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RECEIVED 20 February 2024

ACCEPTED 15 October 2024

PUBLISHED 01 November 2024

CITATION

Troost I, van den Bosch LJ, Nederlof N,
Nazar S, Wijers M, Bakker A and Pieters T
(2024) Student assistants as
mentor-participants: a case study of
distributing leadership in academic co-design
education. *Front. Educ.* 9:1389065.
doi: 10.3389/feduc.2024.1389065

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Student assistants as mentor-participants: a case study of distributing leadership in academic co-design education

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Student Assistants (SAs) are generally regarded as support to the instructor's teaching agency in a course. This case study assesses SAs taking on the more autonomous role of *mentor-participants* in student teams during an advanced bachelor's co-design course, advancing our understanding of distributing leadership within such open-ended educational contexts. We use semi-structured interviews and grounded theory analysis to understand how students, teachers and SAs experienced and responded to this shift in SA role. We conceptualize that SAs combined the qualities of both the instructor in creating and holding space for learning based on their personal experiences (i.e., mentoring) and the student in being a pro-active learner and contributor themselves (i.e., participant). Herein they acted as models for students, redistributing the traditional hierarchy of teaching (with a fixed object and subject of teaching) across course participants (i.e., instructors, SAs and students) and into more nuanced roles (i.e., teaching, coaching, mentoring and facilitating). Taking on this role as SA allowed students to take charge while being closely and safely supported. Moreover, this arrangement nurtured a sense of community: students reported experiencing an atmosphere of trust, informality and closeness. Instructors took a more distant role in this constellation, taking responsibility for formal assessment. We conclude that this rearrangement of roles facilitated students' personal leadership and development, authentic undergraduate research and challenge-based learning - and outline course design choices that likely contributed to this.

KEYWORDS

co-design, higher education, student assistants, ACAD framework, design-based research, COVID-19, distance education

1 Introduction

To understand and address challenges in authentic contexts, scholars and professionals alike are required to take leadership in complex and open-ended environments. Universities are increasingly taking responsibility in preparing students to operate well in such environments, and across disciplinary and institutional boundaries (e.g., [Utrecht University, 2020](#); [UU Centre for Entrepreneurship, 2024](#)). More attention is required, however, to discern course characteristics that best encourage and support these capacities.

In this paper, we examine *Living Pasts: Augmenting Urban Landscapes and Cultural Heritage in the Digital Age*, an advanced bachelor's course founded on co-design principles that challenges students to bring local history to life by exploring new forms of historical storytelling through media and technology. The second half of the course focuses on the team-based production of historical storytelling products, which is the focus of this study. We offer further details on the course's context, contents, philosophy and results in the [Supplementary Section 1](#).

In March of 2020, the COVID-19 crisis forced us to change our teaching strategies. Most notably, we had to find appropriate means of remote project support—a stark contrast to supporting teams in the collaboration-optimized physical space of the Teaching and Learning Lab we used prior ([Dolfing and Dijstelbloem, 2022](#); [Overbeek, 2020](#)). It was already during the first online session that we noticed a distinct social dynamic that disfavored interactive plenary sessions. To make our course work online without losing its collaborative character, we amended the course design to offer personalized support in smaller groups by student assistants (SAs). We observed that this change in role from whole-class to team facilitator meaningfully shifted the social position of SAs—and with it, students. While we intuitively experienced this shift as beneficial, we wished to better understand and give words to our collective experiences in *Living Pasts* through the reflexive research we report on here.

We now understand that whereas SAs are generally regarded as support to the instructor's teaching agency in a course, SAs in our course became, principally, autonomous *mentor-participants*. SAs combined the qualities of both the *instructor* in creating and holding space for learning based on their personal experiences (i.e., mentoring) and the *student* in being a pro-active learner and contributor themselves (i.e., participant). Herein they acted as models for students, redistributing the traditional hierarchy of teaching (with a fixed object and subject of teaching) across course participants (i.e., instructors, SAs and students) and into more nuanced roles (i.e., teaching, coaching, mentoring and facilitating) adaptive to what and whom the situation required.

The present study delves into the conditions that enabled this shift, how it was experienced and evaluated by participants, and the degree to which these new strategies would be viable for future use. We, a research team consisting of both people who participated in the course and those who can offer an outside perspective, pose that valuable insights on co-design education can be drawn from *Living Pasts* as a case study.

1.1 Theoretical framework

To theoretically ground our analysis of *Living Pasts*, we take the Activity-Centered Analysis and Design (ACAD) framework as a starting point (see [Goodyear and Carvalho, 2014](#); [Carvalho and Yeoman, 2018](#); [Martinez-Maldonado et al., 2017](#); [Muñoz-Cristóbal et al., 2018](#)). ACAD proposes three dimensions to design with and study through: epistemic, set, and social design. *Epistemic design* relates to how knowledge and skills are embedded in the environment through learning tasks. *Set design* encompasses the design of space, whether material, virtual or hybrid. The key term

for set design is legibility, meaning that the space ought to be easy to navigate and allow students to concentrate on the tasks at hand. *Social design*, then, pertains to organization: do students work in groups, do they have particular roles, and what is the role of each actor in the environment?

To frame the focus of this study, the social positionality of the SA, we were also informed by boundary crossing theory ([Akkerman and Bakker, 2011](#)). SAs have the potential to act as “brokers” between the modalities of being a student and an instructor, an ambiguous position of “being simultaneously both/and, neither/nor” ([Akkerman and Bruining, 2016](#)). While this position can be challenging, it also enables SAs to better understand, facilitate and bridge the goals and ambitions of students and instructors in their environment.

1.2 Current study

To study how students, teachers and SAs understood and experienced the shifting social dynamics caused by the role change of SAs from whole-class facilitators to closely engaged mentor-participants in student teams, we deployed and analyzed semi-structured interviews with course participants. Given the importance of the COVID-19 lockdown in instigating and moderating this shift, we also pay particular attention to the move from offline to online communication.

2 Materials and methods

2.1 Participants

After the end of the *Living Pasts* (2020-I) course, all members were asked to partake in our study and three SAs, two instructors, and nine (of 11) students agreed. Students were compensated with a €20 voucher. Henceforth, we refer to participants using S for Students, SA for Student Assistants, and I for instructors, appended with a number to distinguish individuals. Given the importance of in-group processes, we also add a letter (a–c) to designate design team membership (e.g., SA1a).

2.2 Researchers

The study originated from within the course, as we were set on evaluating the realized co-design environment and drawing conclusions for future iterations and other course contexts. To ensure a balanced perspective, we decided to involve both insiders, who were able to draw on lived experience, and outsiders, who were able to collect and analyze data with a higher degree of impartiality.

More specifically, Ivar Troost was SA during 2020-I iteration and Toine Pieters was course instructor. The others played no part in the organization of the course. For the sake of clarity, we will use the terms “insider” and “outsider” to refer to their positionality and refer to ourselves on a first-name basis for increased readability. Data were gathered and primarily analyzed by outsiders; the discussion was written by insiders.

TABLE 1 Interview goals per participating group.

Interview goal: how participants experienced and reflect on...	Participating groups(s)
... the co-design approach of the course and the learning environment in general	Students, SAs, Instructors
... the role of the student assistant, before and after the switch to online education	Students, Instructors
... their role in the course before and after the lockdown—in particular in project support	SAs, Instructors
... the lockdown altering the course, including shifting to a fully online learning environment	Students
... student–instructor and student–SA interaction	Students
... interaction with the student groups, within an fully online educational environment	SAs

2.3 Semi-structured interviews

The interview questions, drawn from the theoretical framework outlined in the Section 1, concern the following themes: set design, epistemic design, social design, the boundary crosser, the potential boundary barrier, boundary objects, and lessons for the future.

Insiders developed the theoretical framework during the conception of this study. Lio subsequently produced separate interview protocols for the student, instructor, and SA group and each group's protocol was peer-reviewed by outsiders. Additionally, the student protocol was member-checked by an insider to warrant its comprehensiveness. Table 1 depicts the interview goals that served as the guiding principle of the protocols.

Each interview was mediated through Microsoft Teams and lasted 12–28 min ($M = 19$; $SD = 4.4$). Niels acted as transcriber, basing his approach on Müller and Damico (2002). In order to remain cognizant of selective interpretation, he read the course manual, partook in research meetings to learn more about the course, and was thoroughly informed on the aims and structure of the project in relation to the function of the transcripts within those aims. To further secure the quality of transcripts, Niels re-watched the videos at lower playback speed during multiple occasions (Heritage, 1984; Goodwin and Heritage, 1990). One interview and its transcript were in English, others in Dutch.

2.4 Analysis

We used the coding system as described by Erlingsson and Brysiewicz (2017) and approached it with the grounded theory method (Charmaz, 2006; Denscombe, 2014). Lio read the transcripts and highlighted meaningful parts (meaning units) (Erlingsson and Brysiewicz, 2017) in the order of (1) students, (2) instructors, (3) SAs.

The collection of these meaning units was exported to Excel to condense the data in terms of their content (i.e., open coded). Once open coding was complete, Lio examined the relation between the codes to formulate axial codes.

TABLE 2 Overview of selective and axial codes.

Selective codes	Nested axial codes	
Contact	<ul style="list-style-type: none"> • Student and instructor contact • Student and student contact • Student and SA contact 	<ul style="list-style-type: none"> • SA and instructor contact • Relevant lockdown influence
Course	<ul style="list-style-type: none"> • Co-design • Course set-up • Tasks 	<ul style="list-style-type: none"> • Tip • Relevant lockdown influence
Learning environment	<ul style="list-style-type: none"> • Online learning environment • Microsoft Teams 	<ul style="list-style-type: none"> • Offline learning environment • Relevant lockdown influence
Instructor	<ul style="list-style-type: none"> • Position instructors • Role instructors 	<ul style="list-style-type: none"> • Tasks instructors • Relevant lockdown influence
SA	<ul style="list-style-type: none"> • 1-on-1 SAship • Aspects SAs • Motivation • Position SA 	<ul style="list-style-type: none"> • Role SA • Tasks SA • Relevant lockdown influence

Following the axial coding stage, Niels searched for missing meaning units and overlapping or missing open/axial codes by re-examining highlighted parts of the transcripts and coding file. For instance, Niels' efforts led to an additional axial code named Tip. In a follow-up meeting, both coders went over all the findings to assess whether Niels' changes were in line with the coding system and aims of this study.

Lastly, Lio and Niels selectively coded the axial codes to form our core concepts (Denscombe, 2014): (1) contact, (2) course, (3) learning environment, (4) SA and (5) instructor (see Table 2 for nested axial codes per category). The codes were subsequently discussed with and given clearance by Ivar.

3 Results

Subsections are based on the ACAD framework and are therefore divided in three sections: set, epistemic and social design. This order allows painting the overall context before turning to our main focus in the Social Design section: the shifting social dynamics due to the SA role change. Interviewee quotes were translated from Dutch to English where applicable.

3.1 Set design

Seven students identified complications caused by switching to a fully online learning environment. For example, S5b mentioned that the online plenary meetings felt dry and not interactive, citing both the non-interactive nature of these stand-up meetings (only one group was presenting their work at a time) and that presentations by other groups had little impact on their own project. The number of plenary hours was decreased soon after the lockdown hit, partially due to the preset course design shifting

toward project work, but more importantly in response to a student's (S4c's) proposal to move to team-level facilitation by SAs.

During the final product evaluation sessions (which were one-on-one sessions with student teams), SA2b experienced less interaction than in the previous course iteration: Students were passively receiving their grade, rather than engaging in dialogue. SA2b reflected that the option of using body language to invite students to speak was diminished through video calls. SA1a additionally noted that not being able to "lean in" when group discussions are happening makes it tricky to adequately coach students—in an online environment, you are either in the meeting or out.

This change in circumstances was also linked to changes in student motivation. Team C (S1c; S3c; S4c) mentioned they had less motivation, experienced more collaboration issues, and that the lockdown negatively influenced their creativity. S2a experiences were contrary to this: "Corona has helped quite a lot with dedication to the project, so to speak."

On the micro level of set design—the level where we take a closer look at the online learning environment tool Microsoft Teams—two students (S2a and S4c) complained that the tool added yet another channel to keep track of (next to, e.g., e-mail); another layer of complexity. Furthermore, SA2b mentioned that interactions between students themselves get lost in the Teams environment. SA2b recalled: "...what you miss in an online environment is not so much lectures and things like that. That is fine, but what you miss is that ideas can jump [from student to student]. So, the little conversations..."

3.2 Epistemic design

On the macro level, instructors and SAs designed the course to establish a space for students wherein they can provide input on how the course should be set up. For instance, I1 shared that students provided more input in the set-up of the course than in non co-design courses, and I2 indicated that this input by the students and SAs should be taken seriously. Five students indeed reported that they had experienced enough headroom to give input and that their feedback on the course felt honored. Then again, S1c and S4c did muse that students could have taken more initiative in co-designing the course. SA2b praised the flexibility they experienced in adjusting the course, but noted that the course's co-design aspects should be better explicated to students for co-design to be fully utilized in the next iteration. SAs liked that they also got the space to personally develop themselves and take responsibility. For example, SA1a mentioned that the freedom the SAs experienced during the course permitted them to develop different leadership strategies and to exchange strategies with one another to become more effective. In that way, the SAs each reaped the benefit of the different qualities each SA had—for example, SA1a said that SA2b had the quality to write informative and clear emails that could be used as a template for their assigned group. In line with the comments from SAs about this space to develop themselves, I2 mentioned that the SAs should have enough freedom and that they should only be helped by an instructor when necessary.

TABLE 3 High-level overview of course experiences before the lockdown (offline) and after the lockdown (online).

Aspect	Offline	Online
Motivation	Higher	Lower
Co-design	Getting used to it	Both complicated and enhanced
Assistance by SAs	Less intensive necessary	More intensive necessary
Student–student contact	Helpful and enjoyable	Students feel isolated
Contact student–SA	Less intensive	Most students: More intensive
Contact student–instructor	Relatively little	Less
Contact SA–instructor	In continuous contact, but a lot of SA freedom	More freedom and responsibilities for SA

Including students, SAs and instructors.

When the interviewer asked the students how they perceived the co-design features, most students noted that, prior to enrolling in Living Pasts, they had no experience in a co-design driven course—six out of nine never experienced a co-design course before Living Pasts or had no expectations about the co-design aspect. Four out of nine students felt that the co-design aspect of the course was a beneficial feature, even though they had to get used to it. The other students felt neutral regarding the co-design aspect of the course. When the interviewer asked S4c about their expectation with regards to co-design, they said: "I think it is a very nice aspect, but at the same time very hard, because the university has many passive courses." The three SAs also noticed that students were not used to participating in co-design courses. SA2b said it was a culture shock for students; SA1a mentioned that the co-design aspect made the contact with students more informal; SA3c said that the students did not do much with the co-design aspect, even though they could have.

All students mention that intensive assistance by the SAs should remain a part of the course, especially in an online learning environment. They stated that it was convenient that they had one contact person to direct their questions to, that this one person had an overview of their group's work and played a (pro-active) guiding role. All SAs praised intensive project guidance and personalized support while working in an online environment. SA3c noted that the SAs should be the brokers between students and instructors. I2 highlighted that the one-on-one guidance structure next to team-level guidance had the positive side-effect of offering SAs a deeper understanding of students' learning journey. Table 3 shows an overview of experiential aspects of the course before and after the lockdown.

3.3 Social design

On the macro level—looking at the overall course organization—students generally positioned SAs as closer to them, in-between students and instructors. This is in accordance with how SAs perceived their own position: close to students (SA1a

and SA2b) and as assistants for the students instead of for the instructors (SA1a and SA3c). Students also found it useful to hear about the experiences that the assistants had in previous iterations of the course and felt the SAs were involved in their project without being controlling; and that each SA offered complementary expertise. Lastly, two students found their work ethic positively influenced by their assigned SA (S7b and S9c).

On the meso level—the community formation throughout the course—four students mentioned that the smaller group size and focus in subject matter had a beneficial impact on their motivation. S6b stated that “because this was quite a specific, somewhat smaller course, you really noticed that everyone really wanted to work.” Likewise, S3c mentioned that everyone was enthusiastic at the start of the course, which contributed to an increase of their motivation.

Six (out of nine) students, both instructors and all SAs, mentioned the ramifications of lockdown measures on interpersonal interaction. According to the students, the lockdown not just negatively influenced cooperation among students, but also their enjoyment of the course, which resulted in less interaction. Statements about the intensity of contact with the SAs during the course varied. Three students (S2a, S5b, and S8a) mentioned that their contact with SAs increased after the lockdown—S2a even went as far as calling students and SAs as “separated” before the lockdown. In contrast, S6b mentioned that their contact with their assigned SA *decreased* throughout the course, even after the lockdown, because of scheduling complexities with their group and the SA. SA2b and SA3c indicated that the lockdown elicited less of their involvement in student teams other than their own.

The SAs described that they attempted to create an atmosphere of equality with students and to be as accessible as possible, and generally perceived themselves as succeeding at this. SAs experienced students as honest (SA3c) and described their interactions as “close” (SA2b) or “informal” (SA1a). I2 reported that the SAs and instructors had regular interchange which inspired them.

Team-level project support became a staple of the course after the lockdown. All the instructors, five students and two SAs viewed this move away from class-wide facilitation as a response to the shift from an offline to an online classroom setting. Most students posited that facilitation worked well in an online setting, and that it was of added value to have one go-to person (the SA) to ask questions to whoever has some oversight on the group’s process. S7b experienced increased motivation because of the personalized way in which their assigned SA provided guidance. The SAs also describe that by being assigned to one particular group, they felt part of that group.

On the micro level—where we look at the separate roles and division of tasks among everyone—all SAs stated that their role in this course is incomparable to a “classical” student assistantship. Their tasks encompassed a broader range, they had more authority as well as more responsibility. S9c remarks: “This relationship with [SAs] I’ve never had in any other course and it really did help me be motivated about the whole process because (...) it’s not somebody that’s going to grade you; they are in it with you.” Beyond the confines of lectures, instructors played a much less active role according to SA2b. As S5b also observed, SAs acted as the driving engines behind the facilitation of the co-design process. Interestingly, participants did ascribe different roles to the SAs.

We analyzed the nouns used by speakers to describe the SAs’ role, and found that the most common were Supervisor (6) and Instructor (6), followed by Guiding Role (4), Coach (3) and Adviser (3). [Figure 1](#) contains all responses, reflecting the diversity of roles that SAs adapted in one-on-one project support—from directive to supportive.

4 Discussion

The Living Past 2020-I course aimed to prepare students in addressing challenges in open-ended authentic contexts by inviting distributed leadership through co-design. SAs had an important role in modeling such leadership, amplified by COVID-19 measures. By changing SAs’ role from whole-class to team facilitators, the gap between student and SA was significantly decreased. Effectively, SAs became part of the design teams, making them privy to developments as they unfolded. Taking on this larger responsibility as SA allowed students to take charge while being closely and safely supported, redistributing agency over the course and design spaces. Moreover, this arrangement nurtured a sense of community: trust, informality and closeness were recurring themes. Instructors took a more distant role in this constellation, taking responsibility for formal assessment.

SAs adapted various roles as situations required them (i.e., teaching, coaching, mentoring and facilitating), explaining the wide range of nouns used by participants to describe SAs’ function. We find that a salient characteristic of this social contract was that SAs would only have an advisory role in the grading process of their own team. Advising allowed the SAs to act as advocates for their group, without reservation.

We reflect that clear and comprehensive rubrics have played a central role in ensuring that assessment supported rather than hindered co-design processes. Initial rubrics were proposed by the course instructors and then discussed with students with the aim of aligning course goals ([Supplementary Section 2](#)) and personal goals. During the reported iteration, students requested an additional item to be added to the design prototype rubric, Production Value, to receive feedback on their English language use and to reflect effort put into polishing audiovisuals. Our incremental grading policy requires students to self-grade using the rubric before we do and allows them to resubmit using our feedback (see [Köppe et al., 2020](#)), making assessment an iterative, dialogical tool rather than solely a performance measure. See the [Supplementary Section 3](#) for the final rubric used.

The extent to which the SA role itself functioned as a position of learning should not be underestimated. Arguably, this is also true for instructors, who were incentivized to work with students on research subjects that were close to their hearts. Indeed, multiple lines of inquiry have sprung up from the course, including collaborations with third parties that would otherwise never have happened. We therefore argue that, on the whole, this configuration of a relatively small group of students, supported by SAs and supervised by instructors makes for an attractive alternative to regular lecture-based education in universities. Its attractiveness stems not only from how it allows students to reach traditional learning objectives, but the Living Past set-up quite uniquely facilitates authentic (under)graduate research, personal

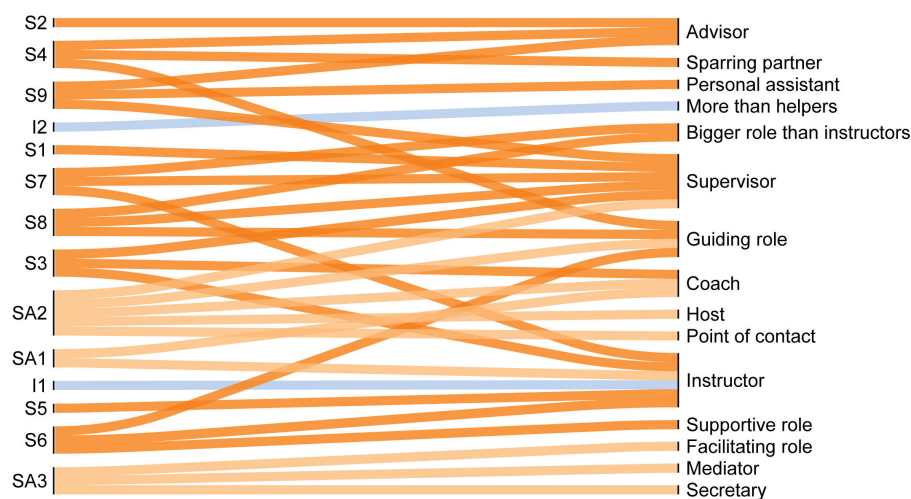


FIGURE 1
Sankey diagram of ascribed SA roles, color-coded by participant group.

development, and challenge-based learning, thereby generating additional value for all stakeholders involved.

We draw several conclusions in regards to the social, epistemic and set design of the Living Pasts course. We see potential in innovative social design by further exploring the SA as mentor-participant in supporting student projects, most notably as a way to coach students more meaningfully in their design-based learning process; and opening the way for *all* co-design participants to take on this flexible mentor-participant role. This approach enables safeguarding learning processes and design feasibility while honoring students' agency. We should add that while in this context we focus on SAs as mentor-participants, we see potential in instructors taking on a similar role within the instructor team by skilfully balancing their role as co-facilitator while also being present as co-learner. Regarding epistemic design, we found that our co-design approach created an environment in which it was a student who initially proposed changing the set-up of the course, and where it was relatively easy to make the switch to other ways of working. Finally, we conclude that physical presence remains an irreplaceable feature of the Living Pasts set design. Especially in the context of co-design, being able to read social cues in all their richness aids in negotiating work processes in pivotal moments such as grading discussions. Moreover, the casual conversations in-between work sessions are hard to replicate authentically in an online environment.

Reflecting on our methods, we found that—while generating good data—our semi-structured interview approach had some limitations in generalizing the opinions of students. Often when we reported statements by individuals (e.g. “three students said”) we did so not because other students indicated another opinion, but rather because this topic was not brought up by others. The advantage of this open approach is that opinions stated by students were conceived by them without strong elicitation. However, we expect that a mixture of interviews and panel discussions will allow us to make stronger claims about co-design related studies in the future.

We experience that co-design continually invites us to incrementally improve our course design, together with students and stakeholders. When COVID-19 brought about a deluge of changes, we were determined to find opportunities for learning within a new set of potentialities and limitations. The shifting role of the student assistant as presented in this paper is one example of this, showcasing the value in rethinking the social contracts we employ in our teaching—unlocking pathways to better balance student autonomy and guidance to advance learning. We see great potential in using co-design as a tool in education, especially with regards to how we can cater to students' intrinsic motivations and—moving beyond the classroom—connect with what is happening in the local community. Engaging with authentic contexts requires a flexibility that co-design affords, warranting more experimentation if we are to support students in learning to navigate them.

As of 2023, there have been eight iterations of the Living Pasts course (this study reporting on the second). Next to the continued practice of mentor-participation, we have used the insights explored in this study to further inform the social design of the course, amongst which the continued inclusion of former students as student-assistants, emphasis on SA leadership, and the conscious redistribution of (learning) agency in the co-design space toward students (i.e., by having students voluntarily organize workshops to share their disciplinary expertise and supporting spin-off ventures post-course). While SAs still have a team they are paired with, we found that in synchronous, offline environments SAs also naturally act as temporary mentor-participants in other teams based on their individual expertise. We have also grown to explicitly include—in addition to past and present—future, relabeling the course *Living Pasts Exploring Futures*. It is with that moniker that we aim to further execute a vision of academic education that goes beyond one-way teaching and toward spaces where learning agency is effectively distributed among *mentor-participants*.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical approval was not required for the study involving humans in accordance with the local legislation and institutional requirements. Written informed consent to participate in this study was not required from the participants or the participants' legal guardians/next of kin in accordance with the national legislation and the institutional requirements. Written informed consent was not obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article because Oral consent was provided prior to interviews.

Author contributions

IT: Conceptualization, Formal analysis, Methodology, Project administration, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. LB: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. NN: Data curation, Formal analysis, Writing – original draft, Writing – review & editing. SN: Writing – review & editing. MW: Conceptualization, Supervision, Writing – review & editing. AB: Conceptualization, Supervision, Writing – review & editing. TP: Conceptualization, Funding

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acquisition, Resources, Supervision, Writing – review & editing, Project administration.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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