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How can renewable assignments enhance students' graduate attributes? Insights from an action research project

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This paper presents insights from an ongoing action research project conducted at an Australian regional university that is exploring the potential of renewable assignments for developing students' graduate attributes. A renewable assignment task, where students create artefacts for assessment that become openly licensed, was run in two postgraduate education courses, one course about literacy and the other about guidance counselling. This paper offers an explanation of this work in progress. It concludes with a discussion of some preliminary ideas about the value of renewable assignments for students in relation to expectations shared by in-service professionals, and the graduate attributes that are not always taught explicitly in online education.

Keywords: Renewable assignments, open assessment, graduate attributes, education

Introduction

Online education is on the rise and, at the same time, open education has gained momentum in its progress towards widening access to quality education (McGreal, 2017). Open education is a movement founded on the idea that education should be accessible to all and it encapsulates open educational resources, open technology, open assessment and the sharing of open teaching practices (Cape Town Open Education Declaration, 2007). There is evidence from across the globe highlighting the many benefits of open education including, but not limited to, greater sharing and availability of specialist knowledge and resources, innovations in curriculum, new perspectives of knowledge repositories and frameworks, increased use of technology, and benefits to learners and the learning process (e.g., Miao et al., 2016). Focusing on the combination of online and open education, this paper explores the potential of an open educational practice called 'renewable assignments' (Wiley & Hilton, 2018) – where students share assignment artefacts as open educational resources – to strengthen students' graduate attributes. This paper adopts the definition of graduate attributes, sometimes referred to as graduate capabilities or graduate qualities, provided by Kinash et al. (2016) who described these as the 'soft skills' required by employers such as effective communication and interpersonal skills, ethical conduct and critical thinking, among others. The paper begins with an overview of the literature about online assessment before describing the current project where students at a regional university in Australia will produce two volumes of openly published resources arising from their assessment in online postgraduate education courses. Building on the findings of two previous cycles of research (Author, 2020, 2022), the current action cycle explores how renewable assignments enhance students' graduate attributes.

Literature review

Assessment is a means by which educators can gauge the knowledge and skill of learners and plan for further learning experiences. Traditionally, assessment emphasised the products of learning and de-emphasised the learning process, but a stronger focus on student experiences of learning shifted assessments towards those where students can demonstrate their application of skills and knowledge (Guerrero-Roldán & Noguera, 2018). Technology provides efficacies that save academic time and effort in aspects of the assessment process including, for instance, assessment management, data reporting and analysis, communication with students and staff technological skill development, but technology-enhanced or online assessments are not without problems. There are concerns that technology has made it easier for students to plagiarise and cheat, and online assessments often do not meet the needs of contemporary students and employers (Kinash et al., 2018). In addition, online assessments are not well supported in some contexts. For example, in a Norwegian case study by Raaheim et al. (2018), data from 48 participants highlighted that many university staff lacked knowledge

about "alternative forms of assessment, and/or on how to use digital technology in assessment" (p. 224), and that a lack of digital skills and major organisational changes were posing barriers to change. Similarly, in a study where 33 Australian university educators were asked about their perspectives of technology-supported assessment, Bennett et al. (2017) reported that the educators were positive towards such assessment but they felt limited by factors such as time, infrastructure, their and their students' skills and the support that was needed. These studies emphasise the need for assessments that are relevant to contemporary needs, as well as assessments that are implemented in a systematic and supported manner. There is, therefore, plenty of opportunity for online assessments to be improved to more fully exploit the educational benefits afforded by available technologies.

One possible avenue for improving online assessments is the idea of 'renewable assignments' (Wiley & Hilton 2018). Many traditional university assignments require students to create artefacts such as essays, reports, presentations and the like. Since such artefacts are usually only viewed by the assignment marker and are subsequently disposed of by the student, Wiley & Hilton (2018) called these 'disposable assignments'. Wiley and Hilton (2018) distinguished these from three other types of assignments: authentic, constructionist and renewable. Assignments are 'authentic' when artefacts have value beyond student learning, for example, resources that assist other students, whereas 'constructionist assignments', describe where students have actively participated in 'learning by doing' and in reconstructing knowledge, and the artefacts are made public. With a 'renewable assignment', students create an artefact that has value beyond student learning and is publicly shared with an open license (Wiley & Hilton, 2018). Effectively, students create Open Educational Resources (OER) which are "teaching, learning and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others" (UNESCO, 2019, p. 5). The open license is integral because without it the assignment is not renewable.

There are several known benefits of renewable assignments. Student-generated OER can help learners become actively engaged and motivated to succeed with higher education. Fatayer (2016) provided the example of computing, engineering and mathematics undergraduates who repurposed their course assignments as OER, citing specific student benefits as: a) autonomy and ownership when creating content; b) progressively collating content, c) publishing early via open access websites, d) participating in online knowledge construction communities, and e) engaging as knowledge consumers and producers. The creative processes that students use can also stimulate community and institutional collaboration and co-operation, and disrupt traditional models of education (McGreal, 2017). Such benefits are particularly relevant to the education of teachers where OER is recommended as a key resource (UNESCO, 2019). However, while the benefits of renewable assignments are still emerging, few studies have explored their potential to contribute to students' graduate attributes. Such research is important as tertiary education moves more towards online delivery. Against the backdrop of pushes for improvements to online assessment practices and growing numbers of online learners, the current study was designed to address the research question, 'How can renewable assignments enhance students' graduate attributes?'

Methodology

This study was guided by transformative or emancipatory theories of adult learning (Freire, 2000; Mezirow, 2003) that view learning as a process that "transforms problematic frames of reference . . . to make them more inclusive, discriminating, open, reflective, and emotionally able to change" (Mezirow, 2003). Drawing from the ideas of Habermas, transformative learning often involves activities that are task-oriented or aimed at problem solving (instrumental learning) alongside the critical element of self-reflection (communicative learning) (Mezirow, 2003). Therefore, this study employed both types of activities within an action research project to explore the value of the renewable assignment for the development of graduate attributes.

Action research is a three-step process involving: 1. planning, 2. execution of the plan, and 3. reconnaissance or fact-finding (Lewin, 1946). These steps create a cycle or repeated "spiral of steps" towards a research objective (Lewin, 1946, p. 38). The iterative process of action research was considered the most appropriate for this study because of its emphasis on pragmatism, responding to both the aims of OER and the needs of online teaching and learning. Approval from the university ethics committee (No. H21REA234) was obtained before the study proceeded. This is the third cycle of an action research project that ran first from November 2019 to February 2020 with a second cycle from July to November 2020. Each cycle began by consulting in-service professionals for ideas. These ideas were then transposed into student assignment tasks which students completed. After final course grades were released, students were invited to openly publish the artefacts they had created for the assignment task. The openly published collections were then shared back with in-service professionals for

feedback and the cycle was repeated. The first two cycles showed that renewable assignments could improve online student engagement but the cohort numbers were relatively small (2019: n=37; 2020: n=30) compared with the current project (n=249). This third cycle sought to extend learnings beyond student engagement to include the development of graduate attributes as defined by the university and as discussed with in-service professionals.

Planning for the study involved consideration of the context, the students, and the renewable assignment task. The context is a regional university in Australia with three quarters of its students studying online. The courses in which the project ran were only offered online and they were postgraduate courses so all of the students were non-school leavers. Course 1 had 158 students enrolled and Course 2 had 91 students. The majority or 158 students (63.5%) were studying part-time. Table 1 below summarises this data and shows that overall, 160 students (64.3%) passed the courses and were invited to participate in publishing their open assessment resource.

Table 1. Students enrolled in courses

	Course 1	**Course 2**	**Total**
Total course enrolments	158	91	249
Part-time	122	36	158
Full-time	36	55	91
School-leaver	0	0	0
Non school-leaver	158	91	249
Passed the course and invited to participate	102	58	160 (64.3%)
Accepted the invitation to openly publish	48 (47.1%)	23 (39.7%)	71 (44.4%)

Course 1 was an introductory course to guidance counselling in education and the renewable assignment task required students to create case studies detailing targeted mental health conditions and interventions that educators may use to address these. Course 2 was an introductory course to literacy in early childhood and the renewable assignment task required students to create presentations about how they co-created a multimodal text with a young child. To strengthen the relevance of these assessment tasks for both students and the professional community, the researchers and a research assistant held two focus group interviews with in-service educators (Interview 1 n=2; Interview 2 n=10) about their perspectives of contemporary graduate attributes. Questions asked at these interviews included 'What are the skills and knowledge you expect from graduate teachers/guidance counsellors?' and 'Are there any specific areas in their pre-service education that need more emphasis?' The focus group interviews were conducted in November 2021 and each was roughly 30 minutes long. The interview responses informed planning for the OER, and it also informed a survey that will be distributed to participating students once their OER are published.

All students participated in the renewable assignment task as a compulsory component of coursework. Students were supported by the authors as the course facilitators, and a video support presentation which explained the rationale for the assignment, the value of renewable assignments, and the possibility of being invited to openly publish their resources after the course had ended. While the assignment task was compulsory, openly publishing the assignment artefact was voluntary. Student assignments were assessed by independent markers and moderated by the course facilitators as per usual university processes. After students had received their final grades from the completed course, an invitation to openly publish was sent within two weeks to all students who had passed the assignment and the course overall. Students who responded are currently engaged in the process of publishing their work under the guidance of their previous course facilitators (the authors). Each student will also approve the final, published versions of their work and choose the open license under which they wish to release their work. We ensured that students understood their copyright options under open licensing which, at a minimum, requires that any work shared is attributed to individual student creators. The open-source book creation platform being used for the project, Pressbooks (https://pressbooks.com/), allows chapter-level licenses which override the book's open license.

To gather data for the reconnaissance stage of this third cycle, student data will be collected by a survey which will be administered at the end of the project. The survey will ask students whether the renewable assignment helped them develop any of the graduate attributes considered important by the focus group interviewees and by the university. Table 1 shows a relatively low uptake of the opportunity to publish (44.4% overall) so the survey will also help discern what motivates students to participate in renewable assignments through to the point of

openly publishing. Data will be analysed qualitatively using a deductive thematic coding process. Presented here are insights arising from our involvement in the renewable assignment process that other online university educators might find useful.

Insights from the project so far

In transformative learning theory, learning is characterised as the transformation of perspectives utilising a process of repeatedly taking action and reflecting on that action or what Freire (2000) called 'praxis'. Renewable assignments show promise for perspective transformation as students will repurpose their assignment artefacts for a broader professional audience and step more fully into their future professional identities. In their responses to the invitation to openly publish, students have shown enthusiasm for the task through appreciative comments about the opportunity to publish and several students expressing interest in improving their work for open publication. Praxis is illustrated through these comments, with students' perspectives transforming through a cycle that began with action (the student created the artefact for the renewable assignment), followed by reflection (students evaluated the value of their resource for open publication), followed by another action (students will prepare their resources for publication), followed by another reflection (students will be surveyed about the value of this task for developing their graduate attributes). Adding to the student benefits seen in cycles 1 and 2 of this project (Author, 2020), this cycle will potentially expand our understanding of how participation in renewable assignments develops students' graduate skills and capabilities.

One way that renewable assignments contribute to students' graduate attributes is that they assist students with their digital literacy and online communication skills. At the post-graduate level we find that students may have received their initial degree before university education moved online, or their initial degree may have been in a field with disciplinary norms and expectations far different from education. For these students, activities such as renewable assignments help students develop ways of working that are technologically up-to-date and more aligned with the contemporary demands of their future profession. For example, in this project, students are manipulating information communication technologies and digital media such as photos and videos along with increasing their awareness of their digital and professional identities.

Some of the questions we have received from students include queries about attribution of their work, the level of control they have of the publication process, what commitment is required, and whether or not they can publish even though they received a poor passing grade in the assignment task. These questions suggest that students are becoming aware of professional rights, effort and quality. Students have already received their final grade for our courses, but they have shown a willingness to keep working with us to publish their work for no further credit which indicates that students are becoming engaged professionals. Through renewable assignments, students must also confront ethical issues, for example, with academic integrity and the rights of co-contributors. These challenges are similar to those students will face in their future teaching and guidance counselling professions, which is important given the evidence linking student conduct to workplace ethical conduct (Nayak et al., 2015) and a renewable assignment offers a safe and supported space through which students can navigate these ethical challenges.

Furthermore, renewable assignments have the potential to develop students' graduate attributes through offering students authentic and meaningful learning experiences. The focus group participants spoke about how students' prior life experiences affected the development of their graduate attributes. When asked about their experiences with mentoring pre-service teachers, one participant stated:

> The graduates that are younger, and it's all very fresh and new, that was more overwhelming for them, but the mums who had to wrangle kids for years and have busy lives, they just had some skills and some confidence.

Another participant remarked 'It is about getting that theory, those standards and actually making sure they're practicing it in [the classroom].' These quotes highlighted the idea that our students, who are all non-school leavers, already possess 'some skills and some confidence' with the practice of teaching, but they needed to make stronger links between theory and practice. Renewable assignments may contribute by developing pre-service teachers' theoretical skills and confidence, such that they can participate in professional discourse about contemporary teaching topics. An example of this is that student authors from both courses will speak about their respective open publications in an online event for Open Access Week October 24-30, 2022. This opportunity can help students become effective communicators and, in turn, more employable.

Renewable assignments, therefore, can potentially offer students additional opportunities to enhance their graduate attributes. We anticipate that the final survey will draw out student perspectives more fully about whether renewable assignments helped develop their graduate attributes. We further anticipate employer and professional peer feedback about this same issue when the open publications are shared back with in-service professionals. One limitation of our study is that, restricted by funding, each cycle is based on one semester so the long-term effects of this activity will not be tracked. In other words, the project will not be able to discern whether renewable assignments can motivate students to achieve higher educational outcomes. It may be possible to follow up with students later in their study programme or perhaps post graduation. Future studies that explore renewable assignments longitudinally may provide further insights.

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