Lessons Learned from the Dying2Learn MOOC: Pedagogy, Platforms and Partnerships

Deb Rawlings 1,*, Lauren Miller-Lewis 1, David Collien 2, Jennifer Tieman 1, Deborah Parker 3 and Christine Sanderson 1

1 Palliative and Supportive Services, Flinders University, Adelaide, SA 5001, Australia; lauren.miller@flinders.edu.au (L.M.-L.); jennifer.tieman@flinders.edu.au (J.T.); christinersanderson@gmail.com (C.S.)
2 Open Learning Global P/L, Sydney, NSW 2000, Australia; david@openlearning.com
3 Faculty of Health, University of Technology, Sydney, NSW 2007, Australia; deborah.parker@uts.edu.au

* Correspondence: deborah.rawlings@flinders.edu.au; Tel.: +61-8-7221-8215

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Abstract: (1) Background: Massive Open Online Courses (MOOCs) are becoming more commonplace in the delivery of free online education and a Dying2Learn MOOC was offered by a team at Palliative and Supportive Services, Flinders University, South Australia; (2) Methods: Working with the OpenLearning platform developer, a research study and MOOC evaluation were embedded in the course, and content was delivered in innovative ways without compromising pedagogical approaches; (3) Results: This MOOC provided the facilitators with the opportunity to view education as an intervention, with testing undertaken, including measuring attitudinal change. Research, clinical and community partnerships were developed or reaffirmed and the value of ongoing partnerships with developers in creating platforms and tools that can expand the options for online learning is highlighted. Opportunities for future health professional and consumer education were also explored; (4) Conclusion: MOOCs can provide innovative opportunities to redesign educational approaches, which can be achieved by working with new technologies and with platform developers, while still adhering to pedagogical principles.

Keywords: cMOOC; online learning; pedagogy

1. Introduction

Massive Open Online Courses (MOOCs) have been used to provide free (open) education to large numbers (massive) of people in an online environment [1]. MOOCs can not only focus on content delivery, they can also provide a platform for teachers in supporting students to actively interact with content [2]; they have the ability to change the education paradigm to a model where education embraces learning as social construction and creates opportunities for collaboration and co-construction of knowledge [3]. MOOCs also essentially provide opportunities to impart messages and engage participants in important conversations. With these potentials in mind, a free MOOC on death and dying (Dying2Learn) was developed at Flinders University and hosted in June/July 2016. A second MOOC has subsequently been offered in April 2017. The main aim of the MOOC was to help educate and build community awareness around death and dying as a normal process, and of palliative care and what it can offer in helping to support those nearing the end of life.

The MOOC provided unanticipated opportunities for learning that have provided unique lessons for the future provision of this type of education for a broad audience. In this discussion paper, we describe the foundations that were laid in the development of the MOOC. These foundations included (a) pedagogical principles (such as addressing good teaching practices in elearning), (b) platform capabilities (that enabled us to produce interactive content and conduct formal evaluation
and research), and (c) working partnerships (between platform developers, researchers, clinicians, and the community) that were instrumental in the formation of the delivery of content within the MOOC modules, and the promotion, evaluation, and dissemination of information. We also look at the potential contribution of transformative learning in the health community, both for health professionals and for health consumers. We conclude with a discussion of the lessons learned from the development of this MOOC.

Other papers in preparation outline the evaluation findings and the results of an embedded research study.

2. Background

In the initial development stage, the MOOC authors were keen to avoid a static approach to content but rather enable exploration by participants of the concepts that were posed. The desire to create content in a community context (as the MOOC was aimed at the general public) and not deliver a palliative care course was a major driver in the MOOC development, so the course and the modules were framed in a social context rather than a medical one. The MOOCs were hosted on the OpenLearning platform (www.openlearning.com) where transformative pedagogy has seen the replacement of conventional teaching skill sets (content expertise, lecturing and assessing skills) with the further development of creative or social skill sets (content curation, learning design, social interaction design, emotional design, facilitation, etc.). The platform was therefore an ideal platform with which to partner.

Each of the four MOOC facilitators took responsibility for one week of the MOOC, not only in developing content but also in moderation of participant activities, with the need to consider the management of personal and legal issues that could arise from participation in such an arena, including: people disclosing clinical details; seeking support for grief and loss; or advocating and promoting euthanasia and euthanasia methods which is currently illegal in Australia. To this end, a MOOC was developed not strictly as an educational intervention but as an opportunity to facilitate open conversations about death and dying, often considered to be a difficult or even taboo subject [4]. In light of this, there were no assessments to be undertaken or to be marked. Activities were provided but these were voluntary and to receive a certificate of completion, participants needed to view each page and complete all activities.

3. Pedagogy

Pedagogy is described as the art and science of teaching [5], with those delivering education via MOOCs understood to concentrate their practice on student-centered pedagogy. Based on adult learning principles, students are self-directed in their work, progress at their own pace and engage in learning rather than being passive recipients of education [1,6]. In the Dying2Learn MOOC, participants had autonomy over the level at which they engaged with the course and its community, and chose the subject matter to which to apply their skills and to express themselves [7]. Some students describe valuing the disconnect from the face to face, finding anonymity in the online environment, which also allows time for reflection before posting and with often deeper discussions following [8]. The resulting learning artefacts and data captured from the MOOC participants’ activity, experience, and engagement within the platform is more valuable to educators when it is holistic and authentic. It is of interest to see how this data can be used to adapt the effectiveness of the learning experience design, content, and approaches to facilitate and develop self-regulated learning.

The evolution of the MOOC now sees differing pedagogical approaches [9], such as the x-MOOC (static, didactic, assessable) or the c-MOOC (connectivism, engagement, creativity) [10]. Initial approaches to cMOOCs encouraged participation by creating their own personal learning environment (PLE) through the use of an amalgamation of existing and general purpose online tools and within their own networks of peers, i.e., “to engage in dialogue and exchange of ideas with their peers, through appropriate social media” [11] (p. 239). This ensures “the real activity of cMOOCs takes place in postings and commentary on
participant blogs, social media discussions, video-chats, and other online events” [12] (p. 41). The Dying2Learn MOOC is based on a cMOOC approach, but rigor has been applied in evaluating learning outcomes, not just simply encouraging networking and engagement. In contrast, the x-MOOC approach is almost always centralized within a content delivery platform or learning management system (LMS) “where the emphasis is on learning primarily through content and videos, supported by e-assessment elements” [11] (p. 239). However, advances in educational technology such as the OpenLearning platform now allow for centralized platforms to move beyond x-MOOC style individual-focused content delivery and e-assessment, and towards a cMOOC style of peer-to-peer and community-driven experiences, enabled by features akin to social media platforms tailored to a unified learning context. This allows educationalists to develop and drive such pedagogical approaches in MOOC design and delivery, enabled by platform capabilities and in partnership with platform developers.

Using the OpenLearning platform has allowed a hybrid approach to be taken where many of the learner’s interactions are akin to the cMOOC experience (a focus on fostering connection, rapport, discourse, and the co-construction of knowledge within a community), yet these are performed within the one platform which allows for more focused community facilitation, and closer management of the reach of the community’s interactions to provide safety and moderation around sensitive issues, as well as a central data source for analysis and evaluation. Conventional cMOOC approaches to data collection have relied upon the propagation of surveys into the PLEs, rather than the ability to collect discourse data directly from the online platforms on which interactions were taking place.

In considering taxonomy, the authors do not refer to those enrolled in the Dying2Learn MOOC as students (considered more appropriate to an xMOOC) but rather as ‘participants’, terminology that sits more comfortably in a cMOOC framework. In the same light, the authors were considered ‘facilitators’ and not ‘teachers’ although ‘students’ and ‘teachers’ are alluded to in the literature.

MOOCs have been used in Universities to deliver education out of the classroom, so it is therefore unsurprising that this can see large numbers of students engaging in a course [13]. While many MOOCs (largely the x-MOOCs) do experience such numbers, there can be considerations for and challenges to, managing a course such as Dying2Learn where content is sensitive and personal, and requires learners to examine attitudes to death and dying with a degree of self-reflection not necessarily seen in other courses. The number of participants in the two Dying2Learn MOOCs (n = 3103) enabled more interaction with other participants and with the course facilitators, and saw ‘personally transformative experiences’ that some participants appeared to have undergone. For example, one participant posted: “The course gave me exactly what I needed—a greater inner awareness and increased confidence to talk more openly about death and dying”. This can also be seen in classroom based topics with lower numbers of students, but arguably less likely to happen in more benign, static x-MOOCs with much larger numbers.

An important point of difference in this MOOC was in the value of a unified platform coupled with the cMOOC philosophy. Rather than adopting the traditional cMOOC methodology of using an amalgamation of existing social media tools to socially coordinate and curate, in conjunction with many of the mechanics of a cMOOC approach (social sharing and discourse-centric), the facilitators opted for a social learning platform which gave the course an epicenter for evaluation, safety and moderation potential for sensitive issues, and the required boundedness for the reach of the community’s interactions. This best-of-both-worlds approach was made possible by the social nature of the platform, rather than a conventional x-MOOC focus on content dissemination, corrective exercises, and question and answer assessments.

With a commitment to collaborative learning and engagement, the facilitators did not follow a dominating brief [14], but rather allowed participants to freely express their thoughts and responses. This supported participants to not only acquire content knowledge but to test this knowledge and their personal views through exchange and engagement with others. In this context, the role of the facilitator requires presence but restraint [15]. An approach such as this is manageable in an environment where facilitation or moderation is not required across a traditional University semester but is time-limited.
However, this online presence was maintained by facilitators who each authored and then moderated a module (of 1 week duration) and who had a watching brief, navigating learning by signposting resources and if participants ran into difficulties with content or went off topic. This is likely a closer watching brief than is usually employed in MOOCs but deemed appropriate when dealing with a complex topic such as death and dying. Responding to raised concerns, and dealing with any inappropriate information that may arise (e.g., how to fulfil a request for hastened death) was also a consideration in taking this approach.

The degree of comfort with interacting in such a platform varied, which could in part be due to the fact that not all participants who commenced the MOOC were young (average age 50.1 years, ranging from 19 to 84 years) and for some, the use of such technology did not come naturally. For these participants, it was the subject matter that was the prompt to participate in Dying2Learn, not the online nature of the course. There were also those who were not used to working online and/or managing a new platform, and those who were familiar working online but who were unable to troubleshoot when technology failed (such as using CANVA graphic design software in one of the MOOC activities) or knowing how to refresh the page during a real-time online chat.

4. Platform

OpenLearning is an online learning platform that aims “to provide a very social learning environment in which students feel empowered, deep learning experiences are fostered, students are intrinsically motivated and passionate communities of practice flourish through well-designed constructive experiences” [7]. Students are encouraged to be actively involved in their own process of learning, through meaningful interactions with both the platform itself and the community of students and teachers that it connects [7]. Facilitators are then able to engage with the platform capabilities and develop content with pedagogy and the student experience at the forefront.

Due to its nature, online learning can be flexible and often asynchronous [16], which sees participants interacting at different times, although there are also options for live interactions such as in chat rooms. This approach, can enable equity of access and of dialogue (some students even in classrooms do not have a voice) and cross geographical locations, which can see the development of communities of practice in turn facilitating learning experiences and peer-to-peer collaboration [17].

The online platform had several features that enabled transformative learning, partnerships, and evaluation of the MOOC. It allowed for a synchronous online chat that was hosted by one of the facilitators (CS) and a guest clinician, who answered questions and provided commentary on a wide range of issues relevant to death and dying. The MOOC also saw the creation of social capital products designed to be used for Dying2Know day, an annual day of recognition that promotes conversations about death and dying. At enrolment, participants were asked to provide basic sociodemographic data as well as their level of agreement with five statements regarding attitudes to death and dying. As part of an evaluation process, these same attitude questions were posed at the end of the MOOC along with feedback on the usefulness of the MOOC. This information could then be linked back to each participant’s level of course progress, comment posts, and activity submissions. A short time following enrolment, participants were also emailed with an invitation to participate in an optional research study (Flinders University Social and Behavioral Research Ethics Committee Project No 7247) designed to further enhance the understanding of the participant’s attitudes towards the topic of death and the impact of the MOOC experience.

5. Partnerships

Partnerships are an important part of any venture and this MOOC saw connections established or re-confirmed in many arenas. The success of the Dying2Learn MOOC was contingent on platform partnerships, research partnerships, clinical partnerships, and community partnerships, which are outlined as follows:
(a) Platform partnerships required an engaged and supportive platform provider who was willing to be responsive to the MOOC facilitators’ need to export the data provided by participants in their comment posts and activity submissions. This highlighted more fully the need to support academic researchers involved with the data exploration process as there was a need to identify novel methods to capture and extract different types of data, which then required integration across several platforms. OpenLearning was instrumental in enabling structured data extraction from the platform, such as providing data exports of participants’ social interactions for research and course evaluation purposes, but also collaborated with Dying2Learn to understand the value of this collected MOOC interaction data and prioritized the ease of data acquisition from the platform for this purpose as a core feature.

The ability of MOOC facilitators and educational researchers to easily access the rich data provided by MOOCs is contingent on working with an online platform partner that (i) understands the value of such data from an educational, sociological, and research evaluation standpoint, and (ii) is willing to invest the time required to enable such data extraction. Enabling this data extraction from the platform can require system modifications such as the development of Application Program Interfaces (APIs) which are computer software building-block tools that can make it possible to move information from one computer program to another, therefore enabling easy extraction of MOOC comments and activity data into data analysis programs like Excel, Nvivo and SPSS. This investment nonetheless does accrue potential long-term benefits for the online platform provider, including exploring the capacity to develop new innovative platform features that increase the attractiveness of the platform to future MOOC facilitators, and could have commercial value.

This MOOC sparked a wider generalization of APIs by the platform developer with a change in development approach to making the ease of data export a priority, making a good case study in how each MOOC research project is looking for something different and possibly new, and to properly support education research. Modifications to the online platform to allow easy extraction of MOOC activity data greatly enhances the capacity of educators to evaluate not just the MOOC engagement levels but also MOOC learning outcomes and social implications, and also enables high-quality qualitative and quantitative research to be conducted with the activities completed in the MOOC [10,18].

(b) Productive research partnerships hold great potential as an avenue to capitalize on the rich arena for detailed health and education research that is provided by MOOCs designed for health professionals and health consumers. The Dying2Learn MOOC presented research opportunities in relation to determining health education outcomes as a result of participation in the MOOC, in addition to a more general evaluation of the MOOC. Furthermore, the MOOC offered the chance to gain knowledge to help understand the general population in relation to their health and social attitudes at a broader level. This included exploring the possibilities offered in understanding populations (such as differences in death attitudes for health professional and non-health professional respondents) as well as understanding what works, for example in facilitating off-platform data collection. These research goals posed challenges for both the researchers and for platform developers to overcome (as described above). The desire to conduct such research using data generated in the MOOC also required careful consideration of ethical issues in relation to privacy and the rigorous de-identification of data sources. In partnership with Flinders University and its research ethics committee, a framework for an ethical approach to research was devised and approved in order to allow the necessary linking of de-identified data sources for health research questions to be investigated. For the project, this also provided the additional benefit of demonstrating the effect of the MOOC in facilitating open conversations about death and dying to the external funding body.

(c) Clinical partnerships are of special relevance for MOOCs where the focus is on knowledge co-construction involving health professionals and health consumers. Sharing of clinical
experiences can add valuable insight to learning opportunities for participants of a health-focused MOOC. In Dying2Learn, the course facilitators involved had clinical experience in several settings, as did many of the course participants who had a health professional background. Clinical partnerships can also be facilitated and enriched in this forum and a clinician colleague was featured in a video in the introduction to the topics of the MOOC. He was then also involved in a synchronous online chat later in the proceedings. In this way, experts can be involved at different points or at different levels. These clinical partnerships enhanced the educational experience of the MOOC.

d) The Dying2Learn MOOC was strengthened by community partnerships that were invaluable in a number of ways, such as contributions to promotion of the course by partner organisations, and course promotion via avenues less commonly used (e.g., public libraries). These community partnerships also involved linking MOOC participants to relevant communities in the non-digital world, such as the Groundswell project, an organization that aims to create social and cultural change about death and dying (www.thegroundswellproject.com). This particular community partnership included the MOOC participants creating their own promotional products for use on Groundswell’s ‘Dying to Know Day’, which is an annual day aimed at encouraging community conversation and action about death, dying, and bereavement. Community partnerships were fostered within the MOOC to encourage active learning out in the real world. Moving the educational experience out of the online environment and into the actual community at the end of the MOOC, was aimed at fostering more concrete educational outcomes for participants through behavioral action. The Dying2Learn MOOC also resulted in the development of some of its own community partnerships. Some of the MOOC participants formed their own smaller partnerships within the larger group, based on common interests, locations or experiences (e.g., those who had been bereaved).

6. Participant Demographics

While the intent of this paper is that of a discussion piece, there were findings from the enrolment data that have implications for future MOOCs or educational offerings, whether developed for health professionals or not. In providing free access to resources and expertise for those with an interest in a topic and with internet access [10], MOOCs provide learning opportunities for a diverse set of participants from a variety of backgrounds, with or without prior qualifications, and with a variety of reasons for participation [19]. The demographic characteristics of our participants differ little from those identified in a 2-year review of Harvard and MIT courses with over 1,000,000 participants [20].

The Dying2Learn MOOC saw a total of 1156 people enroll but only 895 (77.4%) who commenced the MOOC by accessing at least some course content or completing activities. The 895 participants were predominantly female (93.1%), and surprisingly (given the MOOC was targeted at the general public), 68.3% identified as a health professionals. Overall, 72.9% of participants who identified themselves as a health professional held a university qualification, and 27.1% did not and therefore were likely to be, e.g., enrolled nurses or aged care workers. Nonetheless, not all of the university qualified participants were health professionals, with 29.8% having university qualifications in another field. Of the total sample, 49.6% of MOOC participants had both a university qualification and self-identified as a health professional, and 10.9% had neither, with the remaining having one of these two characteristics.

When exploring the impact of participants’ level of completed formal qualifications on their amount of course content completion by the end of the MOOC, a between-groups ANOVA was conducted in relation to the 895 who enrolled in, and started the MOOC. There was no significant difference in the percentage of MOOC completion based on participant education level, \(F(3, 889) = 0.571, p = 0.634\). Means for each education group are in Table 1. Therefore, participants achieved a similar level of MOOC completion regardless of their pre-existing level of formal education qualifications. This provides some indication that the course content was equally accessible and engaging to all MOOC participants regardless of level of education.
Table 1. Massive Open Online Course (MOOC) Progress: Total percent of Progress made in course content by the end of the MOOC.

<table>
<thead>
<tr>
<th>All MOOC Enrolees Who Commenced Course</th>
<th>n</th>
<th>Mean % of Course Progress</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Level of Education at Enrolment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some High School</td>
<td>43</td>
<td>43.02%</td>
<td>35.41</td>
</tr>
<tr>
<td>Completed High School</td>
<td>74</td>
<td>35.50%</td>
<td>30.60</td>
</tr>
<tr>
<td>Trade school or Equivalent</td>
<td>144</td>
<td>37.24%</td>
<td>32.27</td>
</tr>
<tr>
<td>University Studies</td>
<td>632</td>
<td>37.43%</td>
<td>30.45</td>
</tr>
<tr>
<td>Health Professional Status at Enrolment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does Not Self-identify as a Health Professional</td>
<td>283</td>
<td>38.74%</td>
<td>38.74</td>
</tr>
<tr>
<td>Self-identifies as a Health Professional</td>
<td>610</td>
<td>36.82%</td>
<td>31.11</td>
</tr>
<tr>
<td>Totals for all MOOC Commencers</td>
<td>895</td>
<td>37.40%</td>
<td>30.98</td>
</tr>
</tbody>
</table>

Note: The conclusions on socio-demographic differences in percentage of course progress were the same when assessed with Parametric (t-test) or non-parametric (Mann–Whitney U test) alternatives.

In further exploring any differences between health professionals and non-health professionals in relation to the 895 who enrolled, and started the MOOC, an Independent samples t-test comparing the means on the amount of course content completion found no significant difference, \( t(891) = 0.86, p = 0.390 \). (Means for each occupation group are shown at the bottom of Table 1). Therefore, participants achieved a similar level of MOOC completion regardless of whether they self-identified as a health professional or not. Completion was defined by participating in all activities and viewing each page in light of the fact that no graded assessments were included.

However, when we conducted an Independent samples t-test comparing the means on the amount of comments made throughout the MOOC, by the 895 participants, we found a statistically significant difference between the health professionals and non-health-professionals, \( t(349.6) = 2.36, p = 0.019 \) (equal variances not assumed). Therefore, participants who self-identified as a health professional made slightly more comments (\( m = 13.11; SD = 24.48 \)) than those who were not health professionals (\( m = 9.47; SD = 12.29 \)). The Cohen’s \( d \) of 0.25 indicated a small effect size. Analyzing the number of comments made gave us some indication as to whether members of the public felt constrained in commenting in a MOOC where participants were predominantly health professionals.

In summary, while Health professionals may have felt more comfortable to comment as they will regularly participate in education initiatives (such as for continuing professional development) and were more likely to have a degree, course completion was the same regardless of prior education level.

7. Lessons Learned

In the online health arena, consumers seek answers to health questions as well as connecting with others who may have a similar health condition [21], or are in similar circumstances. Health professionals are also using online resources not only to seek out general information but to access health education, for example as part of their initial qualification or for continuing professional development. This is occurring in an environment where there has been rapid expansion and investment in online learning in formal and informal educational environments [22]. Online courses about death and dying have tended to be aimed at health professionals and offered in a more formal way, as part of a university course or offered as ongoing professional development with a cost involved. An example of this is found in an undergraduate online module offered to nurses, whereby students reported more confidence in dealing with death and dying but more importantly in this context, felt comfortable commenting freely in a non-judgmental environment [23]. Another course describes similar findings to our MOOC, with students reporting that the course encouraged reflection on personal beliefs and philosophies [24].
The information needs of both health consumers and health professionals potentially provide a ready market for the use of Massive Open Online Courses (MOOCs) which can provide dynamic, interactive and collaborative opportunities for learning and for connecting. MOOCs will attract both those who are health professionals and those who are not if providing nonspecific information and resources such as on death and dying.

Consumers, if they have sufficient interest in a MOOC will complete the course at the same level of engagement and participation as those who have formal qualifications or who are working in a related area. They may not make as many comments however, but that may be because the health professionals who were participating not only as health professionals but also from a personal perspective.

MOOCs also provide opportunities to view education as an intervention. Testing can be undertaken in this forum, such as measuring attitudinal change, one focus of our research program, in itself providing an opportunity to explore impact both directly and indirectly. In this research, one of our main aims was to build community awareness around death and dying and dying as a normal process and in doing so we have been able to engender change for individuals and for the community. There is a rich array of potential indicators, from interest and dissemination in the course with online and community groups, to participation rates from different sociodemographic groups, through to individual awareness and action. These concepts fit in our MOOCs with the emerging public health themes around health promoting palliative care and compassionate communities.

The Dying2Learn MOOC was targeted at the general public although there was a large number of health professionals participating. This in itself presents many educational MOOC opportunities for these individuals. Ongoing professional development and lifelong learning are concepts that lend themselves quite well to the delivery of a MOOC. This saw some participants keen to obtain certificates of participation for the MOOC, not uncommon for health professionals who are required to demonstrate evidence of ongoing professional development [25], and the platform facilitates this. Learning outcomes can be assessable in this format for the learner, for the educator and for the developer.

The value of ongoing partnerships with developers in creating platforms and tools that can expand the options for future style and modes of online learning is also important. The strength of the platforms themselves are enhanced by active engagement with their potential to deliver alternate ways of engaging with knowledge. This requires educators to be curious about what else could be done and proactive in providing feedback and seeking modifications. For developers, this offers a rich avenue for design development.

There is also the potential to look at the affective domain in building new platform mechanics, i.e., the presence of others is felt and adds a human element to the platform, rapport between peers is fostered, collaboration is enjoyable, and students are transformed into self-directed and empowered learners who enjoy expressing themselves in a very rich and comfortable community of practice.

This paper is one of a series that are planned in which the outcomes of the Dying2Learn MOOC are explored and includes papers that will articulate the formal research outputs. A paper in press [26], describes one of the learning activities in which the participants were asked to describe euphemisms for ‘death’ and ‘dying’, with an unanticipated outcome in that it provided much in the way of lessons for communication in nursing.

8. Conclusions

MOOCs provide educators with innovative opportunities to redesign educational approaches by working with new technologies and with platform developers to create new solutions and adaptations to fit with the learning needs of the course. There are also opportunities for online platform development to support research in education with possibilities such as metrics and exports, coding to support data collection and survey administration (with an ethics framework). Research on the learning outcomes from MOOC courses can then inform online platforms of successful learning strategies/techniques, and of limitations in approaches or what did not work so well.
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