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# MOOCs and the Claim of Education for All: A Disillusion by Empirical Data

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## Abstract

MOOCs have shaped the discussion on learning with digital media for the last few years. One claim of MOOCs in the tradition of Open Educational Resources is to expand access to education, mainly in the field of higher education. But do MOOCs meet this claim? The empirical data in this article confirm the suspicion that, despite all the heterogeneity of the participants, MOOCs are mostly used by people with a higher level of education. Data of participants from two MOOCs from Germany, as well as, empirical data from large providers and universities are used. But due to the different forms of MOOCs there is no comprehensive proof possible. With respect to the Knowledge Gap Theory and the Digital Divide, a theoretical framework is provided to explain possible causes of a different usage. The aim of the article is to point out the risks of an increase of inequalities as a consequence of hyping MOOCs and to stimulate a discussion about possible answers to make MOOCs an instrument of education for all.

## Introduction

Unequal access to information and related unequal educational chances are considered to be the basis for the existing imbalance of power and differential possibilities for individual development. The permanent availability of information on the internet establishes the possibility that the traditionally institutional and status related barriers to education should not exist anymore. Therefore, increasing access to the internet in the last decade is a hopeful sign[1] - even though

[1] In 2013 76.5% of the German population was using the Internet, which makes a total of about 53.7 million citizens of Germany aged 14 and above. This means that the amount of internet users in Germany has more than doubled since 2001 (TNS Infratest, 2013). In the USA in 2013 84.2 percent were using the internet. In 2001 the individuals using the internet nearly reached 50 percent already (ITU, 2014).

access, especially in developing countries, is still significantly lower than in industrialized countries.

In order to promote the chances of a better education for all via the internet, various initiatives for open educational resources (OER) have been launched. The aims of this movement are written in the "Paris OER declaration" which includes the recommendation:

"Promote and use OER to widen access to education at all levels, both formal and non-formal, in a perspective of lifelong learning, thus contributing to social inclusion, gender equity and special needs education" (UNESCO, 2012). This would imply that not only will access to educational resources be generally improved, i.e. more people will be using educational resources, but also that inequalities will be reduced, i.e. people who previously had no access to education will now get access.

The core principle of MOOCs is to provide access to education for a wide audience and thus also increase the access to education. Therefore, we clearly see MOOCs in the tradition of Open Access, Open Education, and the OER movement (Klobas, Mackintosh & Murphy, 2015) (see figure 1).

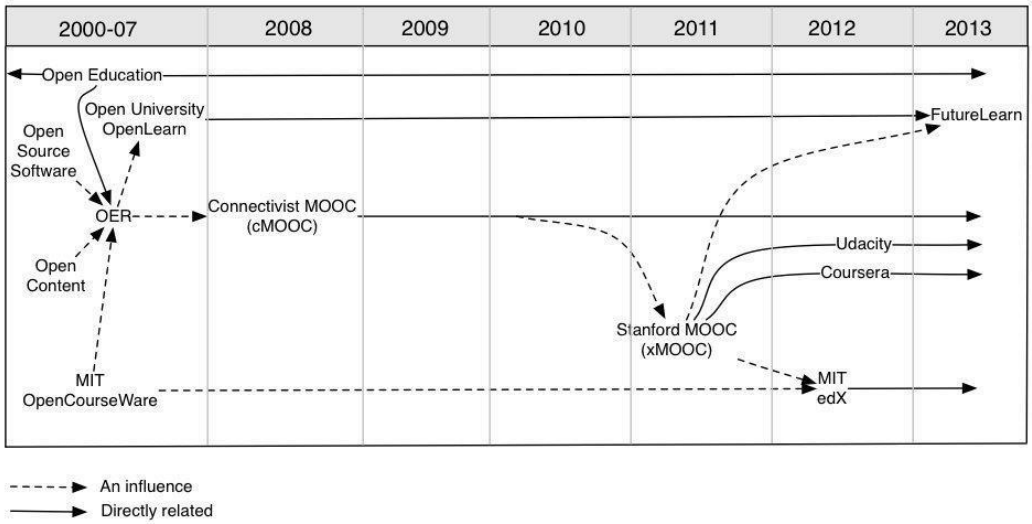


*Figure 1.* MOOC Timeline (Yuan & Powell, 2013, p. 6)

This intention is often emphasized in relation to MOOCs, e.g. by EdX CEO Anant Agarwal in an interview done with Forbes online. In the interview, he named the goals of MOOCs "to increase access to quality education, to improve teaching and learning on campus, and to conduct research into how students learn" (Kanani, 2014). EdX also wants to "provide truly world-class online courses to everyone, everywhere, regardless of social status or income, while also improving on-campus education" (Kanani 2014).

Despite the hope for more equal access to education through MOOCs, the empirical data show (section 4) that MOOCs potentially reinforce inequality. In this article we will give a theoretical background to explain why MOOCs are mostly used by more highly educated people (section 2) and stimulate a discussion on if and how MOOCs can contribute to equal access to education promoted by Open Educational Resources (OER) (UNESCO, 2012).

# Theoretical Background

As part of the theoretical considerations, two related approaches will be discussed that provide an explanation for the unequal use of information resources: The Knowledge Gap Theory developed in an era of traditional mass media and the follow-up expansion of that approach concerning the Digital Media.

## Knowledge Gap and Digital Divide

An explanation of inequality within the prerequisites of access and the forms of use of open access information is provided by the Knowledge Gap Theory (Tichenor, Donohue & Olien, 1970), which argued that the increase of information in society leads to differing reception dependent on socioeconomic status:

> "*As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease*" (Tichenor, Donohue & Olien, 1970, p. 159).

With regard to digital media, which is increasingly taking over the former role of mass media, the term digital divide has evolved to describe the aforementioned theory since the 1990s (Brown, Barram & Irving, 1995). Since that time, a number of researches have been carried out which led to a diverse state of knowledge (for a summary, see Visvanath & Finnegan, 1996).

The central constructs of the Knowledge Gap Theory are: growth in knowledge, socioeconomic status, and time. Wirth (2006) outlines this relationship with the following arguments:

1) Communication skills: People with a higher socioeconomic status possess better competence in reading and understanding for the acquisition of political and scientific topics.

2) Existing knowledge: People with higher socioeconomic status possess a better topical prior knowledge, due to their formal education and their usage of media, which leads to easier acquisition of knowledge.

3) Social contacts: People with higher socioeconomic status have more social contacts, which leads to a higher possibility for exchange about relevant topics.

4) Selective use of information: People with higher socioeconomic status have better information literacy skills.

5) The special position of print media: Political and scientific topics are mainly covered by the print media, which are more often received by the formally higher educated (Wirth 2006, p. 169f).

Due to these different causes which inter-relate, reinforce, or raise their effects, there are three theses on the digital divide to be discussed below:

**Access Gap.** It is not surprising that there are still differences in access to the internet between developed industrial nations in North America, Europe, and the 3rd world developing countries, in particular, as shown in Figure 2.

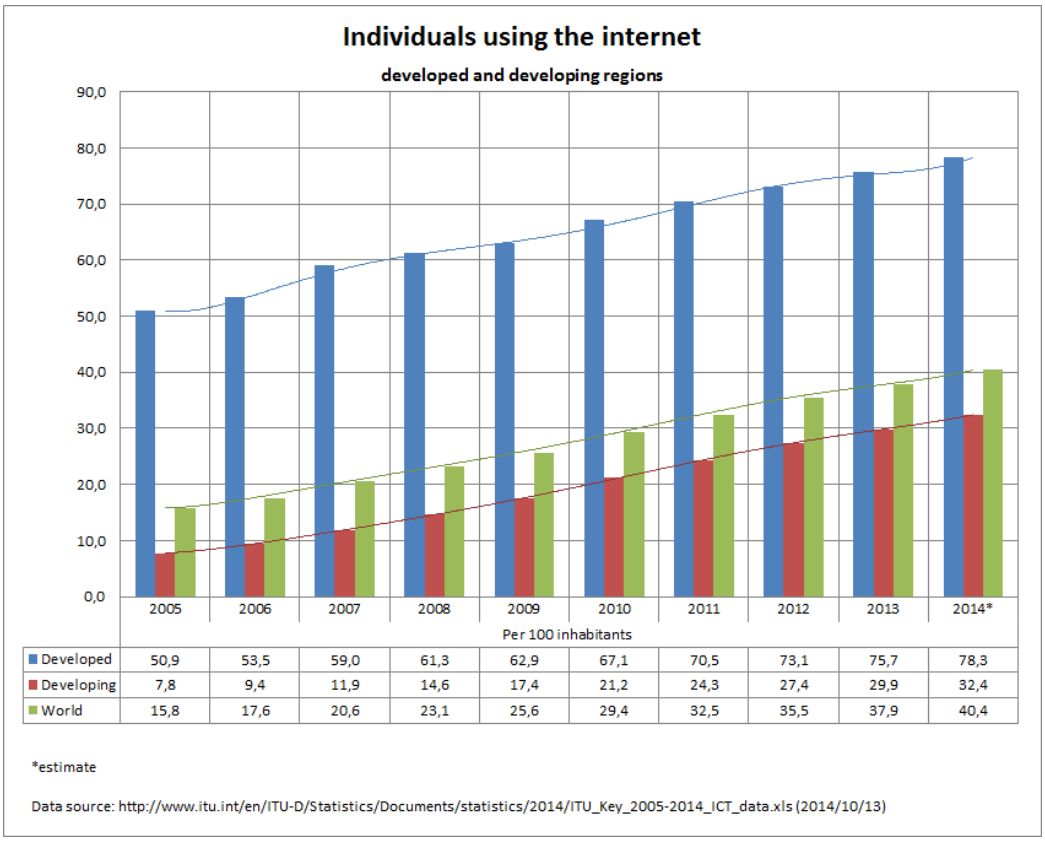


*Figure 2*. Individuals using the internet (developed and developing regions)

Above all the reasons for this are attributed to the individual economic situation, but also to the technical conditions in developing countries especially for the poorer sections of the population. But the access gap isn't only a topic between developing and industrialized countries; there is also an access gap within industrialized countries. Although in Germany about 75% of the population have access to the internet, it can be seen that "despite numerous initiatives the digital divide has

not yet been overcome in Germany" (TNS Infratest, 2013, p. 19; translation by authors[2]). These inequalities are dependent on Gender, Age, Employment, Educational Background, or Household Net Income (TNS Infratest, 2013):

- *Gender*: 81.3% of males and 71.8% of females are online.
- *Age*: 97.5% of the group aged 14-19, but only 30.2% of people aged 70 and above use the internet.
- *Employment*: While 89.1% of the employed population is online, only 61.2% of the unemployed are.
- *Educational Background*: There are 91.7% of people having a university degree can be considered as being online, while it is only 60.7% of the graduates from a secondary school. .
- *Household net income*: Only 55% of people with a household net income of 1000 Euro and less per month are online, whereas 93% of the people with a household net income of 3000 Euro and above.

In summary, this demonstrates clearly that not only are there differences between developing and developed countries, but also that socioeconomic factors within industrial countries influence access to the internet (Zhang, 2013).

**Usage gap.** A further dimension is how people are making use of freely accessible content in the internet. It can be observed that different segments of the population also tend to differ in their usage strategies. Therefore, technology can act as a resource for equalizing but usage and interpretation are dependent on dispositions, which means without the proper basic skills that facilitate the acquisition and usage of available media, these resources cannot be used at all or only to a very limited degree (Zillien, 2009).

Thus the access to digital media is not equivalent to being able to make use of them in a productive way. This false conclusion is also frequently connected to the so called "net generation" that grew up with the internet being available all the time and therefore supposedly show better usage competences than older generations. However, a closer look reveals a more generation-specific differentiation of use practices (DIVSI, 2012).

The differences in cultural capital[3], being habitus and skills, which are developed by socialization and education, are often held to be responsible for different use practices of digital media. In fact

[2] germ.: „trotz zahlreicher Initiativen die digitale Spaltung in Deutschland noch immer nicht überwunden ist."
[3] The concept of cultural capital was first introduced by Pierre Bourdieu (1930-2002). He describes the relationship of cultural capital and education system as follows: "By doing away with giving explicitly to every one what it implicitly demands of everyone, the education system demands of everyone alike that they have what it does not give. This consists mainly of linguistic and cultural competence and that relationship of

empirical studies show no clear border between an "information elite and entertainment proletariat"[4] (Eichmann, 2000; translation of book title by authors), but a stronger orientation towards information and educational usage can be identified within higher status groups, which is supported by recent analysis of further education (Leven, Bilger, Strauß & Hartmann, 2013).

**Reception gap.** The reception gap finally focuses on the individual information literacy: If users have the same access conditions, the individual capacity for dealing with information, e.g. content search and rating strategies as well as cognitive dispositions, can lead towards differences in the reception of information. These findings can be condensed to the assumption that people with higher socioeconomic status are able to derive a higher benefit from a wide variety of educational possibilities provided by digital media, specifically the internet (Zillien, 2009, p. 241). In the following section, how these arguments meet the use of MOOCs will be investigated.

## Digital Divide and MOOCs

Massive Open Online Courses (MOOCs) have dominated the discussion on learning with digital media during the last years. Though, after excessive research, it appears to the authors that up to now the connection between MOOCs and the digital divide has only been established implicitly but never explicitly. Therefore, this theoretical framework has been chosen for this article. At first glance it seems that MOOCs are a useful as a strategy to close the gap between the information rich and the information poor by opening up the traditional universities and their content in new ways. But this view leaves aside the influence of socio-cultural and educational backgrounds, which may lead to a different reception of freely accessible resources like MOOCs which may involve OER (see Chapter 2.1). This means, with respect to the knowledge gap hypothesis and digital divide that the availability of those educational resources (MOOCs; OER; etc.) is especially useful for people with higher socioeconomic status and / or educational background and is associated with a different kind of motivation and reception of learning offers. Therefore, the chance of widening participation in education faces the risk of reproducing existing inequalities and may even be increasing them. This means that people with higher socioeconomic or educational status will benefit more from the opportunities MOOCs offer than other people. In consequence, MOOCs can enlarge the knowledge gap rather than close it. Therefore the question arises, if the expectation associated with MOOCs is that they will improve access to education by online teaching, which will lead to a higher participation by traditionally educational disadvantaged groups (Lane, 2013) or whether MOOCs will contribute to increase unequal chances for different population groups. In order to explore this assumption, the dimensions described in Section 2.1 will be discussed.

**Access gap and MOOCs.** Open Educational Resources are freely available on the internet making them generally accessible to every human being. Especially, in countries where people do not have access to education or have insufficient and qualitatively bad educational resources (e.g. in developing countries), OER offer the only or the broader opportunity to learn.

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familiarity with culture which can only be produced by family upbringing when it transmits the dominant culture." (Bourdieu, 1977, p. 494)

[4] germ.: "Informationselite und Unterhaltungsproletariat"

These resources can easily be used in order to create MOOCs, which can be freely accessible and may therefore be one important pillar for education in poorer regions of the world or for target-groups whose financial background does not allow them to take part in educational offers that are not freely accessible. Therefore, we assume, that MOOCs and OER are very closely connected in their ideals and history but do not determine one another.

It proves to be especially problematic that in developing countries the internet is available to those who hold the necessary financial resources. It also proves to be not solely a problem of developing countries, as people with a low income in developed countries show a tendency not to invest in an internet connection (Zhang, 2013). But basic exclusion already happens when it comes to availability and reliability of ICT (Simon et al., 2011). This leads to the fact also that MOOCs and OER mostly reach those who are already distinct from the poorer population by their status and financial possibilities (Perna, Ruby, Boruch, Wang, Scull, Evans & Ahmad, 2013; Zhang, 2013). The issue of reliable access to ICT, including electricity, is an ongoing topic and has been discussed against the background of the nearing deadline of the Millenium Development Goals and the chances that lie within MOOCs for Developing countries (IIE, 2014).

The International Energy Agency (IEA) continuously monitors worldwide electrification, which shows that the worldwide electrification in 2013 was 81.9%. Looking at developing countries only, the value was 76.5%, with Africa having the lowest rate at 43% and the sub Saharan area with only 32%. In general, there is a clear difference between urban and rural areas around the world (IEA, 2013). Being electrified still makes no statement about the reliability and permanent availability of electricity. By contrast, in urban regions the electrification rate, even in developing countries, is significantly higher but is still not comparable to those in developed countries. It is no surprise that these conditions are reflected in participation levels in MOOCs. Although the studies of Perna, Ruby, Boruch, Wang, Scull, Evans & Ahmad (2013) an Ho, Reich, Nesterko, Seaton, Mullaney, Waldo, & Chuang (2014) show that in the cases of India, Russia, or Brazil, emerging economies are among the quantitatively largest participants (see figure 3); in relation to the size of their populations, it must be noted that developing countries are under-represented. Thus only 2.6% of the first year edx-course participants had an IP or a mailing address from countries on the United Nations list of least developed countries (Ho et al., 2014). Breslow (2013) showed also that there is greater participation in urban areas than in rural areas and that there are nearly no participants from central Africa. Therefore, before MOOCs can help people in developing countries to become more educated, the infrastructural issues have to be solved (IIE 2014).

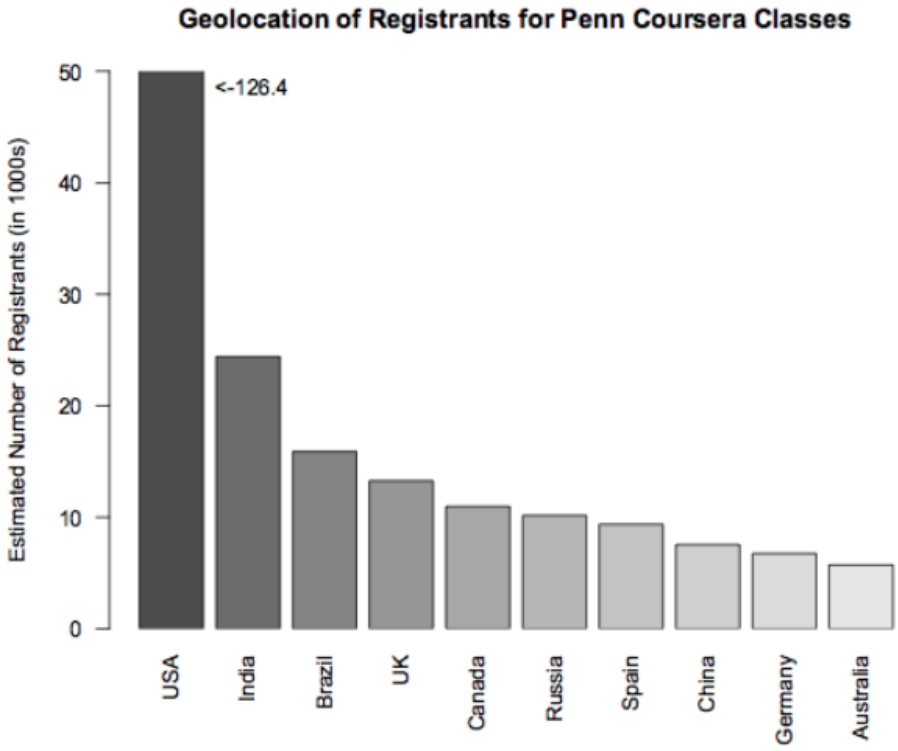


*Figure 3*. National Affiliation of Users (Using IP-Adress) (Perna et al., 2013, slide 31)

This situation is not only valid for developing countries, but for developed countries as well, although the issues are different in developed countries and more connected to societal values and dispositions. Ho et al. (2014) came to the conclusion that "despite the optimistic and aspirational declarations of many MOOC providers, these courses are not, as of yet, making education "borderless, gender-blind, race-blind, class-blind, and bank account-blind" (Agarwal, 2013, para. 3). And Christensen, Steinmetz, Alcorn, Woods & Emanuel (2013) added: "MOOCs may have potential to someday mitigate some of the world's educational disparities by expanding access to high-quality collegiate education, but the early adopters of the MOOC phenomenon are those who have already attained the highest levels of education in their countries" (p. 6f.).

Concerning the bank account-blindness addressed by Agarwal, it is interesting that the German MOOC platform iversity.org now differentiates between an audit track and a certificate track. Both tracks offer almost the same, as the content does not differ. By choosing the latter track the learner can receive a certificate from iversity.org. This includes a graded online test and an actual certificate indicating the exact course contents and records about the personal performance in the course. While the audit track is free-of-charge, the certificate track is charged with a fee of 99€ which, depending on the socio-economic status of a learner, might be an unaffordable amount of money creating a high barrier. Regardless of the socio-economic status, the course contents can be accessed for free by everyone who has a computer and a stable internet connection. It is bank-account blind in this way. But assuming, those who are most in need of further education have a rather low socio-economic status, this practice might also contribute to fostering the access gap.

This practice could equally belong to the access and the usage gap while looking at non-traditional target groups because the course can be accessed without further fees (beside computer and internet) but it cannot be used to achieve a qualification without being charged.

Finally, in the first world, it might make the impression that access is of no importance any more. This is mostly true, but new barriers might occur, like the capability of the available ICT to display graphically advanced and therefore highly demanding content. According to van Dijk (2005, 2012) regulations and different offers by ISPs and telecommunication companies might reactivate the access issue in developed countries.

**Usage gap and MOOCs.** More fundamental issues arise out of the language and the contextualisation of OER. A larger part of existing OER has been created in developed, industrial nations which mean that they are created in the respective languages of those countries and rely on the local requirements of the learners: "OER produced in Western industrialized countries may not necessarily fit the needs of learners in developing countries" (Richter & McPherson, 2012, p. 202). This applies in the same way for MOOCs which are primarily organised by universities and address topics on an academic level. These demands may overtax those groups of people who have a low level of prior education.

Even common languages like English, in which most MOOCs are offered, are an insurmountable barrier for the underprivileged which again brings an advantage to those who are able to speak English because of their education. But compared with English, few OER (and thus also MOOCs) are available in languages such as Arab or Swahili which are spoken in countries with a high developing demand (Willems & Bossu, 2012).

Furthermore, the different forms of use and levels of motivation are of relevance. Thus, the German Conference of Rectors (HRK) states in its comment on MOOCs that they are mainly "exploited by those who are already highly committed to their studies, while low achieving students tend to not make use of them"[5] (HRK, 2014, translation by authors).

**Reception gap and MOOCs.** OER and cMOOCs are online-resources which significantly challenge the users' self-directing capacities in the learning process. Knox (2013) argues that OER will mostly be used in the context of higher education as resources for attending courses or in the form of class records acting as useful, and rather easily made, side products for marketing purposes.

While it is obligatory for the usage of OER within higher education institutions to have support and certification for the resources, these same services are not normally provided outside of higher education institutions[6] . This is especially true for MOOCs which are often criticized for the low-level of support. But MOOCs require a high capacity of media competence and self-regulation

[5] germ. : "eher von denen genutzt werden, die ohnehin engagiert studieren, während eher leistungsschwache Studierende die Angebote nicht nutzen."
[6] germ. "It is a new development to provide ECTS points in the context of MOOCs" (see https://iversity.org/de/pages/moocs-for-credit (6.08.2014))

skills from the user and will therefore disadvantage weaker learners if the course design did not address this concern.

In summary, a hypothesis can be developed against the theoretical background outlined above, stating that there is a certain possibility that MOOCs are and can be especially exploited by those who already have a higher socioeconomic status and are often better educated. At the same time they also benefit more from MOOCs due to their better preconditions than people with low formal education status. The consequence of this would be that MOOCs contribute to a widening of the educational gap in society rather than helping to close it. Unfortunately, there is currently no sufficient empirical data to prove this thesis. Therefore, as a first step, it will be proved that people with a higher educational level are overrepresented in MOOCs in comparison to the population.

# Methodology

The empirical basis for the research of possible usage inequalities of MOOCs is still limited (Spence, 2013). Often only a small amount of user data is collected (Breslow et al., 2013; Ho et al., 2014); therefore, it is difficult to make differentiated statements about the composition of participants.

On the basis of two examples from Germany and further statistical data from different MOOCs, it can be shown that the composition of participants suggests an unequal use of MOOCs. The MOOCs that have been carried out in Germany from September until October 2013 have been a MOOC of Adult Education Centers (germ. Volkshochschule) and a MOOC of a consulting company. The topic of the Adult Education Center MOOC was media use within Adult Education Centers and the topic of the consulting MOOC was different aspects of Management 2.0.

The data from the participants have been collected in both MOOCs by using an online questionnaire at the beginning and at the end of the MOOC. Personal data was collected mandatorily in the entrance survey. For people who have not participated in the entrance survey, the personal data were collected in the final survey. Participation was voluntary.

Table 1

*Response Rate for MOOC-Surveys*

| | **Time of the Survey** | **Total Number of Participants** | **Total Number of Responses** | **Response Rate** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **Adult Education MOOC** | Entrance Survey | 662 | 68 | 10.3% |
| | Final Survey | 662 | 176 | 26,6% |
| **Management MOOC** | Entrance Survey | 876 | 79 | 9.0% |
| | Final Survey | 1027 | 99 | 9.6% |

# Results

## Research Results of Adult Education MOOC

The results of the survey show, that, including multiple choice, 27% of the participants declared that they have graduated from studies in adult education or from studies with a specialization on adult education. Another 27% had a further education (training) in adult education and 27% had no pedagogical qualification. Further, 22.2 percent graduated from other pedagogical studies, 17.5 % had other qualifications, 11.1% refer to other pedagogical further education (training), and 4.8% have a pedagogically-oriented vocational education (fig.4; Rohs & Giehl, 2014b). Therefore, half of the participants had an academic degree in educational studies, against an overall average ratio of 27% (Martin & Langemeyer, 2014, p. 55) or 31% (Schütz & Nittel, 2014) within the field of adult education in Germany. Thus, the proportion of people with an academic degree (in educational studies) is likely to be significantly higher. This is interesting, given the fact that there is no profession as an adult educator in Germany; however, there are several fields of adult education identified in which people work without an academic qualification. One of those examples is at the German Folk High School where, depending on the subject, an academic degree is not a prerequisite for teaching adults.

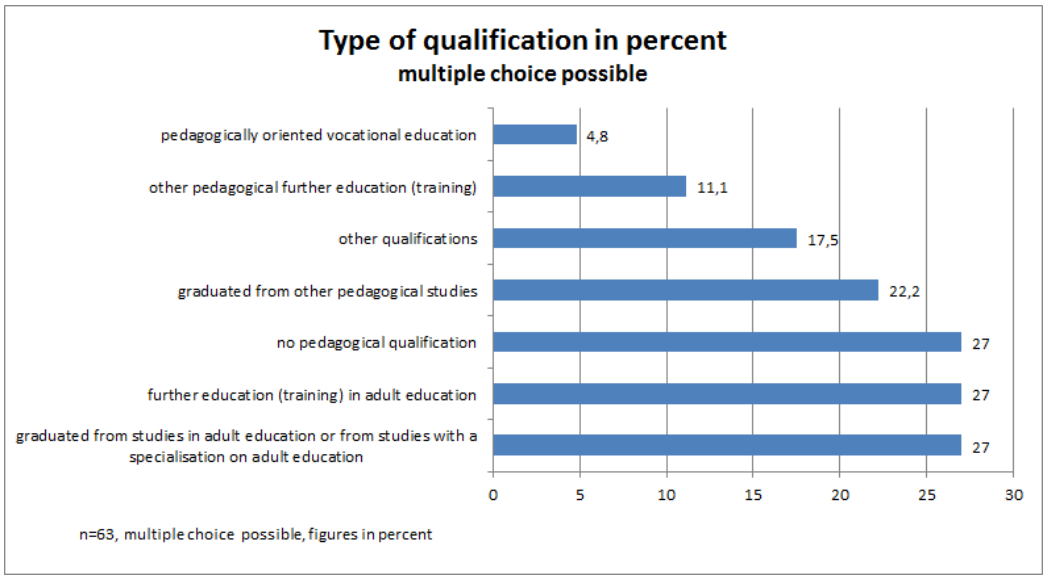


*Figure 4*. Type of qualification (n=63, figures in percent) (Source: own figure)

## Research Results of Management MOOC

Eighty point four percent of the participants of the Management MOOC, reported having a degree in higher education (university of applied science or university), 8.5% had a university-entrance-diploma (or university for applied science-entrance diploma) and 6.1% had a PhD or a habilitation. Only 4.8% had a vocational education as their highest level of education (fig. 5; Rohs & Giehl, 2014a). This means that the share of academics within the MOOC compared to the share of academics in the average of the overall population was very high (14% university degree; 1,2% PhD, Statistisches Bundesamt 2012).

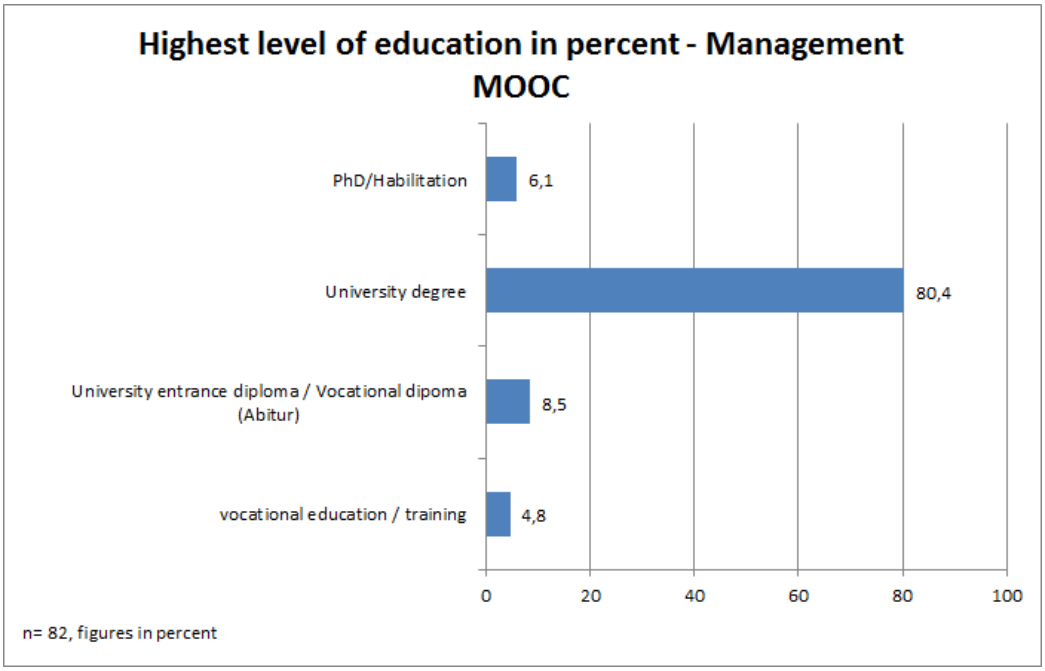

*Figure 5.* Highest level of education (n=82, figures in percent) (Source: own figure)

The results of these two MOOCs confirm that the proportion of persons with academic degrees in MOOCs is disproportionately higher compared to the population of adult educators. It should be emphasized that both MOOCs were not offered by universities nor did they try to solely attract students with an academic degree. Thus, both MOOCs did not address fields or professions in which it is mandatory to have an academic degree in Germany.

## Additional Statistics

The data of the presented MOOCs only give a very limited insight into the diversity of MOOCs. For this reason, other statistical data should be used to confirm the assertion of the high proportion of people with a university degree. Therefore big MOOC providers like EdX or Coursera should be considered. In addition to the above examples, the statistical data of these MOOC platforms has already been analysed and shows a large ratio of participants with an academic qualification. In the First Year of Open Online Courses at EdX, a jointly developed platform by MIT and Harvard universities, 17 courses have been offered. The enrolled unique students in the EdX courses have been 597,692 and therefore greatly outnumber the German MOOCs (Ho et al., 2013). A comparison is not really possible albeit there are similarities in the findings.

It is shown by Ho et al. (2013), that in many courses most participants who finished the course and received a certificate had a bachelor's degree or above (compared with all subscribed participants). These differences vary, sometimes only by a few percent but they can also show a difference of up to 10%. From 16 evaluated courses, this relation shifted only in one course, showing a lower level of highest education. From all participants subscribed, 61% had a bachelor's degree or above.

Christensen, Steinmetz, Alcorn, Woods & Emanuel (2013) researched the demographics of participants of 24 unique and free courses on coursera organized by the University of Pennsylvania's Open Learning Initiative and received 34,779 completed questionnaires which is a response rate of 8.5%. Their findings also show a very high level of education amongst the participants "83.0% of students have a post-secondary degree (2 or 4 years), 79.4% of students have a Bachelor's degree or higher and 44.2% report education beyond a Bachelor's degree" (Christensen, Steinmetz, Alcorn, Woods & Emanuel 2013, p. 4).

The high ratio of people having an academic degree is not surprising when looking at the MOOCs organized by universities because the content they offer is aiming at people who are genuinely interested in education. At the same time it can be assumed that universities aim to broaden their target group in a quantitative way rather than to make a qualitatively broader access possible. Although, whilst it means that universities are not acting in the tradition of OER, MOOCs have the potential and possibility to attract non-traditional learners and might therefore be capable of facing the challenges of the demographic shift in the industrialized countries. Furthermore, an ethical obligation derives from the public responsibility of the universities to make education as

accessible for the population as possible. The question of access therefore is not only on the side of the participants. It has several dimensions as shown above, including also organizers and society.

## Critical Discussion

The claim of this paper is to gather empirical evidence for the unequal use of MOOCs. Whilst there has been popular discussion on the unequal use of MOOCs, the scientific debate is just beginning.

1. The criticism of the results shown in this article could be that we have made a false claim on MOOCs or that the claims of MOOCs are different. As stated, our understanding of MOOCs is connected with Open Access and Open Education and the MOOC providers also often suggest the claim of "education for all". Our aim is to scrutinize if this objective can be achieved with MOOCs. We are thus in a tradition of the critical discussion on open distance learning and inequalities.

2. In addition, the present data are not systematically collected. Therefore, the results do not demonstrate a general effect but different examples show that inequalities in participation are existent. The theoretical foundations of the Digital Divide provide in this context a possible explanation.

3. There is no clear differentiation between the developed world and the third world. This is because the claim “education for all” is meant to address everyone. There are differences between countries, cultures, and people which certainly determine the possibilities in the respective countries but the thesis behind the inequalities remains similar, if not the same, only with qualitative differences. There is still an access gap, no matter if a person does not have a computer, or if the available computer is outdated and will not allow the user to participate in an online learning offer.

4. The increasing heterogeneity of MOOCs complicates generalizations about their effects. But generally, as a result of their lower learning support, MOOCs make higher demands on self-directed learning, media literacy, and learning motivation. And most disadvantaged people do not have these skills.

# Conclusion

The empirical data indicates that MOOCs are mostly used by people who already have a higher educational status. It is not only true for university MOOCs; it seems to have become a common phenomenon which also appears in other MOOCs that are not designed for academics in the first place. A particular reason might be in the courses themselves, which offer content at a level mainly designed for students in higher education. Furthermore, the theoretical considerations on the digital divide provide evidence that barriers exist regarding access, usage, and reception among the potential participants, which keep them from using these offerings properly. This

again results in disadvantages for these groups compared to groups that have a higher educational and / or socioeconomic status.

Therefore, based on the knowledge gap theory, it is possible to identify a danger that MOOCs rather contribute to reinforce or expand existing inequalities in education than help to reduce the differences. MOOCs should not solely be understood as marketing instruments for the universities, they should also address the educationally disadvantaged, especially given the consideration of public investment. It is therefore necessary to become active on three different levels:

a) Didactics: By providing offers enabling better access for educational disadvantaged people in terms of content and didactics.

b) Organization: Integration of MOOCs in a strategy that is addressing non-traditional learners.

c) Society: Stronger political and monetary support of MOOCs on the background of a) and b).

Currently there are insufficient research data to allow a better analysis of the socio-cultural conditions of MOOC participants. In particular, the large MOOC providers do not provide detailed data of participants for research. But projects like MOOC Knowledge[7] will systematically collect sufficient data of MOOC participants that can be useful to validate the first results.

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