Research Article

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The perspectives of young general practitioners/family physicians on MOOC as part of continuous education: a descriptive semi-qualitative multinational study

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Abstract

Objectives: In 2018, Harvard University provided a 10-week online course titled "Improving Global Health: Focusing on Quality and Safety" as using Massive Online Open Courses (MOOCs) web-based platform. The course was designed for those who care about health and healthcare and wish to learn more about how to measure and improve that care – for themselves, for their institutions, or for their countries. The goal of this course was to provide visual and written education tools for different countries and different age groups. In respect to the aim of this study is to evaluate the impressions and benefits of group learning activity and educational needs after this "Improving Global Health" courses experience with an online survey among the participants.

Methods: Sixty-six family medicine practitioners and trainees who were among the participants of the course were the universe of the study. These young General Practitioners/Family Physicians (GPs/FPs) from different countries were organized among themselves to follow the course as a group activity. Two weeks after the course, an online survey was sent to all the participants of this group activity.

Results: Twenty-eight out of 66 participants (42.4%) completed the survey and provided feedback on their perspectives and experience. Most of them were female (70.4%), and have not attended any MOOC course before (63%). This international group achieved a completion rate of approximately 65% by the deadline and nearly 90% including those finishing afterward. The majority felt that the group activity proved beneficial and supportive in nature.

Conclusions: Well-structured, sustainable e-learning platforms will be the near futures' medical learning devices in a world without borders. Future studies should further explore facilitators and barriers among FPs for enrolling and completing MOOCs. Furthermore, there is a need to evaluate how these group-learning initiatives may help participants incorporate lessons learned from the course into their daily practice.

Keywords: e-learning; family medicine; group learning; MOOC; motivation; primary care services.

Öz

Amaç: Harvard Üniversitesi tarafından 2018 yılında ''Gobal Sağlığın Geliştirme; Kaliteye ve Güvenliğe Odaklanmak'' başlıklı 10 hafta süren web tabanlı, MOOCs (Massive Open Online Courses) Kitlesel Açık Online kurs düzenlenmiştir. Bu kurs, sağlığa ve sağlık hizmetlerine önem veren ve verilen bu bakımı nasıl ölçeceğini ve iyileştireceği hakkında daha fazla bilgi edinmek isteyen herkesin katılabilceği şekilde tasarlanmıştır. Kursun amacı; farklı ülkeler ve farklı yaş grubupları için görsel ve yazılı eğitim araçları sağlamaktadır. Bu çalışmanın amacı; Grup öğrenme etkinliği olarak, farklı ülkelerden katılan aile hekimlerinin ''Küresel Sağlığı Geliştirme'' kursu sonrası izlenimlerini öğrenmek ve eğitim ihtiyaçlarını belirlemektir.

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Yöntem: Çalışmanın evrenini aynı anda katılan 66 aile hekimliği uzmanı, pratisyen ve asistan oluşturmaktadır. Farklı ülkelerden katılımcılar, bu kursu belirli bir sürede bitirmek üzere kendi aralarında organize olmuştur. Verilen sürenin bitiminden iki hafta sonra kurus bitiren tüm katılımcılara online olarak hazırlanan bir anketle veriler toplanmıştır.

Bulgular: Gönderilen anketi, 66 katılımcıdan 28(%42,4)'i yanıtlamış ve görüş bildirmiştir. Yanıtlayanların; %70.4' kadındı ve ilk kez bir MOOCs kursuna katıldığını bildirenlerin oranı %63'dü. Katılımcıların yaklaşık %65'i belirlenen ilk sürede olmak üzere, toplamda %90'ı kursu tamamlamıştır. Çoğunluğun görüşüne göre bu grup aktivitesi yararlı ve destekleyici bulundu. Tartışma: İyi yapılandırılmış, sürdürülebilir e-öğrenme platformları, yakın bir gelecekte uluslararası medikal öğrenme araçları olarak karşımıza çıkacaktır.

Sonuç: Gelecek çalışmalarda aile hekimlerinin bu MOOCs kurslara katılımını veya tamamlayabilmelerini sağlayan motivasyonun veya engelleyen nedenlerin araştırılması gerekmektedir. Ayrıca edinilen bu deneyimin günlük uygulamalarına yansımaları araştırılmalıdır.

Anahtarkelimeler: MOOC; e-öğrenme; aile hekimliği; birinci basamak hizmetleri; grup olarak öğrenme; motivasyon.

Introduction

MOOCs (Massive Open Online Courses) describe the scalability of open and online education. Nowadays MOOCs are useful and sustainable tools not only for higher education but also for lifelong learning and distance education [1, 2]. This new method first appeared in 2008 and gained popularity after 2012 [3]. According to Bulfin et al. (2014), MOOCs are considered a *portentous development* for higher education [4]. Sa'don et al. reported that the first MOOC topics were pedagogical, social and/or on community diversity. Although initial research came from Europe and the US, MOOCs also have proven to be an important topic for Asia. Lim et al. reported that MOOC development was based on the democratization of learning and education without demographic, economic, or geographical restrictions. MOOCs have allowed students worldwide-unlimited access to quality self-learning programs while reducing educational costs. These platforms reach millions of students and support interactions between students that allow for the diffusion of new ideas between different cultures and nationalities [5]. Although the learners' motivations may seriously differ between MOOCs and traditional higher education, "self-awareness, imagination and creativity" should be the major outcomes, not for only MOOCs, but also for traditional higher education to achieve quality [6]. MOOCs are the open learning and teaching platform for "*people, places and method.*" A resulting consequence and a new problem of this type of education is the subsequent high number of "dropouts." [7].

Additionally, MOOCs provide learners from developing countries access to courses from prestigious universities like Harvard, MIT, or Stanford, ensuring a high quality education experience that would traditionally only be accessible to a select few [8, 9]. This also proves to be a tool for students of all socioeconomic standings. Hoy et al. reported that MOOCs offer a convenient and economical method of continuous medical education, especially given the declining industry funding for professional training. MOOCs serve as a good way to continually update one's skill set [10].

In Turkey, there are only a few public institutions that provide MOOCs. As Cagiltay et al. reported some private Turkish universities structure or co-operate MOOCs and Open Course Ware (OCW) portals [11]. In late 2014, a few universities such as Anadolu University (AKADEMA-http://akadema.anadolu.edu.tr/) and Erzurum Ataturk University (Atademix – atademix.atauni.edu.tr) launched their MOOC platforms. The first courses of these universities took place in 2015. Since 2017, AKADEMA has been using a "Blackboard-based platform" while Atademix has had a Moodle-based MOOC platform. Some private institutions like Yaşar University (hayatboyu.yasar.edu.tr), Izmir University of Economics (Blackboard-based platform- https://ieu.blackboard.com/) from Izmir, as well as Koç University (https://www.coursera.org/koc) in Istanbul offer online learning programs as well. The Middle East Technical University MOOC (BilgeİŞ-www.bilgeis.net) which is supported by the European Union is totally free of charge and self-paced [11, 12].

In 2018, the online learning platform of Harvard University, EdX, provided a 10-weeks length online course on global health, titled "Improving Global Health: Focusing on Quality and Safety". The course was provided free of charge in English with a variety of choices of subtitles. The interested participants were asked to verify their identity with an official document (the online certificate was $99 USD). A financial aid was made possible by the organizers. The course was structured in eight topics with two to 4 h of weekly sessions. The course topics were burden, measurement, standards, improvement, information technology and data, management, patients and public systems. The Director of the Harvard Global Health Institute managed the course and the guest speakers from different national and international institutions provided the lessons. Among the participants, a

group of young General Practitioners/Family Physicians (GPs/FPs) from different countries was organized online among themselves to follow the course as a group activity.

Considering the recent changes in education and training of health care professionals, online courses can have a particular place to improve awareness and knowledge of young GPs/FPs around the world. However, studies on the perspectives of the young GPs/FPs about the MOOCs as part of their training are scarce. Therefore, a study on the topic can bring valuable input to the existing literature. The aim of this study is to address the perspectives of the young GPs/FPs who were in a group learning setting in a MOOC training as part of continuing medical education (CME).

Materials and methods

Study design and participants

Between May–August 2018, 66 young GPs/FPs (GPs/FPs who completed their vocal training and are still in their five years after completion) and residents across the world attended HarvardX's "Improving Global Health: Focusing on Quality and Safety" program. Simultaneously, they formed an online discussion group via WhatsApp to collaborate with each other. This group was used to engage the participants, encouraging the completion of the course. All the participants were graduated from medical faculty while some of them were FPs trainee and others were working as FP after they have completed residency education. At the beginning of the course, attendees decided on a deadline to complete the course and write a reflection immediately afterwards.

Additionally, this group established an online platform for the participants to have discussions, ask questions and share their experiences. Participants also used this group to share the health care systems in their country and their daily practice as a family physician.

Data collection

This is a quantitative survey study that seeks to answer;

- The most important reasons for attending the course
- Role of MOOCs in a group vs. individual setting
- Contributions of this course on participants' professional life and to primary care services
- Identifying topics for further MOOCs and group study

According to the "grounded theory" [13], coding dimensions are presented in Table 1.

Because the purpose of the study was to understand how MOOC attendance affects FPs, the grounded theory in this study reflects the experience of FPs participants who had observed positive input by working and learning together [13]. An online survey was developed based on a literature review and consensus of the authors and sent to the participants two weeks after the deadline via the social media platforms Facebook and WhatsApp [14]. A subsequent reminder was individually sent as needed.

Table 1: Coding dimensions.

Broad categories	Category	Properties	Dimensions
Interpersonal role	Encourager	By general support	Public communication within group
		By task-specific encouragement	Supporting ideas
	Challenger	By prodding	Gentle reminder
		By inspiring	Discussing general and specific topics
		By monitoring	Weekly discussion sessions

In order to collect data, the survey was created via Google Forms (Supplementary Material). In addition to the questions on the participant perspectives, sociodemographic data was collected including age, gender, nationality, and young doctor movement membership.

Data analysis

We used a thematic analysis that was developed by Braun and Clarke in 2000 [15]. This provided us the flexibility and details in order to identify and compare the data. Firstly, we identified the initial themes from the literature. Then we repeatedly reviewed the data to clearly understand the views of the participants [16]. We subsequently coded the raw data within each theme and made connections between the various components [14]. Saturation was not an issue due to the number of participants. Data analysis was calculated manually for the participant characteristics while the descriptive analysis was performed directly on Google Forms.

This study was approved by the ethical committee from Izmir University of Economics.

Results

Twenty-eight out of 66 participants (42.4%) completed the survey and provided feedback on their perspective and experience. Most of them were the young family physicians (92.9%) and have not attended any MOOC courses before (64.3%). The average age of the participants was 37.17 (range: 31–49) years. The proportion of female participants was 71.4% whereas male was 28.6%. The participants were residing in 16 different countries (Figure 1).

In our study, the majority of the participants were attending a MOOC for the first time. Whereas "*MOOC completion rates have been less than 10% historically*" [17], this international group achieved a completion rate of approximately 65% by the deadline, and nearly 90% including those finishing afterwards.

Reviewing the completion deadline, 10 participants (35.7%) were able to finish on time. Those who finished on time agreed that the "group work" served as a motivation to finish.

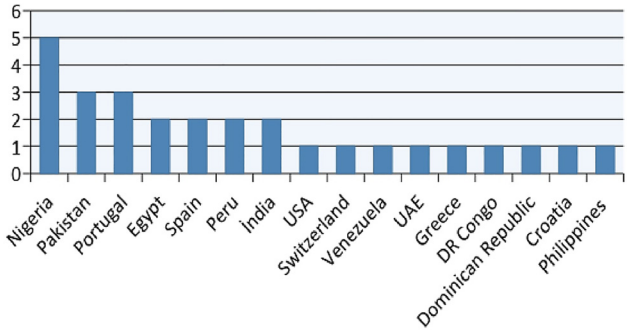

Figure 1: Distribution of participant nationalities.

As for reasons to attend the course, 12 of 28 (42.8%) participants took this course to increase their knowledge. Another eight participants (28.5%) noted that they participated due to their interest in the topic and only two (7.1%) joined "to get a certificate."

Commenting on possible changes in their professional life since taking the course; six of them:

> "*Not yet! But I have a plan to make some changes in the Health Unit where I work. Just waiting for a general meeting to discuss my proposal*".

Regarding contribution of the course participants' daily practice, of the participants, 19 (67.8%) answered "Yes'' to contribution of the course to increase awareness on quality and safety measures in primary healthcare. Some feedbacks include:

> *"Yes, It does. I'm at the head of a primary care clinic and the course has given me key tools to improve quality''*

> *"Yes. We're going to apply quality parameters in our hospitals and centers. It helps me a lot''*

> *"Yes… learned excellent low-cost initiatives to improve quality''*

Three participants (10.7%) mentioned the fee for an official certificate as a concern. Although the cost of the certificate was low, a free option would have been preferred.

> *"It is a well-organized strategy with easy to understand videos even if your language is not English and gives the opportunity to interact in the questions and answers part''.*

> *"MOOC is the best means of learning for those who cannot travel far for the course and it's cost effective''*

Another question was "How do you feel about the contribution of the MOOC courses to primary care services?'' Four of the replies (14.2%) were "No idea" and 24 participants (85.7%) chose:

> *"Supporting, promoting and improving the knowledge and skills of physicians."*

> *"It helps prevent the feeling of isolation. You can fit in a MOOC I to your busy clinical schedule''*

> *"Quite pleased with this good quality distance studies. Especially because I'm in a low-income country with many health problems that require simple strategies to help the population''.*

Only two of them did not have any opinion about the contribution of the MOOC courses to primary care services.

In terms of group vs. individual activity, the majority felt that the group activity proved beneficial and supportive in nature. Working with one's peers often improves speed, interest, and motivation. Participants shared the thoughts about the course surveys and publications. They found having an online group motivating, awarding and as an opportunity to share the experiences with the other colleagues. Only one person did not find group activity as a facilitator to finish the course.

> *"It was a great experience, to connect with an international group with different points of view gave me a global vision of what primary care physician are doing".*

> *"Good if you can keep up with the group. But discouraging when you get left behind''*

> *"Amazing idea, it helps let the project gain visibility''*

> *"It is the objective result of the importance of e-learning and the effort of a work team. Very proud to see my name in the manuscript".*

> *"Very proud and enthusiastic about everything I learned and that has been reflected in the final article, I believe that my public health projects related to primary care will be really improved".*

Lastly, we asked the participants to write down some topics that they find interesting for another MOOC. According to that (Figure 2), eight participants mentioned health care and related topics, six of them mentioned leadership, teamwork and organization. Other topics were practice in family medicine, health services research and statistics, public health, quality improvement, global health and last but not least mental health.

Discussion

According to Christensen et al. and Ho et al. the MOOC participants were "*young, well-educated and employed males and from developed countries*" [18, 19]. In this study,

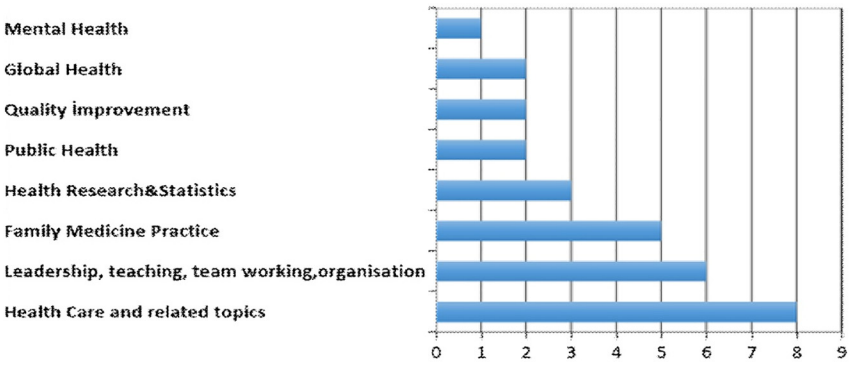

Figure 2: Desires of the participants on possible future MOOC courses.

most of the participants were young, well-educated and employed females. A unique demographic detail was that most participants were not native English speakers and attended from different parts of the world.

In our study, less than half of the participants who completed the MOOC accepted to be part of the study. The majority of these found the group activity useful and motivating for different reasons. The participants expressed their interest to take the course mainly in order to increase their knowledge or as they found the topic interesting [20].

The other point that was considered were the completion rates. According to Perna et al. participant completion rates for MOOCs were quite low at only 2–13% [21]. In this study, completion rates were much higher and this can be attributed to the encouragement of the online group platform the participants formed.

Although participation to the survey seems to be low in our study, the overall level of satisfaction was positive with the majority of participants highlighting the benefits from working collaboratively in this team. While online surveys are very popular and useful, the participation rates might not be as high. Slaeh et al. found that the rates could be as low as 11% [22]. According to Dillman's theory, participation rates are associated with "rewards, trust and cost" [23]. There were no rewards or costs, thus, trust amongst the participants was likely to be a motivator for these GPs/FPs to come together to learn. Peer support among GPs/FPs was the most effective factor to avoid "drop-outs" [7]. According to Ucar and Kumtepe, "motivation" serves as a key point not only for traditional education, but also for MOOCs and OCW portals for learners. "Applying self-discipline" could be structured by group motivation [24].

This survey was "forced-choice": Sass et al. revealed that most researchers have chosen "forced-choice" surveys to ensure fully filled responses. The first challenge was to complete the MOOC from start to finish while the "*test motivation*" served as the second challenge to get data [25]. These results could be considered as only the data of the "motivated participants" who, similar to the MOOC itself, are more likely to complete the entire survey.

Ucar and Kumtepe revealed that "sending emails", "giving information about important dates" and or "discussion about educational material" were important factors to achieve target outcomes and participant satisfaction [24]. "Networks" for learning were used at all steps; "*Agregation, Relation, Creation, Sharing*" within the group dynamics [2].

Aydın et al. reported that only a few universities (8.3%) indicated no impact on the overall institution while many more (37.5%) reported a high impact. Full-time learners from both the online/distance and on-campus settings felt the greatest impact. Academic staff also noted a large impact. In other words, MOOCs can provide a positive online learning and teaching experience. Our results demonstrated a similarly positive experience for participants in line with the results from [12].

Participants reported peer-support as they found themselves among colleagues with different experiences, challenges, and insights. Esfer et al. described a new kind of teacher as "learner-teachers." Online learning gives equal opportunity to take on many different roles including those of a problem solver, teacher, and classmate [26]. Bonvillian et al. believe this type of environment to be a "transformative revolution." In our study, 65% of participants finished the course on time while 28 of them agreed that "working collaboratively in a qualified-supportive team" as Bonvillian suggested [27].

Our participants did not see any challenge on monetary issues. In the end, in order to get a certificate, there was a fee which can be diminished with scholarship opportunities. However, enrollment was free of charge. Although participation was free, the official certificate was only issued to those paying a nominal fee.

Strengths and limitations

One of the main strengths of the study is the participant diversity. Not only did this offer unique cultural insights, but it also provided a platform where participants were able to help each other learn the material and brainstorm for solutions to their specific community's needs. Another advantage was surveying with a semi-structured survey that allowed participants to express their opinions freely. Additionally, the triangulation method used helped to prevent potential biases within the analysis.

One of the limitations of this study is the lack of a "Likert scale" which proved to be an obstacle when analyzing the answers of the participants. The other limitation is the lack of depth surrounding MOOC monetary costs. The survey did not directly ask about or investigate the price for the course certificate. Although to gain an "official, verifiable" electronic certificate could also be one of the reasons to apply and complete the course [21], only two participants mentioned this option. Further studies should investigate the motivations as well as different levels of payment for MOOCs similar to that studied here.

In this study, we didn't use a survey such as "Attention, Relevance, Confidence and Satisfaction" subscales. This scale could be a future option for interested researchers [24].

Conclusion

We demonstrated that young GP/FPs could identify a common learning interest and working together towards achieving a learning objective through MOOCs. The results also reinforce the relevance of MOOCs and their promotion within medical education shared worldwide. Especially during unpredictable conditions such as the current COVID-19 pandemic, "e-learning" becomes revolutionary for medical education, not only for low-resourced countries, but also for healthcare workers of developed countries [28]. Yet another unanswered question that remains is the "ability of the certificated participants." Organizations want to see tangible skills or knowledge developed during MOOC participation [29]. Well-structured, sustainable e-learning platforms will be the near futures' medical learning devices.

Future studies should further explore facilitators and barriers among FPs for enrolling and completing MOOCs. Furthermore, there is a need to evaluate how these group-learning initiatives may help participants incorporate lessons learned from the course into their daily practice. We propose perfecting and expanding this method in order to augment CME, collaboration, and the exchange of best practices among healthcare professionals worldwide.

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