

## **Institutional Collaboration on MOOCs in Education—A Literature Review**

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### Article abstract

This literature review seeks to outline the state of the art regarding collaboration between educational institutions on Massive Open Online Courses (MOOCs) launched in Europe and in the US for the past 10 years. The review explores enablers and barriers that influence national institutional MOOC collaboration, and looks into how existing knowledge about institutional collaboration on e-learning can be used in MOOC collaboration. The review is based on a literature search in databases and on snowballing techniques. It concludes that collaboration on MOOCs can be advantageous in terms of ensuring quality and innovation in the common learning designs, and that—in order to succeed—such projects need strategic and institutional support from all partners involved. Moreover, the review points out barriers concerning the reluctance of individual institutions to engage in national collaboration due to fear of potential loss of their own national branding and the teachers' hesitancy or passive resistance to new educational platforms and formats.



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## Institutional Collaboration on MOOCs in Education—A Literature Review



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### Abstract

This literature review seeks to outline the state of the art regarding collaboration between educational institutions on Massive Open Online Courses (MOOCs) launched in Europe and in the US for the past 10 years. The review explores enablers and barriers that influence national institutional MOOC collaboration, and looks into how existing knowledge about institutional collaboration on e-learning can be used in MOOC collaboration. The review is based on a literature search in databases and on snowballing techniques. It concludes that collaboration on MOOCs can be advantageous in terms of ensuring quality and innovation in the common learning designs, and that—in order to succeed—such projects need strategic and institutional support from all partners involved. Moreover, the review points out barriers concerning the reluctance of individual institutions to engage in national collaboration due to fear of potential loss of their own national branding and the teachers' hesitancy or passive resistance to new educational platforms and formats.

*Keywords:* MOOC, collaboration, cooperation, educational institutions

### Introduction

This study is part of a large research and development project that aims to determine the enablers for, and barriers to, the creation of a countrywide partnership between university colleges in Denmark to develop a national Massive Open Online Course (MOOC). Before the potential upscaling of the project to the development of a national MOOC that offers a variety of modules for the university college sector, this part of the project—that is, the literature review—intends to categorize enablers and barriers, threats and advantages in order to let the later project build on others' experience and knowledge. Thus, the research question to be answered in this article is: *which enablers and barriers are found in national MOOC collaboration on an institutional level?*

## Methods

For this review, a systematic search was carried out in the Educational Resource Information Center (ERIC) database, the British Education Index, and FachportalPaedagogik.DE (from September to October 2016), using the search keywords “MOOC,” “institution,” “cooperation,” “collaboration,” and “institutional cooperation.” Furthermore, we have used the so-called *snowballing techniques* (Greenhalgh & Peacock, 2005), which involve reading, and potentially including, the references of the resources consulted, and to some extent, our prior personal knowledge has also contributed to the final collection of the resources used in this paper. To the best of our knowledge, no study has investigated the exact same topic as ours, that is, the enablers for, and barriers to, national collaboration on MOOC development. Thus, we found it necessary to explore the literature from two different perspectives that when combined may contribute to answering our research question.

1. First, we aimed to identify enablers and barriers concerning national, as well as cross-national, collaboration on MOOC development as on an institutional level.
2. Secondly, we looked for collaboration on e-learning and related terms for online learning. We expected that findings related to e-learning may be of relevance to MOOCs in that the two formats meet similar challenges in relation to, for instance, creating teacher presence and supporting student collaboration, as well as social interaction across time and space.

The selected papers were then grouped into the themes relating to national and international cooperation and collaboration on e-learning, online learning, and MOOCs. Thus, we wished to focus on the following questions: What opportunities, potentials, and/or preferred consequences are found in the collaborative/cooperative development of MOOCs? What are the barriers, threats, and/or challenges encountered? What opportunities, potentials, and/or preferred consequences are found in national and international e-learning/online learning collaboration projects? What are the barriers, threats, and/or challenges? Given that the concepts of collaboration and cooperation have related meanings (Oxford English Dictionary, n.d.), we include both ideas in our review.

The database searches for (MOOC OR e-learning OR online learning AND institutional cooperation OR institutional collaboration) and snowballing techniques generated over 100 hits, which we limited to 25, mainly because the institutional level was mentioned in the title and/or in the abstract but proved to play a minor role in the studies when examined more closely. Often, “collaboration” referred to partnerships and projects carried out *within* a single institution, and “cooperation” indicated partnerships with other—more or less similar—institutions, which explains why some resources were excluded from the present literature review.

Below, we present the results from our reading and analysis of the articles, and we start with the opportunities that educational institutions find in collaboration, cooperation, and partnership with other institutions in cross-national development of MOOCs.

## Enablers and Barriers Concerning MOOCs and Institutional Collaboration

Collaboration among institutions, both nationally and internationally, is often highlighted as one of the greatest opportunities in relation to MOOCs (Brown & Costello, 2015; Naert, 2014; Siller & Muuß-Merholz, 2014, as cited in Schuwer et al., 2015; Valkenburg, van Kos, & Ouwehand, 2014). Educational institutions often point to competition among institutions as a motivating parameter for producing MOOCs. Through MOOCs, they can attract more students (Schuwer et al., 2015) and gain national and/or international visibility (Jansen & Schuwer, 2015). As MOOCs are open and usually free, students can participate in global networks (McAuley, Stewart, Siemens, & Cormier, 2010), as well as collaborate and contribute to the MOOCs themselves. Furthermore, many studies (e.g., Jansen & Schuwer, 2015; MOOC Commission, 2014; Santos, Punie, & Muñoz, 2016) seem to agree that the development of MOOCs can advantageously take its point of departure in networks, either nationally or internationally. Thus, reasons for collaboration on MOOCs are often found in international competition and the wish to improve the educational standards of individual institutions (Kjeldstad, 2016).

In 2014, the MOOC Commission published a Norwegian report about MOOCs worldwide. The topic of this report is very relevant to our topic, so we will highlight several of the points mentioned below. The report finds that the increased competition, not only from other countries but also among Norwegian educational institutions, may lead to higher quality in education but may also result in the need to develop MOOCs for an international group of students. The report concludes that it is unlikely that the individual institutions can improve the quality of international education and develop the courses offered quickly enough on their own. Thus, it is recommended that the development of MOOCs is supported nationally. Moreover, the report highlights that one of the potentials of national cooperation on MOOCs may lie in the opportunity to contribute to a joint MOOC from different areas of expertise. Resources could be used better if divided among institutions, and more could benefit from leading national fields of expertise, if expertise were exchanged (MOOC Commission, 2014).

Thus, MOOCs should lead to further internal academic cooperation in the institutions. As the technology used to deliver MOOCs allow for a more collaborative organization of education and counseling, the commission believes that MOOC development requires strengthening of instruments for increased cooperation, sharing of work, and specialization in the higher education sector. Furthermore, the commission recommends that the use of MOOCs should lead to increased cooperation among universities and university colleges and working life. New technology opens new opportunities for cooperation, and increased cooperation could contribute to educational programs that are more relevant for trade and industry.

Similar arguments are presented in a report on international MOOC strategies (Jansen & Schuwer, 2015). According to the authors, one of the drivers behind MOOC offerings is found in the globalization and increased collaboration among institutions. They explain that as university education becomes more and more internationally oriented, the individual institution becomes regulated by macro-effectiveness of educational programs. Expertise is offered in joint online courses developed in networked curricula and it is not connected to a singular institution. From a broader perspective, they conclude that “open education is about collaborating and sharing, being part of a community” (Jansen & Schuwer, 2015, p. 30).

A study in Utah examined institutional collaboration on the development of an MOOC between unlikely partners, namely an electrical engineering faculty and a librarian (Harp Ziegenfuss, & Furse, 2016). Not only were communication and collaboration within the units strengthened as a result of this project (Harp Ziegenfuss & Furse, 2016, p. 107), but the people who collaborated—and eventually formed a partnership in the MOOC development—also found that it was a creative process, a learning and an identity-building experience to be part of a project involving unlikely partners. One of the reasons for the success of the project was that only two people were directly involved in carrying out the whole development and teaching phase of the MOOC module, and the study showed that they were very engaged personally.

Collaboration on MOOCs is not exclusively related to their development but may also be concerned with evaluation and visualization of learning outcomes and learners' trajectories. For example, an international project on the development of a common dashboard for the evaluation of student learning is reported by Leon, Cobos, Dickens, White, and Davis (2016). The University of Southampton and the University Autónoma of Madrid embarked on a joint project aimed at realizing a cross-institutional and cross-platform analysis of their respective MOOC data (Leon, Cobos, Dickens, White, & Davis, 2016). The study finds that due to the institutions' different experiences and knowledge, a deeper and broader analysis of the student-generated learning analytics data can be conducted. Moreover, it concludes that expertise was developed in the project, and that this expertise can be transferred back to the institutions.

However, there are barriers and challenges to overcome when educational institutions choose to collaborate on the development and implementation of MOOCs. Several studies report the lack of strategy for integrating MOOCs in institutions as a problem (Brown & Costello, 2015; Santos et al., 2016; Teixeira, Volungevičienė, & Mazar, 2014; Truyen, 2015). Contrary to other findings (Leon et al., 2016; MOOC Commission, 2014), Schuwer and colleagues (2015) note that there might be fear of deteriorating quality and of losing control over finances when the identity-building authority is divided among several institutions. Losing the global perspective if the MOOC is exclusively European in scope and content (Valkenburg et al., 2014) poses another risk, which may be even greater if the MOOC is only offered at the national level. In a study about open education in five countries (Santos et al., 2016), the participants mention several motivations and barriers encountered at the individual institutions for open education in general. One of their motivations is the development of new teaching strategies and technologies for learning, but at the same time, they identify the need for training academic staff on open education and report the academics' passive resistance as a barrier. Moreover, they recommend developing scalable technologies, a sustainable financial model, a strategy, and a shared vision (Santos et al., 2016).

From an educational, an economical and a societal perspective, there are many opportunities in international MOOC collaboration. But the same advantages might be seen as threats to the individual teacher and also to the individual institution when collaboration takes place at a national level where competition is harder and branding is more visible. Below, we broaden the perspective and include studies on institutional collaboration/cooperation projects for the development of e-learning/online learning in a national setting.

## Enablers for and Barriers to National and International Cooperation on E-learning

National and international institutional cooperation can be grouped according to at least two different trends: one trend is a cooperation strategy supported by funding programs, especially those of the European Union (EU) (Brown & Costello, 2015). The other trend is the challenge faced by small or medium-sized institutions in relation to single-handedly accumulating sufficient resources for their e-learning programs, which leads to an increase in national and international cooperation (Kennedy, 2006; Macleod, Haywood, Woodgate, & Alkhatnai, 2015). The institutional cooperation involving an association of institutions (formally labelled a consortium)

represents a low-risk, cost-effective method for member institutions to offer their students access to a multitude of online courses. It also provides a network of similar schools to which member institutions can market their own unique online courses, while the consortium handles the administrative overhead (Kennedy, 2006, p. 69).

In addition to this, the need for a *stand-alone* strategy that does not depend on external funding when designing a new program and cooperating with other institutions on e-learning is also stressed as important by others (e.g., Christensen, Christiansen, Gynther, Helms, & Schlüntz, 2014; Spencer-Oatey, 2012; Teixeira et al., 2014).

A model for analyzing the readiness of institutions to develop and implement e-learning courses has been put forward in the form of an organizational-didactic model and coined as an organization-didactical model. Based on mostly European studies in vocational schools (focusing on Norway, Germany, Australia, and the UK), their work examines the enablers for and barriers to institutions' decision making about e-learning and e-learning strategies. The model provides institutional staff and decision makers with essential questions to be answered when engaging in e-learning, such as:

- Strategic level: Decision-making level (why cooperate on e-learning with other institutions?)
- Tactical level: Support and development (what are the conditions for e-learning cooperation?)
- Operational level: Qualified staff (what is the quality of readiness of current didactic designs and the e-learning staff culture within the institution?)

The model should be viewed as neither a top-down nor a bottom-up approach. The three institutional levels must work together following although the first decision or the first step must be made at the operational level. Loosely coupled bottom-up strategies or *e-learning experts* in singular cultures that are not anchored formally in the institution have very little chance of survival over the long term. This holds true for e-learning activities within the organization, as well as for cooperating with other institutions. This division of organizations into three levels provides a normative structure for the present section of the paper, which is hence divided into an *institutional level* (combining the first two) and a cultural staff level which covers the operational level.

Ossiannilsson, Williams, Camilleri, and Brown (2015) conducted a desk study about quality models in online and open education. Their data-gathering strategy aimed to cover all continents, trying to show similarities and distinctions in cultures, languages, and levels of maturity in developing the quality of online learning, including e-learning. In the introduction, they state that questions about “How students

learn, where and when they learn, how institutions structure programmes and services, and how these services are priced and organised are global challenges” (p. 13). Along this line, the overall conclusions of their work point at more common criteria, such as standardized systems, specific criteria and policies (p. 35):

- **Creation of specific criteria:** several countries have specific, comprehensive sets of criteria for e-learning providers, and/or distance teaching institutions.
- **Mainstreaming into overall quality assurance:** Several other countries, have updated or reviewed their existing quality assurance criteria, and found that a single set of criteria can cover all types of institutions. A notable example of this is the UK, which moved from advisory guidance in its code of practice to a mainstreamed system that is neutral on modes of delivery.
- **Hybrid/personalized system:** while now only partially implemented or under discussion, quality assurance systems can have a standard *core* applicable to all kinds of education and organizations, with add-on *modules* specific to distance or e-provision.
- **No approach** – other systems have not considered the impact of e-learning onto their criteria, creating sometimes perverse results, such as limitations on the size of classrooms, or requirements for physical facilities which are not required for e-learning.

National cooperation regarding the development of educational design is first and foremost a costly matter in terms of the necessary presence of human and technical competencies (Marcal & Caetano, 2011). Institutions should prioritize the required time commitment, human competencies, and adequate technology for sustainable cooperation. Perhaps this is the reason why there is a link between institutions that are highly interested in cooperation and e-learning, and institutions with many students, comprising over 10,000 (Jungermann & Wannemacher, 2015). At least, this seems to be the case in higher education in Germany although the revolution of e-learning in the form of MOOCs has to date not yet materialized there in a greater form (Lorenz, Wittke, Steinert, & Muschal, 2015). However, the work of Lorenz, Wittke, Steinert, and Muschal (2015) shows a crucial need for institutional decision making to enable cooperation (see also Kennedy, 2006). The institutions in Germany, the *Fachhochschulen* in this case, *decide* on a strategy for lifelong learning, thus creating an avenue for innovation within the institutions (Christensen et al., 2014; Kennedy, 2006; Lorenz et al., 2015). Across various countries, the same pattern can be observed; organizational decision making on e-learning (in a broad sense) is essential and precedes the acceptance of small-scale innovation cultures, first movers, and isolated technology-rich sites within a certain institution. These bottom-up initiatives can be tolerated and to a certain extent, even encouraged at the strategic level, but this is all too shaky and lacks the robustness that comes with a strategic decision made by the institution to enter the field of e-learning and MOOCs. This way, the innovative milieus, which probably exist in every institution also gain the necessary legitimacy for their work and enthusiasm that is essential to all organizational development.

Of further interest, the work of Jungermann and Wannemacher (2015) shows that the more an institution is engaged in e-learning, the more likely it is that the institution is already involved in cooperation with external partners. Such is the case for universities, universities of applied sciences, and organizations dealing with vocational training; if a sustainable e-learning culture is already in place in an institution, it opens the way to more successful cooperation on e-learning with other institutions.

The institutions state two factors—better teaching and more efficient economy—as the overall reasons for engaging in cooperation on e-learning with other institutions or parties. In doing so, the institutions hope to reach new groups of students who were not interested previously.

Along the lines of current trends within the educational system, the work of Hyde, McGarry, Thompson, Wilkie, and Aubeeluk (2013) reveals that potentials for cooperation can also be found in relevant and important policy papers. In this regard, the study of Salajan and Roumell (2016) examines the various programs concerning e-learning in the EU countries since the first program *Learning in the Information Society* from the mid-1990s up to now. Within the EU, several studies have been conducted, and “a number of studies suggested that the European Commission’s policies stimulated collaboration in e-learning approaches throughout the EU” (Salajan & Roumell, 2016, p. 392). However, Salajan and Roumell conclude that the impact of such cooperation is often limited, usually due to the weak sustainability of the designed projects and national differences when undertaking them.

In a study about international cooperation among 51 universities in China and the UK, Spencer-Oatey (2012) finds that the greatest challenge for institutional cooperation is “the constantly changing goals” (p. 249). The work of Spencer-Oatey points out the cultural challenges when addressing the e-learning culture of a certain institution, stating that in a situation where teams are meant to develop a specific courseware and the teams are not familiar with one another and the different environments for e-learning it was hard for the teams to adjust the courseware to their specific contexts. Moreover, it was hard to predict how it would work if at all, and therefore they had to adjust their project goals along the way.

It is highly important to pay attention to “cultural and psychological dimensions” (Toprak & Genc-Kumtepe, 2014, p. 135) when designing new programs or courses in higher education from a cooperative perspective. “People that work internationally and cross-culturally realize that their partners may reach very different conclusions from the same evidences” (Toprak & Genc-Kumtepe, 2014, p. 134). Furthermore, when cooperating internationally, the authors highlight social presence, perception of time, differences in communication styles, ways of conflict resolution, and language issues related to second-language speakers as important factors of which stakeholders should be aware. Working on the Internet by using online, digital communication tools represents an inherent threat as well. The technology contains an empowerment potential but when cultural differences appear (from a national level and from an institutional as well) it is in danger of creating what the authors refer to as “rooms for alienation” (Toprak & Genc-Kumtepe, 2014, p. 143). The researchers sum up a variety of important issues or principles to consider when institutions choose to cooperate on e-learning: The parties must propose cooperation to the institutions they believe that they can work with, and project management guidelines from the organization financing the joint study/work must be utilized. International governmental and nongovernmental organizations are preferred by partners due to their networks and environments that are conducive to international studies. Information and communication technology play an important role in such cooperation as both motivators and facilitators in the global culture, but the parties must be well aware that the joint working environments themselves constitute learning processes where partners form unique groups get to know one another and their previous experiences.

As culture affects both macro and micro levels, the value orientations of nations and institutions influence individual perceptions of practitioners, especially the decision makers. For successful institutional cooperation to take place, a certain pool of necessary competencies among the staff and in the supporting units is of course essential as well. In Martin and Treves’ (2007) study, the importance



of technical skills within staff is stressed alongside the enthusiasm and the commitment of working with e-learning. The authors summarize their study by stating, that the engagement of key staff is the single most important factor for successful engagement in e-learning and it is crucial that a team needs not only some sort of critical mass but a pool of academic and technical skills as well.

## Discussion and Conclusion

Our research question for this review has focused on the potentials for and barriers to national collaboration on the development of MOOCs. The potentials in MOOC collaboration are found in the fact that educational institutions face competition both nationally and internationally. When collaborating, the individual institutions are branded nationally and can contribute to the MOOC with their specific areas of expertise. Moreover, collaboration on MOOCs may contribute to the development of the participating teachers' fields of expertise as such projects require knowledge sharing and thus heightens the quality of the MOOC and make innovations in learning designs possible. Furthermore, the development of MOOCs and online courses in general may attract more students internationally and may be cost effective for the institutions.

However, the potentials in international MOOC collaboration may be seen as barriers in national MOOC projects because competing domestic institutions are to collaborate and may thus lose individual branding effect in the project. As part of a crowd, it is difficult to stand out from it. The barriers may also be found in a fear of losing control over the institution's own finances, of the deterioration in educational quality because of the special MOOC format, or of the lack of international perspectives if the MOOC is developed in a national setting. Barriers may also arise in the project if the collaborating institutions have very different cultures, knowledge, and/or goals, if an institutional strategy for integrating MOOCs in education is lacking or weak, or if the MOOC collaboration is not supported financially or strategically at an institutional level. To sum up: Collaboration among educational institutions is desirable, but autonomy, competition, and national branding are appreciated values too. Furthermore, it shows that institutional cooperation is more likely to succeed if the institutions working together are facing the same kind of challenges and have a more or less monotonous staff experience level and experiences with e-learning and the development of an e-learning culture among staff.

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