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Lisabeth Carson

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Extending the dialogic space: developing interprofessional expertise through a student-created podcast

Lisabeth Carson ⬤

Department of Educational Science, University of South-Eastern Norway, Drammen, Norway

ABSTRACT

Teachers must relate to practitioners from a range of professions, which represent different, sometimes conflicting, perspectives on teaching and learning. Thus, student teachers must develop the expertise to understand, challenge and make constructive use of the perspectives of other professionals. From a socio-cultural perspective, this study investigates how a student-created podcast emerges as an arena and genre for interprofessional work in teacher education. Interaction analysis was used to examine student teachers' engagement with perspectives provided by professionals from the ed-tech sector. The results demonstrate how the student-created podcast affords dialogic spaces for developing interprofessional expertise in teacher education.

1. Introduction

Today, teachers need to relate to practitioners from a range of professions in their everyday work. Challenges connected to students' well-being, interdisciplinary work and digitalisation are only some of the instances that require teachers to consult external experts such as health personnel, subject experts, or programmers. Where previous collaboration was often limited to brief encounters with the janitor and the school nurse, we now see a demand for more extensive interprofessional collaboration. However, the form and nature of interprofessional collaboration varies over time and from context to context, influencing teachers' practices in diverse ways. Making sense and making use of others' perspectives to shape teaching practices entails establishing relationships and collaborating with other professionals (Edwards, 2010; Engeström, 2008). Currently, this particularly pertains to the ed-tech sector, with its often-aggressive marketing of pedagogical "solutions" in digital formats. Here, one main challenge is to know whom to listen to and how to make use of different perspectives and insights to act professionally.

The digital tools and resources integrated into learning contexts today are artefacts bearing inscriptions and affordances that influence teacher practices and student learning (Säljö, 2010, 2019). Aagaard and Lund (2019) demonstrate how the digitalisation of learning contexts has brought about epistemological consequences for the teaching profession and student learning: "Technologies are not merely add-ons but integrated agents that monitor our existence and influence our decisions" (p. 12). The ed-tech industry has gained an influential position within the field of education. Consequently, teachers must develop an understanding of the frameworks and

perspectives on teaching and learning that guide ed-tech professionals' development of digital tools, in order to make critical and productive use of digital resources in educational contexts. For instance, an app might claim to increase student learning in general, but, in fact, provides students with repetitive practice in a limited field or subject. Insight into teaching and learning perspectives guiding ed-tech professionals in developing such apps could provide teachers with valuable insights into how to make constructive use of it in their classrooms. This illustrates how being a professional teacher requires more than understanding the perspectives of others; it requires the skills to navigate related or conflicting perspectives and to know when and how to utilise disparate types of insight. Therefore, student teachers need opportunities to enter into dialogue with different perspectives and discuss their own and others as they develop professional expertise and practices.

This study investigates a student-initiated and -created podcast series in which a group of students engages with the perspectives of other professionals related to becoming a teacher in highly digitalised learning contexts. Although the series evolved and changed over time, two of its persistent commitments were to reflect on their professional development while attending this teacher education programme and issues related to digitalisation. Inviting guests to share and discuss different perspectives is one of the main features of the podcast series. As such, the podcast emerged as an arena and a genre in which the students engaged with diverse perspectives and voices in their process of becoming teachers. Against this backdrop, the study aims to answer the following research questions:

How does the student-created podcast emerge as an arena and genre for interprofessional work?

What opportunities for professional development can student-created podcasts afford?

To answer these research questions, interaction analysis (Jordan & Henderson, 1995) is applied as an analytical lens to the students' discussions as they engage with the perspectives of professionals outside the teaching profession. The segments selected for analysis in this study were discussions the students engaged in after listening to interviews they had conducted previously with professionals from the ed-tech sector. How the students made use of input from these professionals will be analysed in Section 2. However, this analysis will first be framed by brief overviews of podcasts in higher education and the fields of interprofessional work and interprofessional development.

1.1. The student-created podcast as an arena and genre

Bottomley (2015) refers to podcast as a term "[c]oined by Guardian journalist Ben Hammersley in 2004 to describe the burgeoning 'audible revolution' of independent online radio; 'podcast' is an amalgam of 'iPod' and 'broadcast'" (p.166). The "casting", or sharing, aspect illustrates how podcasts are perceived as arenas or spaces for interaction with temporal and spatial affordances that amount to extensions of co-located and bounded spaces (Carson et al., 2021; Chan & Lee, 2005).

This study focuses on the communicative actions performed in a student-created podcast, how these actions emerge in the presence of a wider audience unrestricted by time and place, and their opportunities for professional development. Such affordances will, over time, solidify or coagulate into conventions that amount to a genre. In this study, genre is regarded as rhetorical in nature and defined as "typified rhetorical actions based in recurrent situations" (Miller, 1984, p. 159), and "[a]t their most basic level, *genres are formed to carry out actions and purposes*" (Tardy & Swales, 2014, p. 166, emphasis in original). Understanding genre as social action means, as Tardy and Swales (2014) state by referring to Miller's (1984) influential work, to "consider not just the form of a genre but the relationship between form, context, rhetorical action, and function or purpose" (p. 166). As such, genres are social practices emerging in the interplay between object-oriented human action, artefacts and contextual aspects.

Previous research has demonstrated that podcasts are increasingly used in higher education (HE), and several studies have reported great potential for heightened learning outcomes

(Hasan, 2013; Heilesen, 2010; O'Connor et al., 2020). Concerning the content and form of podcasts in HE, studies find that they are usually used as replacements or as a supplement to lectures on campus and that student-created podcasts are less frequent (McGarr, 2009). Thus, studies on student-created podcasts are rare, and to the best of my knowledge, studies on podcasts as a genre affording student interaction with various voices or perspectives are even rarer. However, the following two studies provide valuable insights for this study.

Drew (2017a), drawing on Swales and Swales (1990), identified three genres of educational podcasts "for their capacity to both engage learners and work as cognitive tools to encourage deep learning" (p. 209), providing valuable insight for teachers wanting to produce or find good podcasts for their students. The first genre is "the quick burst" – the delivery of one key piece of information. The second is "the narrative" – a story about a topic. The third, in which the podcast in this study can be categorised, is "the chat show" – institutionalised conversation between two or more participants to explore various ideas and concepts (p. 207) that have "topical relevance to a small but committed global listenership" (p. 208). Drew also stated that research on podcasts in education mostly concerns the value of teacher-created podcasts and that these are mainly based on transmissions of knowledge, although some also demonstrate more dialogic approaches (Drew, 2017b). Student-created podcasts are less studied, and research on them "might reveal some new insights into podcast design for education. Similarly, these genres might be of some benefit for assisting students in producing their own podcasts" (Drew, 2017a, p. 209).

Nie et al. (2008) reported on research in which students were free to choose the form and content when asked to produce a podcast for fellow students. As such, it resembled a student-initiated podcast in which students develop and shape a podcast to their choosing. Nie et al. (2008) found that podcasts could offer opportunities to develop an understanding of an issue "through broadening knowledge, relating knowledge and perspective-taking" (p. 10). Furthermore, student-created podcasts offer opportunities for sharing viewpoints and taking on diverse perspectives (Nie et al., 2008), making student-created podcasts suitable for integrating distinct perspectives into the learning context.

In this section, the student-created podcast has been established as an arena for students to interact with various perspectives. Three vital genre affordances have been identified: (i) the "casting" or sharing beyond time and space of (ii) institutionalised conversations with (iii) others with a particular interest in the subject at hand. In summary, the "performance" aspect of podcasts and the presence of a listener in conversations illuminates the dialogic nature of this genre. By investigating students' interactions concerning these affordances, this study aims to explore student-created podcasts as an arena and genre for interprofessional work. Furthermore, the study also aims to explore what opportunities for professional development such student-created (and initiated) podcasts can provide. However, to do so, an understanding of professional development must be provided. Therefore, professional development, herein limited to the development of inter-professional expertise, is outlined before moving to the method for analysing the students' interactions.

1.2. Interprofessional work and interprofessional expertise

Research in interprofessional education (IPE) investigates ways to prepare students for interprofessional work during their initial education programmes. Although a majority of studies within this field originate from the context of the healthcare profession, the principles of interprofessional work are also relevant to the teaching profession. Previous research shows that IPE should be well incorporated into and by the institution and the educational programme (Dobbs-Oates & Wachter Morris, 2016; Lawlis et al., 2014). Reports by Wilhelmsson et al. (2009) from 20 years of experience with IPE in Sweden show that IPE requires "[a] positive attitude to IPE within the faculty from dean to professors, lecturers and teachers, [and is] one of the main prerequisites for a favourable reception of the IP project amongst students" (p. 131). In one of their seven concluding remarks, the authors state, "Small group learning (…) contributes considerably to the understanding of the other (…). Interprofessional skills cannot be taught by others but be learnt in interaction with others" (p. 132).

Referring to or making use of something said by someone else can be done in many ways to perform a wide variety of actions. One such action is positioning, as demonstrated by Wortham (2001). He argued that our voices are formed in dialogue with others' voices as interconnections between subject matter and positioning are made, and this positioning may be unconscious (Wortham, 2001). In short, referring to Bakhtin's (2010) notion of authorial positioning and ventriloquation, Wortham connects the adoption of the voices of others with positioning.

The connection between making use of other voices for positioning resonates with Edwards' relational turn in professional expertise (Edwards, 2010). Relational agency entails "a capacity to align one's thoughts and actions with those of others in order to interpret problems of practice and to respond to those interpretations" (Edwards, 2005, pp. 169–170). In Edwards' work, relational agency, along with relational expertise and common knowledge, form "gardening tools" for interprofessional work: "aspects of the expertise exercised by practitioners who accomplished effective interprofessional work that strengthened children and families" (Edwards, 2017, p. 7). Relational expertise refers to the capacity to work relationally with others: "knowing how to know who can help" and "the joint interpretation of the problem as well as the joint response" (Edwards, 2017, p. 8). Common knowledge "is made up of what matters in each profession, the motives that shape and take forward professional practice" and "can then become a resource that can mediate responsive collaborations on complex problems" (Edwards, 2017, p. 9). Relational agency is a kind of "joint agency" (Edwards, 2017, p. 11) and is powerful when working together across fields and professions on common and complex problems. Such collaboration is possible when practitioners "calibrate their specialist responses in ways that work with rather than against each other" (Edwards, 2017, p. 11).

In this study, professional expertise is regarded as the expert knowledge, insight and understanding underpinning teaching and learning practices pertaining to the teaching profession. Professional development entails fostering the expertise to act professionally. Therefore, statements on one's position towards others, educational issues, challenges, practices, artefacts and related matters are understood as manifestations of professional expertise. The term *inter*professional expertise was applied in this study to incorporate the interdisciplinary aspect of students' professional development. In short, interprofessional expertise entails knowing with whom to engage in a given context to attain the relevant expertise and how to use this constructively to act professionally.

In summary, previous research has demonstrated the potential of podcasts for professional development in education – partly as arenas for interprofessional work, partly as a genre that affords interactions with different voices and perspectives. As shown in the above review, there is little knowledge of student-initiated and/or student-created podcasts. Thus, this study provides new insights into podcasts as an arena and genre for developing interprofessional expertise through student agency as they construct their podcasts, as opposed to students merely listening to a podcast. This is the epistemological point of departure for the analytical framework that follows.

2. Materials and methods

The following provides a contextual description based on fieldwork consisting of 25 days of participatory observation in the current TE programme. This section also describes the process and reasoning for data selection (excerpts) and analytical procedures before presenting the delimitations and limitations of the study.

2.1. The teacher education programme

The reason for investigating this particular TE programme was partly that the institution encouraged students to exercise agency and its focus on digitalisation in teacher education and partly the student teachers' responses, herein initiating and sustaining a podcast series focusing on issues they found highly relevant for the teacher profession.

The fieldwork revealed several aspects of the programme that seemed important for understanding the teaching practices in which the students cultivated their responses. Thus, the institutional context seemed particularly fertile for the student-initiated podcast series. As the context is critical when conducting interactional analysis (Jordan & Henderson, 1995), three important features of the teacher education (TE) programme, itself, are outlined before turning to the selected data material and analytical procedures.

First, the formal structure of the TE programme allows teacher educators to follow a class of 20–30 students over a two-year period and to build and maintain close relationships with and between students over time.

Second, the principles underpinning the teaching practices in this TE programme emphasise student active learning. The learning environment is highly dialogic (Carson et al., 2021), and students are positioned as co-creators, encouraged to "think outside the box" and independently find constructive ways to engage with a variety of different technologies. For instance, if providing good reasons, students are allowed to "hack it", as they themselves describe it, by improvising and choosing a different angle than envisaged for the assignment by the teacher educator.

Finally, as digital tools are considered artefacts, their affordances and cultural and historical features are important components when students approach digitalised learning environments in this exploratory mode.

2.2. The podcast

The podcast series was initiated and created by two student teachers and was not a formal requirement in the TE curriculum. It consisted of more than 100 episodes spanning a two-and-a-half-year period.

To ensure that multiple perspectives were represented in the podcast, the student hosts emphasised that including a variety of voices was a priority. Therefore, in most episodes, guests were invited, such as fellow students, teachers, educational leaders, experts, consultants and other scholars. The teacher educators reported that they supported the students in developing and maintaining the podcast, and although sometimes appearing as guests, they emphasised that the podcast was the students' space. The teacher educators also reported listening to almost every episode and sharing it with other students, colleagues and in other TE programmes.

After listening to a few episodes and talking to educators and student hosts, it became clear that the reflections on events, experiences and educational discourses shared in the podcast could provide unique opportunities for understanding the students' professional development in this TE programme. Such opportunities constitute the selected data material from the podcast.

2.3. The selected data material

The selected material for this study originates from parts of the podcast in which two or more students engage in discussions after listening to a pre-recorded interview with professionals employed in or working with the ed-tech sector. The reason for choosing these discussions is that, here, the students chose to engage with professionals on their own initiative and that these professionals represent an increasingly important sector for all types of education. Thus, the excerpts can be understood as examples of interprofessional work.

The interviews were conducted and recorded before the actual making of the podcast episode and then replayed in the current episode of the podcast. In general, the students often critiqued their own and current educational practices and assumptions in their podcast series. Although the podcast demonstrated openness to different perspectives, in the selected material for this study, the students seemed to agree with or be inspired by the perspectives that the interview objects (IO) provided. The teacher educators speak of these guests as people who provide the students with valuable insights, and some of the IOs are in demand and invited into the TE programme by the teacher educators.

A selection of these discussions, following listening to interviews with the IOs, are subject to analysis. The selections are prompted by the students' use of the voices of others; cf. Wortham's (2001) notion of ventriloquism. In the selected data, the students discuss and talk about what the IO said, did or knew in ways that would be unnatural if the person was sitting beside them. In interactional terms, these student discussions offer a series of "hot spots" (Jordan & Henderson, 1995). In the current study, hot spots amount to discursive manifestations of students' actions in the podcast. These hot spots materialise as instances of interprofessional expertise.

In all, the podcast hosts conducted 29 interviews that were replayed in 17 episodes of the podcast. Sometimes, one or more interviews were simply replayed in an episode, with very little commentary from the students. At other times, the interview was discussed with an expert guest who joined the students in the studio. As this study's focus is student teachers' interactions, discussions in which other experts or teachers participate are excluded.

The empirical data corpus consists of six discussions: One to five are from two successive episodes recorded early in the series. The sixth is from a much later episode. Of the six IOs interviewed, four are professionals from the ed-tech sector, two are pupils working with a major ed-tech company (these are interviewed together), and one is working in the cross-section between the two professions. The latter is included because he discusses the work they do with children and technology outside the school context. In the following, the analytical procedures for analysing the students' discussions of the interviews with these IOs are presented.

2.4. Analytical procedures

Interaction analysis was developed for analysing social interactions, wherein both the turn-by-turn interactions and the contextual features in which they emerge are subject to analysis (Jordan & Henderson, 1995). In this study, genre is understood as social action (Miller, 1984; Tardy & Swales, 2014), and as such, this method is suited for investigating how the students make use of the podcasts' affordances to engage with other professionals and position themselves as (future) teachers. In other words, interaction analysis provides the tools to reveal students' actions in relation to the performance aspect and the presence of the listener in the podcast.

When analysing the data material, the content of the students' six discussions was first transcribed and summarised. Here, the aim was to gain insights into what the students were stating about being a teacher in a digitalised learning environment, triggered by the perspectives provided by the IOs. This part of the analysis provided a context for the analysis of selected excerpts and laid the groundwork for selecting two excerpts for interaction analysis. Here, assessments and recontextualisation constitute key analytical tools.

Assessments are in this context regarded as public actions performed in interaction and "are built as features of the world (object-side [O-side] assessments) or as judgements of individuals (subject-side [S-side] assessments) and how they can be used in different actions" (Edwards & Potter, 2017, pp. 497–498). Furthermore, descriptions are not assessment free:

> We suggest that there can be no definitive, a priori distinction between descriptions and assessments. These are fuzzy categories for analysts to deploy precisely because they are fuzzy categories for participants to deploy. The task is to see what is being done each time and whether there are robust patterns to it – in other words, how people may be doing it methodically and what such deployments are being used *for*. (Edwards & Potter, 2017, p. 503)

This study adhered to the position taken by Edwards and Potter in the analysis of how students approach the perspectives offered by IOs, and assessments form a lens for analysing how the students use and evaluate other voices in the podcast.

Recontextualisation describes how meaning is altered in some way when a person selects and makes use of something someone says in one context in another context. This means that this study recognises and builds on the premise that an original utterance and its intentions are always changed in some way or, in the words of Linell (2001), a recontextualisation occurs:

> Recontextualisation involves the extrication of some part or aspect from a texts or discourse, or from a genre of text or discourses, and fitting of this part or aspect into another context, i.e., another text or discourses (or discourse genre) and its use and environment. (p. 154)

Moreover, as Linell states, a transfer of something is never fully true, and it is complex, "involving shifts of meaning, new perspectives, accentuation of some semantic aspects and the attenuation or total elimination of others" (p. 157). Hence, when students use the perspectives of professionals from the ed-tech sector, they are making choices as to what they want to bring in and how and to what end they make use of it.

2.5. Delimitations and limitations

The podcast represents a variety of voices and perspectives, and the students both reinforce and challenge current teaching practices. In the selected data material, the perspectives conveyed by the other professionals are often perspectives the students themselves value. As such, these voices are mostly used to adapt or reinforce their existing perspectives and assumptions. Furthermore, the material selected for analysis in this study was limited to one podcast. Nonetheless, the affordances of this student-created podcast can apply to different contexts since they indicate more general aspects of the podcast series as arena and genre.

In this study, professional development is introduced as a broader phenomenon than the concrete curriculum learning outcomes stated by the teacher education programme, and the analytical focus is analysing how the students pick up selected statements or views from their guests and make these relevant to their professional development.

3. Results

There are some recurring issues that the students addressed in the selected data material, especially in the first through fifth discussions (see Appendix A for a summary of all the discussions). These are challenges related to the role of technology in teaching and learning and teachers' knowledge, skills, attitudes and practices in digitalised learning environments. Such challenges were also frequently discussed in other parts of the podcast and were found important to the students during the initial fieldwork. The six cases reflect these issues, as the students make use of the perspectives of the IO to portray the "good" teacher, while addressing what they consider problematic with current teaching practices and/or the perception of teacher and student roles. Examples of this are how teachers should not be experts providing the right answers to the children. Rather, they are more like facilitators letting them find their own way. Furthermore, when it comes to (new) technology, they should not fear it and they do not have to be able to, for example code to make use of it. Rather, anyone is able. For the teacher, the challenge is more about changing one's views on technology for learning and giving pupils the opportunity to be, and engage with them in being, creative with technology, rather than being about acquiring certain skills.

As the issues presented here convey important values, skills and mindsets of the teacher in a digitalised learning environment, the students' discussions are much more nuanced. However, the limited focus makes salient issues more visible, and the two excerpts were selected for in-depth analysis, as they hold the power to demonstrate key aspects relating to teachers' values and teachers' skills and mindsets. Furthermore, these aspects are intertwined in the students' discussions, and they appear in both excerpts. For analytic purposes, the focus is values in the first excerpt and teacher skills and mindsets in the second excerpt.

In the following, the results of the interaction analysis of the two experts are presented, demonstrating the students' actions and podcast affordances. In the first excerpt, the aim is to demonstrate how the students refer to the IO in their assessments as they position themselves as future teachers. Second, the aim is to demonstrate how the students align their perspectives with those of the IO and how this is performed before the podcast audience.

3.1. Company values and student teacher values

The first excerpt exemplifies interprofessional work in the podcast. At the time this IO was interviewed, the student teachers were attending a conference on learning with technology. One major purpose of this conference is to allow various providers of digital technology to showcase and talk about their products and solutions for teachers, school leaders, researchers and others.

The IO, Anna, works for a major commercial company that is a provider of resources and applications widely used in schools (and HE). In her interview, she talked about how their company has developed a framework of principles that underpins their work on digital tools and solutions. She also discusses how she thinks it is important for pupils to develop relevant twenty-first-century – and digital – skills through their schooling.

Later, this interview is replayed while making an episode of the students' podcast, in which the students listen to it and discuss it afterwards. As such, Anna's perspectives on teaching and learning in a digitalised learning environment were assessed by the students in the podcast. Here, the two students (Jane and Tony) talk about Anna. Although she played a major part in developing these company products and thus should promote commercial values, she still emphasises that the most important question for educators to answer is how they can get the best out of our young people. They acknowledge that Anna has created an excellent showcase for promoting company ideas and has found a way to reach out and be heard by the teaching profession. However, they also value the way she takes a more philosophical approach to teaching, emphasising students' learning and development as the main purpose of education.

Zooming in on an excerpt from the students' discussion allows us to examine how these perspectives are negotiated. The first part of the discussion is included in excerpt 1:

Excerpt 1:

```
1    Tony   So, Jane, what do you think about…
2    Jane   Well, above all, I think, that it is really great that these 21. century skills
3           are better known. Not that I agree 100% that this is what it's all about,
4           but, these aspects, she is very much preoccupied with them,
5           and of course she is, because she took part in developing them.
6           But, beyond that, I'm really happy when she - when she takes a stand and
7           says something about
8           how we make people identify .. their pur.. their passion and dreams,
9           it's like she is very much into these,
10          with these (name of company) products,
11          it should of course be said that she is a (name of company) person, so…
12   Tony   She works for (name of company).
15   Jane   She works with them and for them, and they really have a
16          vocabulary for what they do, and that's great.
17          But still, but when she takes a stand and promotes these things like,
18          it is all, damn it, about finding out how we can get the
19          best out of our young people and our students in general, right?
20   Tony   It could have been much more permeated with company thinking
21          than what it is, and that doesn't mean that we aren't still critical,
22          and still will be critical about it.
23          But it's a good thing that there is something philosophical about it, eh, some
24          thoughts behind it, that don't feel infused by company thinking.
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In lines 2–3, Jane answers Tony's question from line 1 by making a statement about spreading the

word about twenty-first-century skills and how that is generally a good thing. However, she does not entirely agree that this is what it is all about. Here, Jane does not make a direct reference to something Anna said or represents, but as she is responding to Tony's question, it is still a reference to what Anna said. In line 5, she makes a direct reference to Anna: "And of course she is". In lines 6–8 (and 9–11), a strong positive subject-side assessment of Anna's action is made – strong in that Anna, although she works for this company, she still stands up and says, "how we make people identify … their pur … their passion and dreams" (line 8). In line 12, Tony reinforces Jane's statements by repeating that she works for them before Jane repeats the positive assessment of Anna's actions in lines 17–19 Again, she focuses on how Anna's actions are not what one would expect from a person working at this company. Here, she repeats the words and "takes a stand" (line 17). Tony then reinforces Jane's statements by saying that it could have been more "permeated with company thinking" (line 20). He adds that this does not mean that they (*we*) are not critical but that there is something in the way Anna talks about it that has a more philosophical feel and thought to it. Hence, Annas perspectives on the teacher role are valued by the students and regarded as being in contrast to the kind of "company thinking" they perceive to be common for such commercial companies.

This excerpt demonstrates the students' professional development as they construct their professional expertise in the podcast. In the students' interactions, tension materialises as they evaluate Anna's interview and her actions. Anna is displayed as someone acting the way she is even though she works for this company – and thus (should) represent contrasting values, values one might expect from someone representing such a commercial enterprise. By making a strong positive assessment of Anna's actions and by emphasising that these actions are opposite to what they as students are critical to, the student teachers make use of Anna's perspectives to position themselves towards her and, thus, as future teachers upholding the same values. In other words, the perspective of another professional is sought out, elaborated, and challenged. Furthermore, in their assessments, they refer to Anna explicitly by using terms such as "she said" and "she works". In doing so, they distinguish between what (they perceive) matters to Anna and what matters to them. Put differently, through a subject-sided assessment of what Anna said in this way, the students both separate Anna's perspectives from their own and both critique and develop common stands on preferred teacher values. In summary, this excerpt demonstrates the students' process of constructing interprofessional expertise: knowing whom to engage with, how and to what end.

3.2. Teacher skills and mindset

The second discussion is another example of interprofessional work in the podcast. Here, the interview with Mick is conducted at the same conference as the one with Anna, but in this episode of the podcast, the two students are joined by a fellow student (Tom) as they discuss Mick's perspectives.

Mick is the co-founder of a think tank that claims to create disruptive technologies that impact the directions of change. In the interview, he talked about his work with technology and how current and future technological development has consequences for the job market. He also talked about its consequences for human interaction and the role of the teacher, sharing his perspectives on the relationship between humans and technology generally and teachers' interactions with and relationship to technology specifically.

After listening to Mick's interview, the three students started their discussion by referring to him as some kind of "technology philosopher", providing them with both insight into and vocabulary for how to conceptualise technology as a resource for humans. They emphasised that being a

teacher in a digital age is not about acquiring the right skills, such as being able to code; rather, it is about having the right mindset. Therefore, Excerpt 2 demonstrates how the students make use of Mick to contrast what can be perceived as "old" and "future" perspectives on the role and skills of a teacher in an increasingly digitalised society.

Excerpt 2:

1	Jane	Yeah, and he also says another thing which I think is rather cool,
2		I think it's almost at the end, but he says this thing about, you
3		asked him, 'but what about the kids, do they know more than us',
4		and, 'do we as teachers lag behind?'
5	Tony	We have had that discussion sometimes.
6	Jane	Yeah, but that's it. But I think, it is really <u>great</u>
7		to get some terminology. Really.
8		Sorry Linda, for this [inside joke],
9		we do in fact have similar brains, and we do have the same <u>potential</u>
10		to keep track of things. We just have to, like, <u>dare</u> to. We should <u>do</u> it.
11		Really, it's a mindset on our part, too, yeah that, that we shouldn't <u>learn</u> to
12		lag behind.
13	Tom	That is what he starts out saying, isn't it? This thing about how it's
14		a mindset. That he can't code, and he can't solder, can't really do
15		these things, but that is not it, not what it's about.
16		It's a way of thinking, it's about getting the technology to work
17		<u>for</u> us and not be afraid of it,
18		Like, with 100% certainty it will make some jobs redundant. But then
19		it's about thinking in new ways, where it, like, can work for us
20		and become an asset, for then, it in the future it's going to be a huge,
21		asset where we don't have to lift heavy stuff and the load will…
22		a huge, our total workload will be lighter
23		and easier… so ??
25	Tony	It could be awesome, to let go of some of the problems we have now.
26	Tom	Yeah, yeah.
27		Exactly.
28	Jane	Yeah exactly, but it, but it... But it <u>requires</u> in fact, also daring to let
29		<u>go</u> of that totally conservative classical way of thinking about,
30		what we should know as human beings and why and…
31	Tom	And then there is this thing that if you can't code, you are not digital.
32		Really, it is… there are loads (of people) who are digital, who
33		may not even think so.
34		Who get <u>scared</u> about this thing here; '<u>ohh</u>, I can't, I wouldn't,
35		not code'.
36	Tony	That is also something, we are struggling with in our class. Just take a look
37		at [unclear] today, we are talking about (a coding club), which we will
38		hear more about in the next interview. Do I dare to sign up for this because I
39		can't code, and it's all connected. We shouldn't, it is not, because we,
40		we are the best at coding or setting up a computer
41		and all these things… It is a good thing if we <u>can</u>,
42		but that's not what it's all about,
43	Tom	Not a requirement.
44	Tony	No.
45	Jane	No
46	Tom	For sure.

In lines 1–4, Jane refers to the questions Tony asked the IO in the interview about how teachers are lagging and how children know more about technology than they do. Tony replies that this is something they have discussed before (line 5), probably in the podcast or in class. Jane then talks about how great it is to obtain terminology for discussing this issue, indicating Mick provided this in his interview (lines 6–7). This is followed by an inside joke, with a reference to someone they all know and listens to their podcast. In other words, someone absent from the current discussion, whom they expect, will listen to it later.

Jane adds that because humans have the same brains, teachers have the same potential to keep track of this technological development, just like children. However, "[w]e just have to, like, dare to" (line 10). Jane then elaborates further, saying it is not a lack of ability that stops one, but the mindset, and "we shouldn"t learn to lag behind" (lines 11–12). Tom also refers to Mick, confirming and building on Jane's statement: "That's what he starts out saying, isn't it? This thing about how it is a mindset" (lines 13–14). Tom then refers to how Mick cannot code or solder (line 14) and says that is not what it is about. Rather, it is about "getting the technology to work for us and not being afraid of it" (lines 16–17). Tom reinforces his own statement with reference to the future job market (lines 18–23). Tony agrees with Tom, saying that it would be "awesome" to "let go of some of the problems we have now" (line 25). This is confirmed by Tom in line 26–27. In line 28, Jane develops the statement further, talking about daring to adopt this mindset by saying that it requires that one relinquish "that totally conservative classical way of thinking about, what we should know as human beings and why" (lines 29–30). Tom then rephrases his previous statement from line 14 on how many people cannot code but still "are digital" and may not even think of themselves in that way (lines 32–33). Tony confirms Tom's statement by referring to similar experiences they have had (line 36): "Do I dare to sign up for this because I can't code?" (lines 38–39). Tony ends this turn by stating that one need not be good at coding or with computers: "It is a good thing if we can, but that's not what it's all about". Here, the three students' express agreement with Tonys statement (lines 43–46).

Similar to Excerpt 1, this discussion demonstrates how the students build on each other's statements as they make use of Mick's perspectives to position themselves. However, the way students reinforce each other's and their own statements by sharing their own experiences is more elaborate. This is evident in how students switch between their own experiences and previous discussions they have had, and points taken from Mick's interview. The students' alignment of their own perspectives on teacher skills and mindset with the perspectives brought in by Mick makes visible their process of constructing interprofessional expertise. Furthermore, the inclusion of the listeners – highlighted by the inside joke – shows how this process is enacted before an audience, underlining the performance aspect of the podcast genre. In other words, this excerpt displays how podcast affordances make the students' process of constructing interprofessional expertise visible and accessible for others, such as fellow students, their teacher educators and other ed-tech professionals.

4. Discussion

This study has demonstrated how a group of student teachers engage with the perspectives of other professionals in their student-created podcasts. In the following, the results of this study are discussed regarding the student-created podcast as an arena and genre for interprofessional work and professional development in TE.

How Does the Student-Created Podcast Emerge as an Arena and Genre for Interprofessional Work?

Overall, this study supports Nie et al. (2008) and finds that student-created podcasts may afford engagement with, and assessment of, different voices and perspectives. Thus, the study adds insights into student-created podcasts as an arena for IPE and as a genre in educational contexts (Drew, 2017a).

Concerning arenas for interprofessional work, this study contrasts the importance of models for IPE being incorporated in and from the institution/teaching programme presented earlier. Rather, the students in this study volitionally sought ed-tech professionals for their podcasts to engage them in conversations relevant to teaching as interprofessional work. The students then shared their interactions with these professionals with the podcast listeners, for example their fellow students and their educators. Accordingly, this study demonstrates how student-created podcasts can pose as arenas for student-led and agentic engagement with other professionals.

In addition, the students' initiative to interact with these professionals resonates with the positive attitude found to be key to enabling IPE (Wilhelmsson et al., 2009). Although the results do not demonstrate this attitude directly, the involvement and nature of the students' engagement with a range of different practitioners indicate that the students value the perspectives of others as part of their professional development. Consequently, while large-scale systematic models for IPE initiated by an educational programme may have their place, small-scale agentic engagement, such as seeking out and interacting with other professionals in a student-created podcast, can also be beneficial. Here, this study has illustrated how the presence of a listener, or the performance aspect of podcasts was vital for how the podcast emerged as an arena and genre for interprofessional work:

First, it seems that the fact that the students are talking to a listener and that both the students and the listeners have heard what the IO said, is prompting students to be explicit in their re-voicing/recasts. Utterances such as "she said", "she works" and "That's what he starts out saying, isn't it?" portray this explicitness. This, in turn, affords a recontextualisation of the voices and perspectives brought in by the IOs, where the students do not merely rephrase the IO or ventriloquise their input as their own voice. Rather, they distinguish between their own voices and the voices of the IO as they develop stances and position themselves. Thus, the affordances of the student-created podcast prompted the students to identify their own perspectives, the perspectives of others and how they relate to each other as they position themselves as (future) teachers.

Second, the podcast made these manifestations of interprofessional expertise available to others. Here, the analysis demonstrated that podcasting affords different ways of recontextualising than what one might find, for instance in an "ordinary" student discussion setting. The fact that the podcast discussions are archived and shared online beyond real-time broadcasting means that the students' stances and positions can be questioned or responded to by their listeners, such as a teacher educator or fellow students.

Through this interplay between the students' actions and the affordances of the podcast, the student-created podcast emerged as a dialogic space for interprofessional work.

What opportunities for professional development can student-created podcasts afford?

In an increasingly digitalised learning context, voices and perspectives from the ed-tech industry can influence student teachers' (future) teaching and learning practices. Hence, it is important that students have opportunities to work across professions and constructively make use of and challenge alternative or complementary voices and perspectives during their initial education.

By investigating genre features through interactional analyses of the students' discussions, this study has demonstrated the role of recontextualisation in interprofessional expertise. The aim of IPE in TE is for students to develop interdisciplinary expertise to act professionally in their future practices. This future enactment of expertise entails some form of recontextualisation of additional and relevant expertise. As stated in the introduction, the nature of interprofessional work will vary across contexts; therefore, student teachers must acquire the skills to know how to make use of diverse expertise to solve complex professional problems. As this study has revealed, student-created podcasts can be fruitful for developing such skills, as they offer opportunities for recontextualising the perspectives of other professionals into a distinct context.

This study has also demonstrated that a student-created podcast does not just provide students with opportunities to develop interprofessional expertise in making the podcast, itself. It also

extends students' learning space beyond podcast production. In other words, the podcast genre afforded a widening, deepening and opening (Wegerif, 2013) of the students' learning processes beyond the podcast setting into the more institutional context of the TE programme. It afforded widening first as the students engaged with the perspectives of others and second as the podcast was made available to the teacher educators and other listeners. Similarly, the podcast genre affordances also deepen and open the students' learning spaces in and beyond the podcast by providing students and educators with opportunities to question and reflect on current assumptions and practices in dialogue.

In short, as a dialogic arena and genre, the podcast affords that the perspectives of others and diverse types of insight can be challenged and/or elaborated. Therefore, this study argues that the dialogical nature of this genre is vital to fostering interprofessional expertise.

5. Conclusion

This study has demonstrated how a group of students uses a student-created podcasts to engage in meaningful interprofessional work. The analysis of students' interactions revealed how the student-created podcast served as a juncture for agentic students, engagement across professions and the re-contextualising of voices in the presence of an audience. Through the application of genre affordances as a lens in the analysis, student-created podcasts emerged as an extended dialogic space and possibly as a distinct genre for developing interprofessional expertise and professional development in TE.

As schooling increasingly takes on transdisciplinary and wicked problems with profound societal implications, teachers' professional expertise should be developed in dialogue, where distinct perspectives on teaching and learning can be understood, explored and challenged. Correspondingly, this study argues that fostering IPE in TE is a priority. In addition, as students' process of constructing interprofessional expertise in this study is closely linked to the affordances of the podcast as a dialogic space (both as genre and arena), TE institutions and programmes would seem to benefit from a principled approach to connect student agency with digital affordances to promote interprofessional expertise as part of more overarching professional development.

Disclosure statement

ORCID

Lisabeth Carson http://orcid.org/0000-0002-7536-4779

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Appendix A

Who is the IO? (Names are changed)	Summary of the interview	Summary of the student teacher discussions in the podcast
Anna works for a major commercial company which provides resources and applications used in educational contexts.	She talks about how their company has worked on developing the platform which underpins their products. She also talks about what she thinks is important for pupils with regard to developing relevant twenty-first-century skills and digital competence through their schooling.	In their discussion the two students find that although Anna has played a part in developing these company products and thus should display commercial company values, they value how she still emphasises the most important question for education: How can we best prepare our young people for the future? They talk about how Anna (along with her company) has found the key to reaching out to school leaders by bringing pupils with her as she presents the company's ideas. (These pupils are the IOs in the next interview.) On the one hand, this is portrayed as a smart move, creating a great showcase for promoting company ideas. On the other hand, the skills the pupils display is also confirmation that their ideas work.
Two upper secondary pupils who are engaged in projects at a major commercial company.	They talk about what they have learnt working on the projects and with the company. They also talk about their experiences as pupils in light of the tension between the competencies they perceive they will need for their future work life and the ones they are asked to display in school today.	The two students make use of the voices of the pupils to state that education practices should focus less on grades and more on learning how to be a human being. This is done by displaying the pupils saying some really interesting things about digital skills and what one should learn in school. Further, the pupils are displayed as proof that working with projects like this leads to the acquisition of highly desirable skills. The students also discuss how assessments in schools should be based on broader problem-solving tasks, rather than the narrow tests they see in schools today, reflecting the tension portrayed by the pupils.
Mick is co-founder of a think-tank which claims to create disruptive technologies to impact directions of change.	He talks about his work with technology in the school context and the broader technological development and its consequences for the job market and for interactions between technology and humans. He also talks about the role of the teacher in this context.	The three students describe Mick as some kind of "technology philosopher" providing them (as student teachers) with both insight and a vocabulary on how to think of technology as a resource for humans and not be afraid of it. Further, the students emphasise that being a teacher in a digital age is not about acquiring the right skills, such as being able to code; rather, it is about having an open mindset towards digital technology.
Alex works in a coding club for kids.	He talks about the club, its network of volunteers, the thinking behind the club, twenty-first-century skills, and giving children an opportunity to be creative with technology.	The three students talk about how the club is an operationalisation of twenty-first-century skills, not a club just for coding and for gamers, as many seem to think. The students state this by valuing Alex's perspectives on how it is a place for all children to be creative with technology on their own terms. Further, they value his perspectives on the role of the adult (the teacher). The important thing is the mindset, not the skills. They discuss an emerging change in the role of the teacher, from being an expert to becoming more of a facilitator.
Bert is a renowned speaker in the field of digital technology and education.	He talks about motivation and inspiration as key in learning. He also talks about different ways to understand what	The three students are big fans of Bert, and they are somewhat familiar with him, as this is not their first time hearing him speak. Again, the students emphasised the teachers' mindset over skills. They also elaborate on the

(Continued)

Continued.

Who is the IO? (Names are changed)	Summary of the interview	Summary of the student teacher discussions in the podcast
	technology should be and how to teach students about technology and the role of the teacher.	roles of the teacher and the pupils, discussing the notion of a teacher who lets the pupils find their own ways to solve a task, rather than expecting them to deliver the same product, predefined by the teacher. This is done partly by referring to Bert, but here the students also refer to the previous interview of the two pupils.
Stuart has previously worked with maker spaces in the university context. Now he runs a maker space showcasing and providing various digital tools to schools.	He talks about his maker space and his thought behind choosing these tools for learning, as well as thoughts and trends around maker spaces in general. He also draws parallels between libraries and maker spaces.	The four students praise Stuart's ideas and his work providing digital tools to schools. They emphasise the values of the maker movement and letting kids try out the technology and use it to make things. Further, they talk about how one can give more people access to these kinds of technologies so that they also can see the opportunities for learning and creation they provide. They also discuss how libraries are places for acquiring knowledge and thus suited to giving children these opportunities – to try out and learn about the use of technologies.