	Video "Recap and final words"	Panopto - Screencast video recording
Week 10 (Synchronous session)	Watching class sessions recording (after synchronous class is over—optional)	Synchronous class recording	Panopto - Screencast video recording
	Group project presentations	Time for group projects' presentations	Zoom
	Individual reflections	Digital survey/form	Qualtrics
	Final group project report	Space to submit project report	Assignment tool of Institutional LMS