

EXPLORING THE FACTORS ASSOCIATED WITH MOOC ENGAGEMENT, RETENTION AND THE WIDER BENEFITS FOR LEARNERS

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Abstract

Massive Open Online Courses (MOOCs) have and continue to change the way in which non-traditional learners' access education. Although the free element of these has been linked to low completion rates due to no invested interest, the MOOC platform enables innovative technologies and practices to be trialled. Therefore, rather than attributing varied intentions of learners for high drop-out rates, it is suggested that an increase in completion can be achieved through more focussed pedagogical practices. In this way, it is necessary to understand the wider benefits of MOOC engagement for learners and what factors are key to their engagement and retention. The current research qualitatively analysed open feedback obtained from learners that corresponded to their goals of course participation. The feedback was also matched to categorical data that related to initial course intentions, the value of course materials and activities, the preferred extent of instructor interaction, unit completion and their overall rating of the MOOC. Thematic analysis revealed eight key themes that can be linked to engagement and wider benefits of course participation and widely related to professional and educational development, for example, supplementary learning for undergraduate students. Moreover, the MOOC appeared to have encouraged learners to reevaluate their perspectives of and attitudes towards Dementia and those diagnosed with it, demonstrating another key element of this course. The open feedback revealed that quality assured MOOCs have significant impact on the lives of enrolled learners and pedagogical design and advances in these courses are considered, particularly in relation to collaborative learning. Finally, the application of MOOCs to wider learning and teaching at Higher Education Institutions (HEIs) is discussed, with emphasis placed on the advantages of readily available resources and scope for scholarly activity.

Background

Massive Open Online Courses invite a global audience to learn and engage with course content in an online platform. The pedagogical nature of MOOCs incorporates a range of technologies to provide learners with an innovative educational experience. This educational paradigm is becoming increasingly embraced by Higher Education Institutions with 72% of 62 European Institutions having or developing a MOOC (Jansen & Schuwer, 2015) and results in a range of learning (micro to full completion) that is typically recognised with digital badges and certificates. Massive Open Online Courses that place considerable emphasis on quality assurance and design structure (Guardia, Maina, & Sangra, 2013) can contribute to the professional and educational development of learners.

Typically, learner intentions and motivation have been primarily associated with low MOOC engagement and completion rates. DeBoer, Ho, Stump, and Breslow (2014) suggest that some learners enrol without the intention to engage with the course content and so variables such as enrolment and drop out should be reconceptualised. Hadi and Gagen (2016) have also considered varying motivational factors of learners, with badges and certificates acting as greater appeal to those who are extrinsically, rather than intrinsically motivated. As MOOCs are dependent on a self-guided and defined work schedule, this further contributes to drop-out

statistics as some are less able to follow an independent work pattern and pace (Guo & Reinecke, 2014). This also increases the tendency for some learners to only complete a single unit (Leach, Hadi, & Bostock, 2016). Hadi and Rawson (2016) believe that pedagogical design has a pivotal association with retention and completion. Previous research has found a number of factors as influencing retention, including previous MOOC experience and more educational history (Greene, Oswald, & Pomerantz, 2015) instructor accessibility and passion, helpful course resources and peer interaction (Marks, Sibley, & Arbaugh, 2005; Hew, 2014). Similarly, Hone and El Said (2016) found that interaction with the instructor was a significant predictor of retention, as was MOOC content. Furthermore, financial investment has been shown to increase completion rates in learners (Koller, Ng, Do, & Chen, 2013) suggesting that a fee-attached assessment service (e.g. proctoring) could also form part of the MOOC structure. Thus, there is growing evidence to suggest that structured MOOC design can have an influence on increased retention, as well as involvement from the academic associated with a MOOC.

There is currently no definitive structure or framework for MOOCs, particularly as available technology is continually changing and there are often discrepancies in the quality assurance of content and badges across institutions. However, it is important to understand what aspects of MOOCs maintain learner engagement and what the wider benefits of participation are for the learner, for example, to contribute to continuing professional development. Research is by no means extensive or exhausted in the understanding of what MOOC features appeal to learners. Particular emphasis has been placed on the involvement of academics throughout the running of a course, especially in relation to discussion boards. In the current research, we considered other factors that lead to students engaging with a course and therefore employed qualitative research methods on learner's MOOC open feedback to identify key factors that are of wider benefit to their learning. Of further interest was the association between open feedback and categorical survey responses that includes learner intentions, their ratings of activities and materials, instructor involvement, their overall course rating and the extent of completion. The inclusion of categorical data corresponding to the learner open feedback was intended to add more robustness to the qualitative data. Indeed, the area of curiosity should lead the research approach and methodology (Gorard, 2001).

Data Collection

The University of Derby hosted a MOOC via the Canvas platform entitled, "Bridging the Dementia Divide: Supporting People Living with Dementia" (2015) and reached a global audience (Hadi & Gagen, 2016). This followed a modular format and contained six units; accessible to learners over a seven week period. Each unit utilised a sequential week-by-week support structure (Hadi & Rawson, 2016) (e.g. a wind up video and educators engaging with relevant week discussions).

The findings were obtained through responses to a welcome and end of MOOC survey that allowed for categorical and open feedback. Categorical data related to: (a) the initial intentions of learners; (b) their agreement level of the course materials and (c) activities as having a positive impact on their learning experience; (d) their preferred extent of instructor involvement; (e) unit completion and; (f) their overall rating of the MOOC. The open feedback data was to gauge how the course had supported learners in meeting their personal or professional goals.

Learners

A total number of 2,072 learners engaged with the Dementia MOOC and originated from a range of global locations, as shown in Table 1. This shows larger engagement from Western Europe, although a large number of learners did not provide their location.

Table 1: The frequency and percentages of learner locations

Locations	Frequency	Percent
Not Stated	1409	68
Western Europe	334	16.1
Australia & South Pacific	166	8
North America	65	3.1
Caribbean	30	1.4
Eastern Europe	29	1.4
Africa	16	0.8
Middle East	9	0.4
South America	4	0.2
South Asia	4	0.2
Southeast Asia	3	0.1
East Asia	3	0.1
Total	2072	100

Analytic Method

The data was analysed using thematic analysis, in accordance with the guidelines of Braun and Clarke (2006). The guidelines promote (a) familiarisation with the data to achieve an in-depth understanding of the content, (b) which then enables an initial list of codes to be produced representing the interesting aspects of the data. (c) Themes can then be generated through refocusing the analysis and sorting codes (d) that are then refined (e) leaving themes that best encapsulate the data. At this phase, (f) a full set of themes has been established and the data can be reported. Thematic analysis allowed for exploration of the factors associated with a positive MOOC learning experience and the wider benefits of participation for the learners. The discovery and analysis of key themes within the discourse also allowed for comparison with other research findings.

Categorical Data

Prior to the commencement of the MOOC, learner intentions were defined by self-responses to survey questions. Learners could define themselves as either, *Active*, *Passive*, *Observer*, or *Drop-in*. These are listed in order of the most intended engagement to the least, with each definition listed below:

- Active – An active participant. Bring it on. If it's in the course, I plan on doing it.
- Passive – A passive participant. I plan on completing the course but on my own schedule and without having to engage with other students or assignments
- Observer – An observer. I just want to check the course out. Count on me to access the content, discussions, and videos but don't count on me to take any form of assessment.
- Drop-in – A drop-in. I am looking to learn more about a specific topic within the course. Once I find it and learn it I will consider myself done with the course.

Learners who did not respond to the survey question were categorised as *Not Stated* throughout the analysis. Furthermore, learners who enrolled but did not sign-on to the MOOC were removed from the data.

The impact of the MOOC materials was measured using the question; how strongly do you agree or disagree with the following statement: The course materials (lectures, videos, documents) have a positive impact on my learning experience. This could be rated on a 5-point Likert scale from *strongly agree* (1) to *strongly disagree* (5). The impact of the MOOC activities was measured using the question; how strongly do you agree or disagree with the following statement: The course activities (discussions, assignments, projects, quizzes) have a positive impact on my learning experience. Again, this could be rated on a 5-point Likert scale from *strongly agree* (1) to *strongly disagree* (5).

The preferred involvement of the course instructor was measured using the question: “How much instructor involvement do you like to have in your online learning experiences?” This was also measured using a 5-point Likert scale: (1) *I do not interact with my instructor*; (2) *I like to learn on my own*; (3) *I like variety*; (4) *I prefer peer-to-peer interactions with my classmates* and; (5) *I prefer to communicate only with the instructor*.

The overall rating of the course was measured using the statement; please give this course an overall rating on a scale of 1 to 5, with 1 being the lowest and 5 being the highest rating (1 star to 5 stars). Completion statistics relating to the number of units completed were also included.

Results

This analysis presents direct accounts of factors that MOOC learners discussed as a key aspect in their learning experience and the wider benefits of taking part in the course. The open feedback was examined in relation to the thoughts and experiences of learners. Initial themes were extracted due to their importance and restructuring of these led to the emergence of the final eight dominant themes. Despite insight from prior research regarding engaging factors of MOOCs, the approach was inductive and allowed the data to inform the final themes. This analysis revealed separate dominant themes relating to the Dementia MOOC learners (See Figure 2). These were: (a) Workplace Knowledge and Skills Enhancement; (b) General Knowledge and Changing Perceptions; (c) Career/Education Preparation and Change; (d) Supplementary Learning; (e) Personal Reasons; (f) Continuing Professional Development; (g) Knowledge Refresh/Development, and (h) Understanding of Methods and Attitudes across Countries. Each of these dominant themes is explored in further detail in the results section and represents a key area that was of wider benefit to engaging with the Dementia MOOC.

It is noteworthy that during the analysis phase, some learners indicated links between some of the themes. For example, some learners who discussed changing their perceptions of Dementia as a result of the MOOC, also reported improvement in their work practice, as did some who took the course for continuing professional development purposes. The identified links between themes based on learner feedback are represented by the dashed green lines below the theme boxes on Figure 2 and are alluded to in the results section. However, links between themes did not emerge from a large number of learners, and therefore, each dominant theme and its wider benefits are predominantly discussed on an individual basis.

With regards to workplace, learners discussed applying the course content to their specific roles and becoming more compassionate and knowledgeable when working with Dementia patients. General knowledge was related to interest and changing perceptions, particularly as learners expressed not giving consideration to Dementia patients previously. From a career and education perspective, learner feedback related to having the opportunity to prepare for a new career or

educational course. Supplementary learning related to learners who described the MOOC content as supporting their main educational endeavours and some highlighted key areas of the content that they found particularly useful. Personal reasons for completing the MOOC centred on supporting a family member and understanding the challenges, whilst continuing professional development related to accumulating annual points. Finally, learners discussed using the MOOC as a source of refreshing and updating knowledge for various reasons, including future research whilst other learners stated that they enjoyed learning the approaches of other countries with regards to Dementia and obtaining methods of good practice. The key themes are discussed in detail and extracts are presented to support the explanations.

Extracts

Each data extract in the analysis is followed by a data spreadsheet code category (for example E61), to enable location of the extract and includes the learning intention, rating for course materials and activities, preferred involvement of the course instructor, the extent of the learner’s completion and the overall rating given to the course, as shown in Figure 1.

“It has broadened my knowledge and I have enjoyed reading all the information provided as well as having a good reference when I need it” (E321).

Intention	Materials	Activities	Instructor	Completion	Rating
Passive	Strongly Agree	Strongly Agree	I prefer peer-to-peer interactions with my classmates	Completed	4 Stars

Figure 1. Example extract and accompanying categorical data

The example shows the learner extract code and also that they had assigned themselves as a passive learner prior to commencement of the course content. The learner also strongly agreed that the course materials and activities had a positive impact on their learning experience and preferred peer-to-peer interactions with regards to instructor involvement. Finally, it can be seen that this learner completed the course and rated it as four stars out of five.

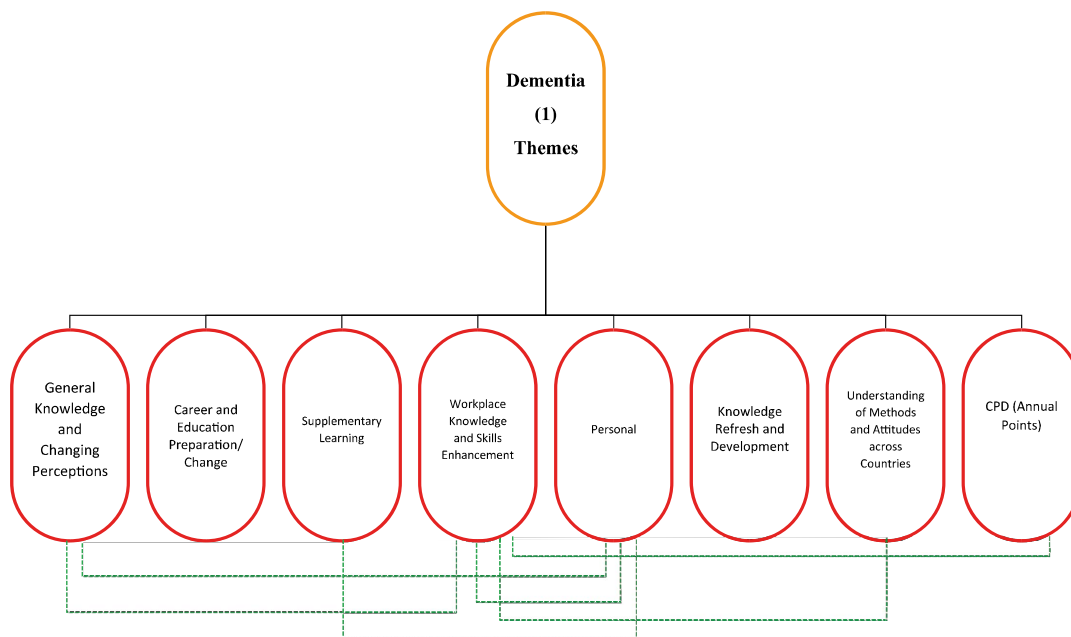


Figure 2. Dementia MOOC thematic map

Workplace: Knowledge and Skills Enhancement

For many learners, participation in the Dementia MOOC had wider benefits for them in the workplace, and some comments provided general insight of this transference.

“The knowledge I have gained I have started to use in my workplace” (E175).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like variety	6 Units	4 Stars

Other learners elaborated further on how the MOOC had supported them professionally and the job roles that they occupy, particularly nurses and residential workers. Learners discussed gaining knowledge from the course and having more and a better understanding to enhance their working practices and to improve the quality of the care they provide. This supports the value of this MOOC, particularly as some mentioned that the course would have long lasting benefits on their careers. Moreover, a learner stated that being more informed has led to them displaying more compassion for Dementia patients in a residential home setting.

“This course is validating what we are doing in my work roles as a nurse” (E143).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Agree	I like variety	6 Units	5 Stars

“As I am a care support worker who works in the community and works with people with Dementia it has given me a lot more understanding and will continue to in the future...” (E261).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	5 Stars

“I am more informed and have more compassion for my residents” (E472).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Strongly Agree	I like variety	0 Units	Not Stated

Interestingly, the learner who provided the extract above (E472) did not complete any of the course units, although had benefitted from engaging with the content. This highlights the value of qualitative data, as categorical data alone would suggest that this learner had not participated. The user also identified with an active learning intention, and perhaps indicates that the definition requires clarification, as according to the learner, they had fulfilled this intention by reading through content. From analysis of the open feedback, it became apparent that some learners occupy educator roles and had used the Dementia MOOC as a reliable source of information to support their teaching and sharing of knowledge, which included training in Dementia care homes.

“It is enriching my knowledge about this disease and I will be able to use the information to enhance my students’ knowledge about their service delivery for the affected ones with their families and carers” (E582).

Intention	Materials	Activities	Instructor	Completion	Rating
Drop-in	Strongly Agree	Strongly Agree	I like variety	Completed	4 Stars

“It will help me in my job as I have to deliver insight into Dementia to all the care homes” (E891).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like to learn on my own	Completed	5 Stars

Finally, with regards to learners who stated that the MOOC had supported their careers, some highlighted elements of the course content that was of particular benefit or interest to them, including resources and discussion points with the content itself.

“I am learning so much which is having a positive effect...to the way in which I respond and interact with people with Dementia and their carers...I especially enjoyed the very lengthy National Collaborating centre for Mental Health Report, which I found extremely useful and interesting” (E1768).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Strongly Agree	I like to learn on my own	Completed	5 Stars

“I wasn't expecting the moral ethical issues to be included, but they have got me thinking and re-evaluating my thoughts and ideas. This is good as it is all too easy in this busy life we lead to become complacent” (E260).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	Completed	4 Stars

General Knowledge and Changing Perceptions

Obtaining general knowledge on the area of Dementia was a main motivation for some learners, although many emphasised certain areas of the course content and requirements that engaged them in learning. A number of learners specifically stated that they endeavoured to learn about the disease generally, but valued the interaction with other learners and found this to be a useful resource, particularly when their own perceptions and viewpoints were challenged.

“I also enjoy meeting others who are interested in Dementia and who work in the field. It's helpful to get other view points and opinions, especially those which may challenge mine” (E1500).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	3 Stars

“I usually like to work on my own, however, I have found the discussion board really useful” (E244).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Strongly Agree	I like to learn on my own	2 Units	4 Stars

This supports the benefits of peer learning (Marks et al, 2005; Hew, 2014), particularly as the examples correspond to a preference of variety and learning alone in relation to instructor involvement. Evidencing the variation in learner aims for participating in the MOOC, some did not have a specific goal but provided feedback that highlighted their interest in a specific area and unit of the course. In terms of content, other learners pointed towards the weekly wind-up videos on each Friday as being insightful, with others being impressed by the knowledge of the academics involved. Again, this feedback can be beneficial for the development of future MOOCs.

“No specific goals but have been particularly interested in Unit 3” (E839).

Intention	Materials	Activities	Instructor	Completion	Rating
Passive	Agree	Agree	I prefer to communicate only with the instructor	6 Units	4 Stars

“...Also the video every Friday, I am very impress[ed] with all the lecturer for the brief summary of all what we learn for the week” (E919).

Intention	Materials	Activities	Instructor	Completion	Rating
Drop-in	Strongly Agree	Strongly Agree	I like variety	6 Units	5 Stars

Interestingly, learner E919 had initially identified as only a drop-in learner, yet completed the course, and may be associated with peer learning. Moreover, an association may exist with the quality of the course content which this learner rated highly. The close involvement of the course academic had a positive impact on the perceived course quality, and was identified as a key point by many learners. Reflecting research findings, this supports the extensive contribution of academics in the design process of MOOCs.

“It has been a great way to get professional teaching on the subject” (E1772).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like variety	5 Units	5 Stars

“I wanted to learn more about different types of Dementia but found it hard to access materials to do this. Having materials to hand that I know I can trust has really broadened my knowledge” (E1991).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Disagree	Strongly Disagree	I like to learn on my own	4 Units	5 Stars

A key element of the feedback that related to general knowledge, centred on learners stating how the course as a whole had influenced their perceptions of Dementia and forced them to reevaluate their views. This perhaps links to the quality and professionalism of the academics and the course content. In addition, learners again explained how reading the stories and experiences of other learners was a key part of their learning experience, as it was “interesting to compare with the other comments” (E1434).

“Learning new data on Dementia, plus also getting to view other people’s stories/input. In the ethics module it was good to review and to look at different sides of a story” (E720).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Agree	I like variety	6 Units	5 Stars

“It has allowed me to reflect on my views and personal opinions of people with Dementia and correct my wrong notions” (E736).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Agree	I like variety	6 Units	4 Stars

This evidences that the MOOC had an impact on learner thinking and attitudes and was an essential point of engagement. Again, this is perhaps a main point for subsequent MOOCs to consider, particularly when based on health issues.

“I feel inspired to continue the course and am benefiting from the wide range of references and websites that we are signposted to” (E1366).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Agree	I like variety	6 Units	5 Stars

Career and Education Preparation and Change

The Dementia MOOC proved to be advantageous for learners with regards to career and educational prospects. Learners directly stated that the course would assist their career moving forward, typically in nursing and caring roles, although some were starting independent projects. The MOOC appeared to have offered new insight that was particularly valued, and is a point for consideration of subsequent MOOCs.

“I have had the opportunity to learn new things that will have a fantastic benefit towards my future career as a mental health nurse” (E69).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Strongly Agree	I like to learn on my own	6 Units	5 Stars

Moreover, learners once again highlighted areas of content that they found beneficial to their learning experience, and these centred on linked articles, discussion points and content videos. This relates to quality assurance, academic involvement and pedagogical design.

“I learn from the articles, discussion, and videos. My basic knowledge has developed around Dementia care. I am now ready to give appropriate care for patients” (E9).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like variety	6 Units	5 Stars

“...I can now take this e-certificate and hopefully enter into a working role within the Dementia industry and take all my compassion and transfer it into training into nursing homes and hospitals” (E1905).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like variety	2 Units	5 Stars

As well as supporting career preparation, learners indicated that the course would support them in potential career changes, and this was identified as another wider benefit of participation.

“Professionally this course is going to supplement my knowledge and skills as I may need to make a career change in the future or even move into voluntary work” (E264).

Intention	Materials	Activities	Instructor	Completion	Rating
Passive	Agree	Agree	I like variety	6 Units	5 Stars

The MOOC was also used for educational preparation, with many learners stating that they took the course as a form of progressing their knowledge prior to commencement of a paid university course. In addition, the feedback suggests that the course motivated learners to pursue further education in the area of Dementia and was a clear benefit of participation for the individual, but also for the better understanding of the disease.

“I want to go to college to major in psychology. Dementia has a lot to do with the mind so I saw this as an opportunity to learn something new” (E1357).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like to learn on my own	6 Units	5 Stars

“This course has encouraged me tremendously to take up neuroscience and delve into research oriented with critical neural disease” (E538).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Agree	I prefer peer-to-peer interactions with my classmates	6 Units	4 Stars

Once again, learners also provided feedback relating to the benefits of discussing and reading the perspectives of other learners with regards to a number of aspects, including patient care. It seems learners gained from comparing and contrasting approaches and further supports the incorporation of discussion points into subsequent MOOCs.

“I have gained information regarding consent and capacity which will help me in my role as a student nurse. Also reading other people’s perspectives has helped gain an insight into how other people care for patients or relatives with Dementia” (E1543).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	4 Stars

Supplementary Learning

Analysis of the open feedback revealed that many learners were students on other university courses, particularly psychology and occupational therapy. The MOOC appeared to be used as a trusted resource for additional information for assignments and revision. This revealed a further wider benefit for learner participation in MOOCs and is another consideration for subsequent MOOCs, in terms of the appropriate learning level to pitch the course and its content.

“As I am a student this topic helped me in my assignment” (E369).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Strongly Agree	I like variety	1 Unit	4 Stars

“I am using it for revision” (E1208).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Agree	I like variety	6 Units	5 Stars

“Expanding knowledge on health care to help work towards a degree in occupational therapy” (E640).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Disagree	Strongly Disagree	I like to learn on my own	6 Units	5 Stars

Again, learners also underlined aspects of the content that supported their learning, including references and articles and stated appreciation for the opportunity to compare perspectives and experiences with other learners on the discussion board. Moreover, it was stated by a learner that information and materials made available through the MOOC would not have been received otherwise (E1688), supporting MOOCs as a valuable learning resource.

“As I am a student of Psychology (Bachelors of Science, honours), it has been really helpful for me to learn about Dementia. This course is designed really well and with flexible timings too. I am learning so much and sharing my knowledge with other people...” (E30).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Strongly Agree	I like variety	6 Units	5 Stars

“Some aspects such as the excellent articles and references cited will be useful as I progress through my psychology degree” (E101).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Strongly Agree	I like to learn on my own	6 Units	4 Stars

Personal Reasons

As perhaps anticipated with a MOOC based on a health condition, feedback from many learners related to wanting to understand the condition further to prepare or support a diagnosed family member or friend. This extended to wanting to be more aware of what to expect and the challenges that would be encountered. Again, the course material was outlined as a positive and supports the importance of course design. Others took the approach of wanting to learn about the disease as a precaution, should a family member develop Dementia (E622). For some with a relative with Dementia, the MOOC had encouraged them to reflect on their own responses and to be more understanding and compassionate.

“My dad is suffering from Dementia and the material in the course are extremely beneficial” (E48).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Neither agree nor disagree	I like variety	3 Units	3 Stars

“It helps me understand the challenges ahead with my Mum” (E900).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Agree	Agree	I like variety	3 Units	4 Stars

“It has caused me to reflect on the way I respond to a close relative with Dementia, to be more compassionate and be aware of the feeling that they have” (E898).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Disagree	Strongly Disagree	I like variety	6 Units	5 Stars

Learners also suggested improvements for the course, for instance, having ideas of how to cope on a daily basis. Based on this finding, future health MOOCs could move beyond description, and provide coping strategies for, for example, family members and carers, as this would be of further benefit to learners. Moreover, this may increase enrolment and retention if learners have more to benefit from the course.

“This has given me an initial framework for dealing with relatives with Dementia, although I did hope for day-to-day suggestions too” (E268).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	3 Stars

Continuing Professional Development

The Dementia course proved to be utilised for continuing professional development purposes and added to the annual points required for a number of learners. However, rather than simply participating in the course for this reason, the content and discussion points again seemed to have a wider impact on the thinking and attitudes of many learners, causing them to reflect on their practices and understanding.

“It has helped towards my annual CPD points and it has made me reflect on my Dementia care practices” (E387).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	4 Stars

“This is a good course to add to my CPD and to increase my understanding about Dementia. Also I’m able to apply to my everyday working” (E599).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	5 Stars

A key point relating to continuing professional development is that learners felt that the knowledge they had gained would have a positive influence on their care, particularly when interacting with Dementia patients. Again, this demonstrates the wider benefits of participation in the course and the importance of content quality assurance.

“It meets my professional goal as expansion of my understanding and promoting my clinical approach” (E1169).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Strongly Agree	I prefer peer-to-peer interactions with my classmates	6 Units	3 Stars

“I am utilising the course as part of my continuing professional development; additionally, I believed it would be (and it has been) helpful in better understanding patients who I work with. I have seen an increase in persons with Dementia and the information within this course has given me a better understanding thus far as well as giving me a different approach when interacting with these individuals and their families/loved ones” (E1028).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like variety	5 Units	5 Stars

Knowledge Refresh and Development

The feedback that suggested refreshing and developing knowledge ranged in extent to what learners took from the course. For example, a learner stated that it had helped them to stay up to date with new trends in Dementia (E611) whereas a medical student specified that the course had been useful in updating their medical knowledge and had presented an opportunity to reflect on this. This again reinforces the quality of the course content and places emphasis on this as a key aspect for a MOOC framework.

“Most of the things we learnt during our medical study get [a] bit blurry from our memory [and] this course has given me the chance to recall the important aspects of Dementia and update my medical knowledge” (E118).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	6 Units	4 Stars

Again, learners described the course and particular aspects as advancing their knowledge, and also explained how they had applied this to their professional roles and the changes it had brought about.

“It has allowed me to access a range of articles which supports my learning. The unit on consent is particularly useful as it encouraged me to examine the validity of the organisations consent form particularly in relation to sharing information with other organisations” (E1592).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I do not interact with my instructor	6 Units	4 Stars

This feedback again emphasises the importance of academic involvement in course design and also for validation of quality assurance, as this is of wider benefit for the participating learners.

Further supporting this, a learner described how the course had contributed to increasing motivation at work and had encouraged application of course information. Adding to this, another learner stated that they intended to speak with colleagues regarding what they had learned and the different perspective this had contributed to.

“I have become interested to source more information and to apply models and other tools. I have been revitalized in my area of work. The approach to Dementia has been enlightening and has given me a boost to be pro-active in my work environment with the elderly” (E1983).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Strongly Agree	Agree	I like variety	6 Units	5 Stars

“It has been excellent in reaffirming what I have learnt previously and given me a different outlook to discuss with other staff” (E1854).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I like variety	3 Units	4 Stars

The quality assurance of MOOCs is arguably a key component of success and in the case of the Dementia MOOC, a learner stated that the course had clarified points that they had learned in another MOOC, but that this course included content that was previously inaccessible. Furthermore, learners provided suggestions for increased focus on certain aspects of content to support them with conflicts in their professional roles, although the MOOC had encouraged learners to raise these issues, for example, in supervision.

“It has put into perspective what I have already studied via another MOOC course plus other topics that you have covered which weren’t in other course” (E1510).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Agree	Strongly Agree	I like variety	2 Units	4 Stars

“Would like to spend more time on Ethics and will bring some issues into supervision as at times I have competing demands from a clinical perspective and a managerial (organisational) perspective” (E1592).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Agree	Agree	I do not interact with my instructor	6 Units	4 Stars

Understanding of Methods and Attitudes across Countries

As an extension to learners benefitting and enjoying the opportunity to share perspectives and learn from others on the discussion board, others added that they particularly appreciated the chance to understand the attitudes towards and methods of supporting Dementia patients across different countries. As MOOCs target a global audience, it proved beneficial to include content that addresses approaches in a variety of countries and which centred on the UK approach.

Again, this was achieved through the discussion boards and emphasises the importance of collaborative learning.

“The course has enabled me to reflect on my practice, and able to share ideas with people living in other countries” (E20).

Intention	Materials	Activities	Instructor	Completion	Rating
Not Stated	Strongly Disagree	Disagree	I like variety	6 Units	5 Stars

“It has help me to understand more about Dementia and what other countries like the UK has done to deal with this problem” (E1225).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Agree	Agree	I prefer to communicate only with the instructor	3 Units	4 Stars

“I have really enjoyed the ‘UK’ perspective – the concept of the 6 C’s – and the role of compassion in Dementia care, and am looking forward to the rest of the course” (E245).

Intention	Materials	Activities	Instructor	Completion	Rating
Active	Agree	Agree	I like variety	3 Units	4 Stars

Discussion

The open feedback and extract results demonstrated a range of wider benefits for learners and reasons for engaging with the course. These were particularly centred on professional development and improving work practices. However, a change in attitudes towards Dementia also became apparent from the analysis of open feedback, especially for those working directly with patients in nursing or residential home roles. Typical MOOC learner behaviours were apparent when judging the open and Likert responses. Although some provided feedback relating to their participation on the course and the wider benefits, a range of completion was apparent with some only completing one or three units. This was reinforced via the open feedback, as some stated interest in only a particular aspect of the course. With regards to intentions, although previous research has found consistencies between initial intentions and actual engagement (Petronzi, Hadi, & Leach, 2016) the results showed that for some, although their intentions were to be, for example, a drop-in learner, they actually completed the course. This demonstrated that the course content, design, discussion boards and academic involvement had engaged them to the point of completion and supports placing more emphasis on the pedagogical design of MOOCs. The feedback also related to an overall high rating for the course as learners rated the materials and activities as having supported their learning. This seemingly increased retention and supports Hone and El Said (2016) who, as well as MOOC content, placed emphasis on instructor interactions. The learner extracts show that many favoured variety with regards to interacting with the instructor, with feedback showing the value placed on the discussion forum by learners. This became an integral part of learning and provided a platform for experience and perspective sharing, as described by many learners. The discussion boards promoted collaborative learning and denoted a shift from standard behaviourist pedagogy and explains the ratings that favoured a variety of interaction. Again, research has also pointed towards the significance of

communication between peers on online courses (Marks et al, 2005; Hew, 2014). A further point relates to more Western European learners and the Dementia MOOC being UK based. There is the potential that European MOOC learners were more accustomed to the pedagogical approaches used and as the MOOC author's experience was in the UK context, this is also likely to have been more relevant to European learners. However, learning about the differences and similarities of Dementia care across countries was a point of interest for many, and perhaps contributed to the range of learner locations.

Whilst MOOCs have been shown to have direct benefit for enrolled learners, it is necessary to consider the wider impact and benefits that they can have on learning and teaching in higher educational institutions and beyond. Using MOOCs in a blended format in traditional classroom settings, Caulfield, Collier, and Halawa (2013) incorporated MOOC content in a conventional classroom and found this to be advantageous in terms of readily available materials and resources. This demonstrates that MOOC content can be transferable and applicable to face-to-face taught sessions. Moreover, the authors of this research posit that MOOCs may highlight the need for or interest in a course being taught in a traditional format, and would be a method to ensure that MOOCs appropriately compliment on-campus teaching. As evidenced in the Dementia MOOC, the course materials, including weekly wind-up videos were of benefit to the learners. These videos involved the academic, often joined by a guest, discussing the main points of the week's content including interesting points raised in the discussion forums. The success of weekly wind-up videos is an approach proven in MOOCs that can be adapted by on-campus courses. Arguably, such resources for students would be more advantageous as this could support them in consolidating knowledge from lectures, seminars and workshops. It is also an opportunity for academics to address any frequently asked questions or areas that have proven to be difficult to understand. Massive Open Online Courses also provide academics with a new opportunity to disseminate research knowledge and to collect data, providing that ethical approval and consent is obtained. The collection of data may relate to producing word clouds or incorporating quantitative measurement scales into tasks. In this way, MOOCs provide academics with access to a global demographic, rather than conducting the same research in one local area and is another platform of opportunity presented by MOOCs. With regards to discussion forums, future MOOCs can aim to improve and refine these further by making discussions more manageable. Currently, large numbers of enrolled learners (more than on-campus cohorts) means that many posts from learners will either go unnoticed or receive few reads. In addition, some learners post single word responses, and is counterproductive to promoting meaningful discussions. Therefore, and as an example, learners could be grouped according to their level of discussion activity and so the learners that like to post significantly more than others can engage in conversations, and would also enable more posts to be read. In turn, this enhances the collaborative learning experience that the open-feedback has identified as a key MOOC feature for learners. This would further encourage learners to progress with content in a linear fashion and in accordance with weekly support, as previously found by Leach, Hadi and Bostock (2016). With a number of learners stating that the information they had gained would allow them to inform their colleagues, quality assured and validated MOOCs also have the potential to be used for official company training purposes and is yet a further benefit of this new educational paradigm.

To summarise, the Dementia MOOC reported in this paper has been evidenced via open feedback to benefit learners predominantly in their professional and educational careers, and has encouraged some to reevaluate their perspectives and attitudes. The resources and materials proved to be a reliable source of information, of which without, learners would not have been able to access elsewhere with the same quality assurance provided by the university and with the academic support and consolidation resources. Moreover, engagement and retention of learners was also increased due to academic involvement and peer collaboration. The findings indicate the

necessity to continue placing emphasis on the pedagogical design of MOOCs as this educational approach can have wider benefits for on-campus learning and scholarly activity, particularly research and dissemination. The use of MOOCs as a platform to trial new practices, such as reformation of course discussion boards, can be implemented into on-campus courses to further encourage a collaborative pedagogical approach and modernise communication between students for educational purposes.

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