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The role of virtual placements in promoting self-regulated learning: Stakeholder experiences of an online learning community during the Covid-19 pandemic

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ABSTRACT

In response to the Covid-19 pandemic, universities had to shift much of their teaching online. This presented a particular challenge for work placements, which are inherently practical. This qualitative case study presents the outcomes of an evaluation of student, teacher and placement provider experiences of a virtual placement in textile conservation. A model of self-regulated learning used in clinical education was used as a lens through which to make sense of stakeholder experiences, in terms of supporting preparation for the workplace and setting of learning goals, facilitation of appropriate learning strategies, feedback from different stakeholders, and the need to support reflection on learning. Lessons learned include the need for earlier conversations between stakeholders to clarify their roles and support the successful attainment of learning goals, provide critical as well as motivational feedback, facilitate opportunities for peer interactions, use of a limited set of learning technology platforms in consistent ways, and formalise a mid-point check-in with all stakeholders. While higher education in the UK has largely reverted to face-to-face learning, the benefits of virtual placements are highlighted. In the ever-changing landscape of higher education, a framework for supporting virtual placements has been offered.

Keywords: self-regulated learning, virtual placement, pivot to online, Covid-19, textile conservation

Introduction

The importance of professional work placements

Learning on work placement has long been widely recognised as an important and valuable context for students to experience the real world of work, and to foster and develop transferable and professional skills (Wilson, 2012; Yorke, 2011). Traditionally found as part of professional education, such as nursing, veterinary medicine, social work, and teaching, Brooks and Youngson (2016) illustrate the benefits of placements across a range of disciplines to help all students prepare for work.

Work placements provide the opportunity for an authentic learning experience, created through interactions with the placement providers, which can provide the opportunity to foster a professional network. Authentic learning opportunities are important to motivate, engage and create meaningful learning activities and assessment for the students (Tang & Biggs, 2007, p. 37). On placement, students need to be more independent as they are working away from the university and working with another institution. Working outside of university structures provides an opportunity for students to guide and evaluate their own learning (i.e., self-regulate). Self-regulation is a significant aspect of professional work, a core educational skill for lifelong learning (Boud & Falchikov, 2007, p. 114) and important for sustainable learning practices (Boud & Molloy, 2013; Carless, Salter, Yang, & Lam, 2011; D. J. Nicol & Macfarlane-Dick, 2006). Placement learning can help students more confidently transition into their professional roles as well as providing a valuable opportunity to develop independent lifelong learning skills which are vitally important for all learners, especially in practice-based professions.

Theoretical frameworks for work placements

Experiential learning (i.e., learning through experience and reflective practice) is central to work-based placements (Fry, Ketteridge, & Marshall, 2009, p. 15), providing the opportunity for students to integrate and apply theory and practice, to exercise critical judgement and thinking, to deepen their learning through reflection, and to apply this new learning (A. Y. Kolb & Kolb, 2009). Kolb's (1984) experiential learning cycle however is not sufficiently student-centred in that it does not recognise learners' agency in co-designing the learning experience, and therefore does not represent true self-regulation. As Zimmerman (2002, p. 65) notes, "self-

regulation refers to self-generated thoughts, feelings and behaviours that are oriented to attaining goals… these learners monitor their behaviour in terms of their goals and self-reflect on their increasing effectiveness". Zimmerman's model of self-regulation incorporates a forethought phase (task analysis including goal setting, and self-motivation beliefs including self-efficacy), a performance phase (including task strategies, and self-recording and self-experimentation) and a self-regulation phase (including self-evaluation and causal attribution). However, Zimmerman's model lacks attention to external feedback. External feedback is essential from more experienced others in a professional work environment that represents a form of legitimate peripheral participation where some form of situated learning (Lave & Wenger, 1991) is taking place.

A more complete framework for conceptualising self-regulated learning (SRL) is that by White, Gruppen and Fantone (2010) which was developed within the medical education context. This circular framework comprises four iterative stages: planning (goal-setting and self-efficacy, and motivation), learning (epistemology, learning strategies, and principles and methods), assessment (self-monitoring and self-assessment, and external feedback), and adjustment (reflection and attribution). It therefore encompasses students' SRL but in a way that recognises external feedback and adjustment, critically important in a professional context.

The growth of virtual placements

The Covid-19 pandemic had a transformative effect on education, prompting a move to 'emergency remote teaching' (Hodges, Moore, Lockee, Trust, & Bond, 2020). This meant that schools and universities moved towards remote and blended modes of education, and the closure or restriction of access to workplaces. It has been argued in the UK that the pandemic was more of a catalyst for the move towards digital education than over two decades of targeted government funding (Specht, Chatterton, Hartley, & Saunders, 2021). It is this context which informed the current study.

There is very little currently published on the use of virtual placements in a practice-based context or in the field of cultural heritage pre-Covid-19. More broadly, virtual placements, e-internships or simulated placements are relatively new (Bayerlein & Jeske, 2017). A survey on e-internships in 2012 showed that these were developing in the USA. At this time there were relatively few in Europe (Jeske & Axtell, 2014) but they are now increasingly used as an alternative to the 'traditional placements' (Jeske & Axtell, 2016). Some were beginning to be trialed in other contexts such as public health education (O. S. Anderson, McCabe, Chuisano, Wicoff, Grabowski, & Sadovnikova, 2020). There are many different reasons why virtual placements have been introduced, from the pragmatic to the desire to provide an alternative learning experience. Business and IT contexts provide natural environment for such placements (Jeske & Axtell, 2014) and on courses where a digital component reflects likely work expectations (Cornelius, Medyckyj-Scott, Forrest, Williams, & Mackaness, 2008). Prior to the pandemic, some of the reasons suggested why a virtual placement is preferred related to student's competence, or logistical reasons such health and safety considerations (Cornelius et al., 2008) rather than a desire to provide an alternative learning experience. As a result of the pandemic, the introduction of a virtual or simulated placement became a viable and welcome alternative to traditional in-person placements (Hunter, Mullen, Offord, Quinn, & Thompson, 2021; Taylor, Wyres, Green, Hennessy-Priest, Phillips, Daymond, Love, Johnson, & Wright, 2021; Twogood, Hares, Wyatt, & Cuff, 2020).

Aims and research questions

This research evaluates the introduction of a virtual placement from the perspective of the students, placement mentors and teachers. The overall aim of the research was to ascertain key stakeholders' experiences with a view to measuring the benefits and limitations of virtual placements in terms of supporting SRL and identifying improvements to enhance their usefulness in the future.

Individual research questions of the study included:

- How do students successfully self-regulate their learning on a virtual placement?
- What are the roles of mentors and teachers to support students' SRL on a virtual placement?
- How can the online learning community be optimised to support SRL?

Lessons learned have the potential to influence virtual work-related learning on other practice-based programmes. More broadly, this study seeks to inform the development of professional learning and sustained education in an online context and to contribute to better understanding of the role of online learning communities, which is important as we move to more to online and blended teaching.

Methodology

Context

Work-based learning is a core component of the two-year MPhil Textile Conservation programme, University of Glasgow (UofG). Like many conservation programmes, it provides valuable opportunities for students to work in museums or conservation studios (Mathisen & Rushfield, 1999). As captured in the University of Glasgow's (2020) learning and teaching strategy, engaging with external stakeholders is a key value that underpins the vision for learning and teaching.

This research drew on the student/staff/placement mentors' experiences of participation on a virtual placement associated with the MPhil Textile Conservation programme. Placement mentors included professional colleagues from conservation studios in national museums and private practice in the UK, Holland and the USA. The virtual placement took place between April to June 2020.

Methods

The study was underpinned by a socially constructivist epistemology and a subjective ontology, where study participants construct personal meaning through their experiences and interactions with others (Bryman, 2016, pp. 26-30). Thus participants' construction of meaning is complex, multi-dimensional and subjective and it is influenced by their context (Cohen, Manion, & Morrison, 2017, p. 288). The data collection methods and the subsequent analysis provided a means to gain insight into the participants' experiences and consider the wider lessons learned.

Data collection

Data were collected through semi-structured one-to-one interviews with students, placement mentors and teachers at the end of the placement. The semi-structured format provided a personal perspective and also allowed for individual responses to be explored (Bryman, 2016, p. 201). Interview prompts are shown in Table 1.

Table 1 Interview prompts posed to students, teachers and mentors

	Students	**Mentors**	**Teachers**
Motivation		What were your motivations for supporting the virtual placement?	
Benefits	What were the benefits of the virtual placement?		
Challenges	What were the challenges and limitations of the virtual placement?		
Improvements		What could be improved?	
Learning goals	How did the formation of learning goals aid your learning? What strategies helped you meet your goals?	How informed were you about students' learning goals? How did you support their attainment of learning goals?	How did you support students' attainment of learning goals?
Feedback	What motivated you to reflect and evaluate your learning during the placement? What feedback did you receive? What was useful and why?	What feedback did you give to students? How did students respond? Would it be worth having a formalised mid-point feedback session?	What feedback did you give to students? How did students respond?
Critical incident	Was there a critical incident, something which didn't go as expected? How did you resolve it?		
Learning community	What was useful? What were the challenges of the learning community? What would make it more effective?		

Interviews were conducted using Zoom, a core supported UofG tool that complies with GDPR as the participants were at a range of locations and Covid-19 restrictions meant it was not possible to meet in person. The interviews were recorded via Zoom for the purposes of transcription to facilitate analysis. For the purpose of analysis, de-identified data were used. Ethics permission was granted by UofG College of Arts (Application number: 100190135). The sample size was small (seven students, seven placement mentors, and two members of staff), however, this represented 100% of the target population.

Data analysis

Interview transcripts were analysed using an approach based on thematic analysis to gain insights into the participants' perspectives, which we would consider a reflexive approach to thematic analysis (Braun & Clarke, 2019; Braun, Clarke, Hayfield, & Terry, 2019). Through a collaborative reflective approach, the authors separately coded the interview transcripts inductively. We met after coding individual interviews independently, so that we were able to identify recurring responses as we went through the coding process. The researchers discussed and compared codes from the transcripts which showed a very strong correlation (we would approximate 95% overlap). While there was some dissonance in how we grouped the codes into the categories, clear themes were identified through subsequent discussion in which the researchers shared their categories for discussion, collectively producing an online whiteboard with what we felt were the key themes. It was through the process of coding and refining our codes that we became more aware of White et al.'s (2010) SRL cycle. We therefore used this as a framework to deduce overarching themes from the data to answer the research questions. Thus, the coding was an iterative process informed by the data, theory, and our existing knowledge of the research area. The categories within the themes have been highlighted in italics in the results and discussion to make them explicit and to provide a narrative of stakeholders' experiences.

Results and discussion

The wider context

The value of the *authentic workplace* as a setting for the virtual placements was recognised by all stakeholder groups.

> It was really satisfying getting to actually work together with the placement hosts, not just doing another university assignment, but actually doing an assignment that would come into practice as well and we benefit the placement hosts and the placement organisation. (Student #7)

This provided students with the opportunity to contribute to the profession and develop professional networks. The removal of physical geographical boundaries, by working virtually, enabled the students to experience diverse contexts in both the UK and internationally. While the students recognised that it was not the same as an in-person placement, they appreciated the opportunity to undertake a placement during a pandemic and they felt they were gaining a sense of the work environment, developing other transferable skills including research and independent study skills as well as gaining confidence in project development and management. The opportunity to circumvent geographical boundaries and the development of independent study skills and time management were similarly observed in a study by Godley, Smith, Twogood and Miller (2022) in the context of physiotherapy virtual placements.

Nevertheless, the opportunity to develop practical skills was more challenging. There were *limited practical opportunities* experienced by the students which was recognised by other stakeholder groups. The virtual context restricted any practical work to samples, mock-ups, or surrogate objects as it was impossible to develop practical conservation skills on historic artefacts. In addition, the immediacy of personal interactions was also missed as mentors were not able to see first-hand the practical approaches the students were taking e.g., handling materials and seeing in close detail any practical work carried out. Similarly, limited opportunities for practical or procedural skills, and the need to carry out observations virtually, were noted by medical students in a study by Addis, Dean, Setterfield, Nott, Hunter and Webster (2022).

As a result of the pandemic there was limited time to pivot from in-person to virtual placements and at the time there was expectation from some that an in-person element would be possible so this may have influenced expectations of some of those involved. However, there was recognition of the importance of developing a placement project that *was appropriate for a virtual context*.

There were also *logistical challenges due to Covid-19 and remote working*. A number of placements had been agreed only to find that placement mentors from two organisations were furloughed, with some teachers *covering for furloughed mentors*. This led to some teachers taking on the role as both mentor and teacher. This has workload implications for the teachers and the students had less exposure to diverse experts, limiting networking opportunities. However, it also had the effect of precipitating engagement with professionals in other institutions both in the UK and internationally in order to garner different perspectives and comparative work practices to draw on to inform placement projects.

Students expressed a sense of *isolation*, in terms of working and living at home, sometimes in a single space such as a small kitchen. The issue of student isolation during the pandemic has been identified (Knight, Carlisle, O'Connor, Briggs, Fothergill, Al-Oraibi, Yildirim, Morling, Corner, & Ball, 2021), with a recognition that students' homes are not ideal learning spaces (Griffiths, Dickinson, & Fletcher, 2021).

RQ1: How do student successfully self-regulate their learning on a virtual placement?

Motivation

The study revealed motivation to be a key element in catalysing SRL; this included the opportunity to work in an authentic workplace on a 'real world' project with conservators in a museum or in private practice. Students' collaboration with work colleagues as part of developing professional networks was another important aspect.

> I think was also just really exciting to work with conservators, like in a more professional setting. […] I really wanted to make the most of it. (Student #5)

These motivational factors were recognised by students, teachers and mentors alike. The students, similar to other studies (e.g., Crebert, Bates, Bell, Patrick, & Cragnolini, 2004), realised that they were developing other *transferable/employability skills* such as independent research skills, project management, problem solving, and application of learning of practical skills in a new context. The virtual nature of the placements also afforded students *independence and flexibility*.

Learning goals

The *quick transition to working virtually* from the planned in-person placements presented challenges for the students, mentors and teachers. Students had spent time leading up to the in-person placements developing learning goals. As the students began to get underway with their placements, it was clear that many of them would have benefitted from adapting their learning goals further for their new context. Students often had *no clear expectations of the virtual placement*, as it had changed at short notice, and this was a new experience for them (as well as the teachers and mentors). Learners commented that it was especially *hard to formulate goals at the start of the project*, especially for practical projects. It was difficult for them to conceptualise them in this new context. Although students found it difficult at first to set learning goals at the start of the project, they developed different learning strategies to help them progress – meetings with the mentor and teacher helped facilitate the internalisation of course ILOs as their own learning goals, which in turn enabled them to stay motivated and focused. Billett (2010) describes the importance of this negotiation of goals in a work context as promoting learner agency; this is an essential aspect of SRL in this virtual context.

Feedback

Students commented on feedback from various sources. *Mentor and teacher feedback was thought to be not sufficiently critical* and was more motivational than performance focused. *Feedback from teachers was more assessment focused* (e.g., feedback on writing) and this *differed from the mentor's feedback* which was more encouraging in nature. *Peer feedback* was useful in terms of calibration in terms of expected performance, as well as a social pastoral element, and was highly valued by the students.

> The most meaningful was the feedback […] from the other students […] because that's the most personal connection […] I think it's because they were in a similar position […] It] felt like […] getting feedback from a very similar perspective. (Student #2)

The impact of peer feedback on promoting self-regulated learning in the online environment has been evidenced elsewhere (Yang, 2006). Students also valued *regular meetings* as a source of feedback. They perceived that a *mix of large and small group online meetings*, comprising whole-class presentations and discussions with peers in breakout rooms, was important. Students also recognised they had a *responsibility to act on feedback received* as they saw it as part of a dialogue between them and the teacher. However, the online nature of the placement meant that there was a potential *loss of connection to others* (students and mentors), impacting on feedback. This sense of loneliness was due to working individually in a remote online context where the students and mentors were physically apart, evidenced in other online distance learning contexts (Duranton & Mason, 2012; Kaufmann & Vallade, 2020).

A wide range of tools were used to facilitate feedback (including via Zoom for virtual meetings, and Padlet for sharing practical work). The students recognised that different tools had different functions, though they did experience some confusion with having too many online platforms. However, providing mechanisms to enable this communication was central to development of SRL as it enables opportunities for external feedback which are an integral part of the learning cycle (White et al., 2010). In another study, lack of communication on a virtual placement affected the level of feedback and impacted learning more generally (Sepulveda-Escobar & Morrison, 2020).

Reflection

Initially, reflection was an afterthought for students, who were concerned mostly with managing a big project; however, this shifted over time. Students *benefited by reflecting through journaling*.

> I really enjoy the reflective process in terms of actually writing things down because I feel like if I do sort of keep things in my head, I will sort of just think about oh, this didn't work, or this didn't work, or this didn't work and […] the process of writing it and […] really reflecting on it actually sort of brings more balance to that. (Student #7)

They appreciated the *structured prompts in the Mahara e-portfolio* which helped to direct learning. As a result of this teacher-scaffolded reflection, students *developed confidence in reflecting as their project evolved*, and *wished they had reflected sooner*. Similarities have been found in other studies in work placement contexts (e.g., Dreyer, 2015). Students acknowledged that they

learned from failure and moments of dissonance. They also developed a *greater awareness of what they could do differently* 'next time', including how they learn (metacognition).

The self-regulated learning cycle

The themes from the students' learning are consistent with the cyclical process identified in White et al.'s (2010) SRL model. Similarly, the ability to set goals, strategies, monitor one's own performance, restructuring the learning environment to achieve the goals, and evaluate their own effectiveness through reflection is recognised in Zimmerman's (2002) work. This contributes to developing student's ability to evaluate their own work which, as Boud and Falchikov (2007) also note, is essential for lifelong learning, especially in practice-based professions.

This study identified some barriers to successful self-regulation on the virtual placement. A significant barrier was the sense of isolation experienced by students, which had an impact on the sense of being involved in an authentic work placement, with lack of immediate feedback from mentors. Another frustration or loss experienced by students was the lack of opportunities for informal chats or 'corridor conversations' with colleagues. This loss of direct contact with clients or colleagues was similarly noted by Godley et al. (2022). These less structured interactions and collaboration in the workplace are recognised as important characteristics of work-based learning (Tynjälä, 2008). Their loss limits affective learning in relation to professional values and attitudes, as noted by Bayerlein and Jeske (2017), highlighting the need for a more opportunities for engagement and structured support from placement mentors and academic staff.

RQ2: What are the roles of mentors and teachers to support students' SRL on a virtual placement?

Relationship building with students

Placement mentors clearly valued being involved as it provided an opportunity to support the development of emerging professional colleagues as well as keeping up to date with new developments in practice, and this is echoed in other conservation contexts (Scott & Richardson, 2011). Mentors also took opportunities to model good practice through engagement of other colleagues in discussion as well as working alongside the students doing practical work, albeit virtually, which is recognised as an important stage in promoting independent working (Cope, Cuthbertson, & Stoddart, 2000).

The *role of the mentor* went beyond overseeing the students' work; they regarded themselves as having a *pastoral role* in the students' welfare, as did the teachers. This may have been a consequence of the specific pandemic circumstances, as the pastoral role is typically associated more with academics than host mentors in work placements (Winchester-Seeto, Rowe, & Mackaway, 2016); therefore, the need for additional developmental support for mentors not used to performing this task needs to be considered. While such pastoral care may be embedded in a work environment, responsibility for duty of care for the student rests between the university and the partner organisation, to a greater or lesser degree depending on the nature of the work placement (Odlin, Benson-Rea, & Sullivan-Taylor, 2022).

Mentors also brought out the *importance of relationship building with students*; this was highlighted in terms of the value of informal meetings, and meetings without the university teacher present.

> I think it would be quite […] nice just to, just so you build your relationship with […] the students. And if it, if it perhaps if it wasn't going well, then you can have a conversation with [the university] and you know get you involved at that point, but I think you know relationships […] whatever you're doing relationships is the root of everything. Aren't they? So I think it probably would help confidence wise for the students to have that one-to-one. (Mentor #6)

However, *contact with the university was still important* to mentors. Some *valued having wider participation in discussions*.

> The good thing in fact was that [a university teacher] was actually involved because normally there's hardly any discussion with anybody from the university during the internship […] I think it's also nice to have a conversation with three or more people […] Even with it sort of a bigger group so that all students and […] mentors and everyone comes together like a group session and then everyone can tell a bit more about what they're doing. (Mentor #7)

Similarly in this context, the teachers saw themselves as a liaison between students and mentors, which has been recognised in other studies in a virtual placement context (Sepulveda-Escobar & Morrison, 2020). This provides a means to support the mentor, which is often lacking (Watson, 2000).

Motivation

Mentors strongly articulated that their motivation was fuelled by an *altruistic commitment* to support the development of learners, situating this in a wider work-based community.

> It seemed important to me at the time to try and create, you know, give you a flavour of what might have gone on [in the organisation]. […] that's why I got the curators involved in some of those conversations, then you know so it wasn't just me. It was to give [the student] some idea that it was a bigger […] know you are part of that part of this enormous environment. (Mentor #6)

In an online context, there is the need to build a learning community (Garrison & Arbaugh, 2007; Thompson & MacDonald, 2005), one that supports socialisation as well as learning (Swan, 2002). This social aspect has been found to be an important motivational factor in SRL in an online context (Whipp & Chiarelli, 2004) as it can foster the development of individual learners' own SRL strategies. There were also clear *benefits to the museum*, including being able to undertake a research project that they would not otherwise have time to carry out.

Teachers identified that the motivation for the virtual placements was that they offered *the next best alternative* to a traditional placement. They also *enjoyed being part of the placement community*. The virtual placement afforded more opportunities to engage with the students and mentors during the placement. This echoes the mentors' feedback on the value of opportunities to share experiences.

Learning goals

Placement mentors had different perspectives on the development of learning goals. Some considered they were *involved in developing* them. Other mentors demonstrated a *general lack of awareness or involvement* in helping students set learning goals, and some mentors commented that they *did not want to be responsible for developing their learning goals*. Mentors saw their role of supporting learning in a professional context rather than necessarily the academic one. This places a greater need for the teachers to ensure appropriate support and feedback is provided for the students to meet any academic requirements such as assessments. This is at odds with Leggett, Sandars and Roberts (2019) who noted that a key role of mentors is to give feedback on each and every stage of the SRL cycle.

Despite this, mentors identified a recognised *need for negotiation* to ensure that students and mentors benefitted from the placement, and mentors *valued early discussion* to help meet the students' needs and to help the placement mentors in their planning. Teachers also highlighted the *importance of negotiating learning goals* and perceived these to be something *of a conversation starter for students* new to the workplace. Teachers perceived that they had a *bigger role in helping students identify their goals at the start* and identified their role as a *liaison to build the relationship between the student and mentor* but transferred ownership to the student and mentor as the placement progressed. Teachers also recognised their role in the *development of students' transferable skills.*

Feedback

Teachers and mentors drew *comparisons between the virtual and traditional placements* in terms of involvement and support. Teachers *tailored feedback for different students***,** and they recognised that they *gave a lot of feedback on students' written work* which included a report for the placement organisation, introduced as part of the project outcomes. The time-consuming nature of feedback was recognised by Leggett et al. (2019) as a requirement of facilitating placement learning. This study found that teacher involvement was greater than in a traditional face-to-face placement even though the students developed greater independence as the placement progressed. In addition, teachers' feedback included a *pastoral element*; for example, caring about students' isolation in lockdown, and the safety of their learners.

Mentors debated the frequency of meetings. Rather than specifying a specific number of meetings, it was clear that *meetings needed to be responsive to the student's needs*. Teachers also did not feel the need for scheduled *one-to-one meetings* on top of the regular weekly group meetings with students. However, teachers found it *time-consuming to check into the learning community*.

For mentors, the *effective use of technology* was critical in facilitating online feedback and especially with the lack of immediacy of feedback that would have been possible face-to-face, particularly where practical tasks were being performed.

Reflection

In relation to supporting students' reflection, teachers did not comment, but mentors perceived that they had a role in *supporting learning from failure, and moments of dissonance*, recognising the emotional aspect of learning and need for support. Smith and Worsfold (2015) similarly found that such support is important in the workplace context to scaffold learning and promote student confidence.

RQ3: How can the online learning community be optimised to support SRL?

Recommendations for improvement

1. *Preparation and goal setting*: Mentors requested *more preparation time* to plan a virtual placement. They also requested *advance notice of student learning goals*, enabling them to negotiate a learning contract with the students. The role of learning contracts in encouraging students to take responsibility for their learning, resulting in enhanced learning outcomes, has been established (Lemieux, 2001), as well as their role in preparing students for the workplace (Grace & O'Neil, 2014). Mentors specified a need for *earlier conversation and negotiation with students and teachers and setting clear expectations*. Students similarly requested *clearer placement guidance such as how to form learning goals*. Like

mentors, teachers also requested *more planning time*, not only for preparation but also to enable the student time to get to know the organisation.

2. *Feedback*: Students also commented on their wish to have more 'critical' feedback to facilitate their attainment of their learning goals although this can be challenging for them. The need to create an appropriate supportive environment, with students taking shared responsibility, will be important to enable constructive feedback and opportunities to share professional dialogue between the student, mentor and teacher (Carless & Winstone, 2020).

3. *Checking progress*: Mentors were generally all positive about *offering a mid-placement check-in with students*. Teachers also *wanted to initiate a mid-point check in* with the student and their mentor, as well as other light touch points. This is an important part of course design as it provides an opportunity enter dialogue with the mentor and teacher to support their learning at an important part of the learning cycle (Winstone & Boud, 2022). Therefore, a formal mid-point check-in will be added to the monitoring and feedback process, for virtual and face-to-face placements.

4. *Peer support and engagement*: Providing opportunities for students to meet to share work and experiences is valuable both in informal and formal contexts. This provides opportunities to scaffold learning in an online environment (D. Nicol, 2009) and well as facilitating important social interaction to mitigate feelings of isolation (Nordmann, Horlin, Hutchison, Murray, Robson, Seery, & MacKay, 2020).

5. *Technology platform*: Mentors requested *fewer learning technology platforms, and clear guidance in their use*. Like mentors, students requested *fewer or more consistent use of learning technology platforms*. They also requested *guidance; for example, a checklist on the use of learning technologies and their purpose*. Students also generally *did not like having multiple technology platforms*. *Some liked the different function of different platforms*; however, in order for this to be successful it needed clear guidance. Students considered it *more difficult to give peers feedback online* (e.g., in Zoom or in the Teams chat function) than face-to-face. However, *Zoom created a sense of community*, and *Padlet was considered especially useful for practical tasks* such as showing images of stitching.

In an online context, selecting appropriate learning technology platforms is key. To support SRL, it is essential that students have ownership of what learning technology platforms are used and how they are used (McLoughlin & Lee, 2010). There are implications here for student digital literacies, and those of teachers and mentors to develop and gain more confidence in these skills, highlighted as critical in the context of the pandemic pivot to online (Núñez-Canal, de Obesso, & Pérez-Rivero, 2022). In line with McLoughlin and Lee (2010), *students recognised the value of informal tools*, such as WhatsApp. However, we need to be cautious of data privacy concerns – although brokered by external mentors, student data still needs to be kept confidential.

Clarifying the role of the teacher and mentor

6. Teachers requested *identifying and formalising the teacher's role*, including managing expectations about the regularity of meetings. Here, a learning contract can be a valuable resource to support students through all stages of the SRL cycle (Anderson & Boud, 1996). Teachers also requested greater involvement with the placement mentors, e.g., meeting with the mentors and students, and offering mentors the opportunity to join the placement presentations.

The role of the teacher and other members of the group to model strategies and good practice are influencing factors on SRL (Beishuizen, 2008; Cornelius et al., 2008). Boersma, ten Dam, Wardekker and Volman (2016) bring together Lave and Wenger's (1991) 'community of practice' with Brown and Campione's (1994) 'community of learners' to create a 'community of learners in vocational education'. This provides opportunities for individuals in the group to learn through interaction and sharing. This social aspect enables the building of relationships within the community, and includes learning from the more experienced 'other' (teacher and placement mentor) as well as peers, which is important in an online placement context. Students in this study valued interactions and knowledge exchange with their peers on different placements, particularly in terms of 'calibrating' their experiences. It is recognised that students need to not only engage in legitimate peripheral participation in a community of practice, but also take responsibility for the online community (McLoughlin & Lee, 2010).

7. Ideas for future projects and *development of the virtual placement* were discussed by teachers and mentors including international collaborations. This enables cross cultural collaboration with colleagues in different countries without the environmental impact of air travel and other associated costs, which was already evident in this context.

Limitations of the study

One key limitation of this study was that it was very much influenced by one specific framework for conceptualising SRL (White et al., 2010). There may be other valid lenses through which we could have theorised our study. However, this framework was selected as it had been usefully employed in a previous study of students' SRL on placement (Dale, Pierce, & May, 2013).

This was a small-scale case study of virtual placements for one course run by a single university, with a limited number of participants. No attempt is made at generalisability, but we have sought to be transparent about our methods and analyses,

including quotes to enhance credibility and overall trustworthiness (Ryan, Coughlan, & Cronin, 2007). Understanding the learning that takes place on placement is an important consideration. Future research should investigate whether other theoretical frameworks could be applied here, as well as determining if this framework can be applied to virtual placement in other disciplines.

Conclusion

This study set out to evaluate the benefits and challenges of a virtual placement in a professional practice context, in terms of how it supported students' SRL, the role of teachers and mentors in facilitating this, and identifying improvements to optimise the value of the virtual placement. The findings clearly align with White et al.'s (2010) SRL cycle. Additional mentor and teacher training is required, particularly around formalising and supporting students' learning contracts, and negotiating student learning goals from the outset.

This research shows the importance of collaboration with professional colleagues in a virtual environment to provide a real and meaningful context and it highlights the importance of appropriate project design to enable SRL. While this study highlights some challenges of doing practical (hands-on) work virtually, it does not evaluate in-depth its potential or limitations. Developing a better understanding of the scope and limitations of practical work in a virtual context is an area of study that would benefit from further research.

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