

What do we know about typical MOOC participants? First insights from the field

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ABSTRACT

Massive Open Online Courses became a worldwide phenomenon. Especially in Central Europe it is a subject of debates whether universities should invest more money or not. This research study likes to give first answers about typical MOOC participants based on data from different field studies of the Austrian MOOC-platform iMooX.

It can be pointed out that the typical learner is a student or an adult learner, strongly interested in the course topic or just interested in learning with media and finally with self-contained learning competencies. The research work concludes that MOOCs broaden the educational field for universities and are a possibility to educate the public in a long run.

Introduction & Research Question

During the last years MOOCs became a big issue in higher education. After the first hype MOOCs are meanwhile the subject of intensive scientific research. The related research areas touch on a number of scientific questions, e.g.: Do MOOCs really enhance teaching and learning or are they just old wine in new bottles (Ebner et al., 2014)? Do MOOCs need a special instructional design (Kopp & Lackner, 2014) and what advantages, challenges and obstacles come with them? What conditions are necessary to anchor MOOCs firmly at the university? How long will MOOCs remain free for the general public (Kopp, 2014) and are there any business models for MOOCs (Fischer et al., 2014)?

The focus of all these considerations is - of course - on the participants, the learners. A recent study of the European University Association (Gaebel et al., 2014) shows that participation in MOOCs provided by European universities varies greatly and that participation consists in a combination of own students, other domestic learners and international learners, in which the ratio between the three groups also varies from university to university. The same applies to completion rates, which vary between 4% and 50%, depending on the institution and the course. The median completion rate is 15%, though only nine European institutions answered the survey.

The aim of this paper is to learn more about the average MOOC participant as well as her/his intentions to participate in a course and to complete

the course. Thus, demographic data is just as interesting as the motives for course participation and the competences of the participants. The research data is gained through several surveys, which were conducted during the first three MOOCs offered by the Austrian MOOC-platform iMooX (www.imoox.at). Due to the limited responses it is not possible to draw an overall picture of the typical MOOC participant, but the paper will show some significant tendencies on how a MOOC participant can be characterized and it will answer the questions about what a participant in an iMooX course looks like, what participants expect from iMooX courses as well as from the iMooX platform and what competences they bring along by enrolling for an iMooX course as well as which skills they gain by participating.

The Austrian iMooX platform

The Austrian MOOC platform iMooX was established by the University of Graz and the University of Technology of Graz with the help of public funding. The main aim of the project is to provide "education for all", i.e. not only for students but for the widest possible public. Therefore, the target group also includes people who do not have high school diplomas or university degrees. All offered materials undertake a scientific claim, but they are also obliged to the philosophy of lifelong learning. An additional special feature of iMooX is the fact that all materials are provided as Open

Educational Resources (OER) under a creative commons license.

Since iMooX is the one and only Austrian MOOC platform it gained considerable interest from media. This meant that some 1,000 persons registered within a few days after the release of the platform and some more enrolled for the first three offered courses. For the operators of the platform it was very interesting from the start to know who the participants are and what motives they have to attend the courses. Thus, the decision was made to conduct a corresponding survey to enhance the design of the courses and the platform with the help of the given feedback. Unfortunately – and due to the fact that there was not enough expertise available at the beginning – the surveys embedded in the three courses differ slightly. Therefore, the answers to the questionnaires also vary a bit, but since the basis of the surveys was always the same, in principal all data and results can be considered as valid and comparable.

By now there are nine courses available at iMooX and another ten to fifteen courses will be released during 2015. A survey will still be carried out in each course, but with a lower scope, in order not to unnecessarily bother the participants. This said, the following data and results refer to the polls from the first three courses.

A first analysis of iMooX participants

During the summer term 2014 iMooX offered its first three courses (*Learning online - from what is possible and feasible*, *Mechanics - collision of two bodies in the plane* and *Bulb moments from Experimental Physics*). These courses were attended by 1,333 participants and 101 graduates (7,6%). In the

courses *Mechanics* and *Experimental Physics* each participant had to complete a questionnaire at the beginning as well as at the end of the course to evaluate the iMooX platform and the offered course. The outcome of the evaluation at the beginning of the course was 53 filled questionnaires of the course *Mechanics* and 63 of the course *Experimental Physics*. In the course *Learning online* the evaluation was done only at the end of the course, with 83 filled questionnaires. The questionnaire included ten issues and information about demographic data. The aim was to identify the satisfaction with the courses and the platform.

The following summary supplies information about the “typical” iMooX-user in the summer term 2014 based on the evaluation results.

Gender, age and education of the iMooX user

Participants of the iMooX courses were predominately male i.e. 65% of the learners were male (see Fig.1). One reason could be the topics of the courses such as *Experimental Physics* and *Mechanics*, which are typically preferred by men. This result is similar to a survey at the Stanford University. In this survey 83 people completed the survey, 34 female and 49 male. The overall age range of respondents was 28 to 69 (cf. Rodriguez 2012:8). Another issue is that the MOOC-format attracts people who are interested in technology and new course formats (cf. Koutropoulos et al. 2012:3). Again, these are favorite issues of a male population. Fig.1 also shows that there is no significant difference between the courses, and that - following the trend - more technical related courses attract male learners.

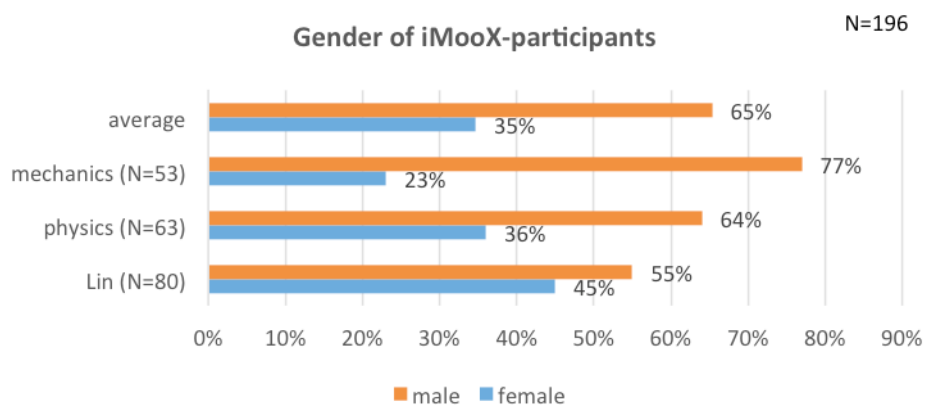


Figure 1. Gender of participants.

The typical iMooX user's age was between 20 and 34 years (44%) (see Fig.2). Further 29% were between 35 and 49 years old. In summary we can determine that nearly three quarter of the interviewees were between 20 and 49 years old. At least a quarter of the participants were between 50 and 64 years old, a target group that in Central Europe normally has a low representation at universities (at least in German-speaking countries). Only less than 2% are younger than 18 or 5% older than 65 years.

If we take a look at the education level of the participants, most participants obtained either a school leaving certificate or an academic study. Based on the fact that iMooX is run by two

universities mainly students attend the courses. Especially in the course Learning online 40% of the graduates were students. Two- third of these students were self-enrolled, only one third took part by teacher's requirement. Nevertheless, also employees, persons on maternity leave or taking time off took part in the courses. This result is similar to empirical data from Linnaeus University. Participants of online courses from this university are generally older than 25, already have a university degree, families and full-time employments (Creelman/Reneland-Forsman 2013:43).

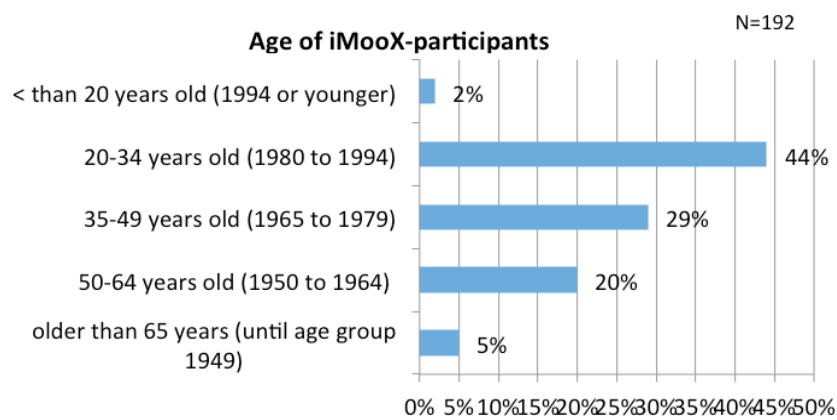


Figure 2. Age of participants.

Fig.3 shows that MOOC participants are a highly educated target group. 89% of the participants obtained at least a school leaving certificate (high school) and more than the half hold at least an undergraduate degree (57%). 41% of the learners are highly experienced learners due to the fact that they obtained a master degree and even 9% of the

participants completed a PhD study. This result is remarkable, if we compare the data with the educational background of the Austrian population: In this case 19% complete a primary or secondary education, 51% a vocational education, 15% obtain a school leaving certificate and only 15% complete an academic study (cf. Statistik Austria 2014).

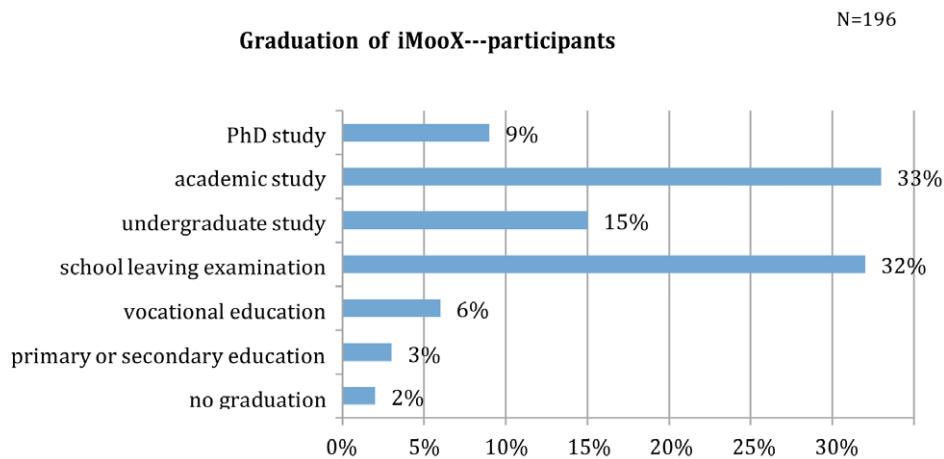


Figure 3. Graduation of participants.

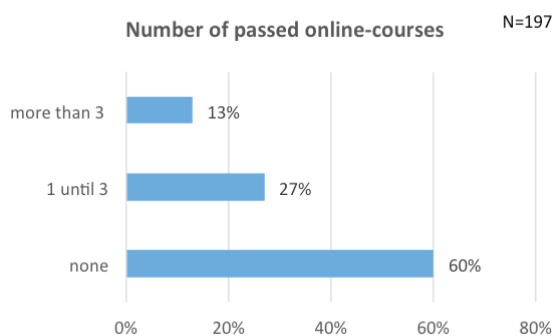


Figure 4. Number of passed online courses before attending iMooX.

Although the iMooX participants were highly educated, only a few have gained experience with online courses. As pointed out in Fig.4 60% had not attended an online course previously and only 13% declared that they have visited more than three online courses until participating in an iMooX course. (This result is similar to our registration survey in the winter term 2014/15. Only one third declared to enjoy learning in online courses. Let us assume that only these participants have experiences with online courses.) An evident fact is that the participants were generally interested in education. About 63% (from a basic population of 116) of the respondents declared that they invested more than five hours per month into education during the last year. More than a quarter invested more than € 500 in education. According to the interviewees the ability to learn

(69%) and the interest in new knowledge (66%) are the most important competences during an online course.

Motives of the iMooX user

One part of the evaluation was to assess the motives for the course attendance of the iMooX participants (see Fig.5). The results indicated that gaining experience with online courses (75% agree this "full" or "rather") as well as the course topic (86% agree this "full" or "rather") were the driving facts. Further important reasons for participating were the request for further training (61%), the individual professional life (51%) and the personal interest in open online courses (47%). Only one third of the interviewees said that also their place of domicile is a valid reason for attending an open online course. These reasons may differ from previous assumption, where distance learning is often the only option for further education because of family and geographical matter (cf. Mahieu/Wolming 2013:2-3). Insignificant factors at our survey were physical handicaps (9%, two-thirds of these persons were between 20 and 49 years old) and the participation in the course of friends, acquaintances or relatives (15%).

This result is very similar to the ongoing iMooX registration survey at the beginning of the winter term 2014. The iMooX team investigated the reasons for iMooX registration. Overall, 483 participants were asked until the 30th of September 2014. Once again this result confirmed that the topic (64%) represents the most important factor for a registration to an online course. More than

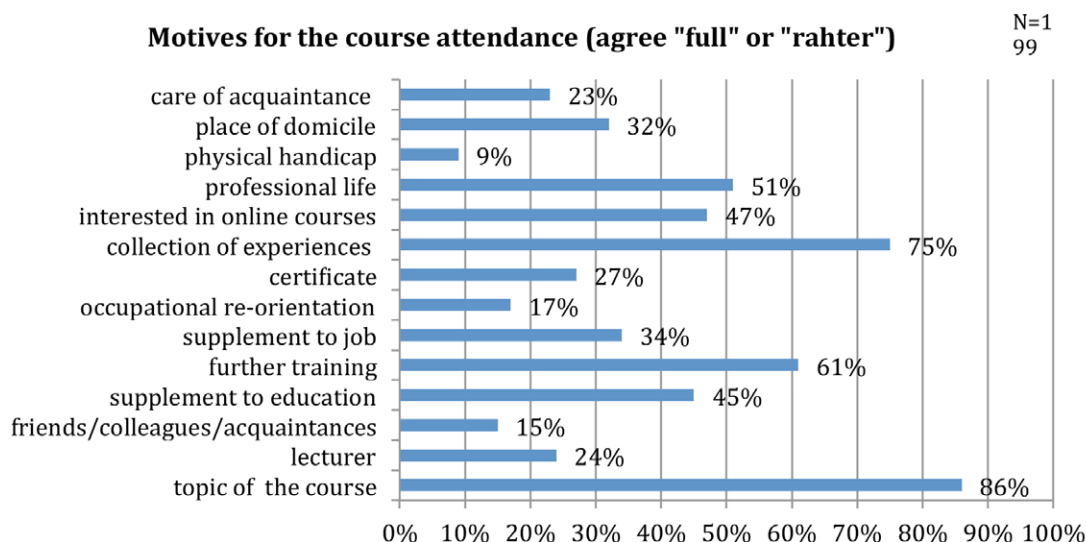


Figure 5. Motives why to attend a iMooX course.

half of the respondents (56%) declared that gaining experience with online courses was the main reason for their registration.

Evaluation of the iMooX platform and the iMooX courses

Noteworthy is also the satisfaction of the participants with the iMooX platform. First of all we examined the usability and user friendliness of the platform, which included the assessment of the graphic presentation, navigation, structure and classification as well as the overall assessment of the platform (see Fig.6). Fortunately, the majority of the

interviewees evaluated the platform with “excellent” or at least “good”. The best results (84%) could be found for the overall assessment as well as for the structure and classification of the platform (81%).

Similar results were reached for the evaluation of the course contents (see Fig.7). In this evaluation field the best results were also achieved for the general course evaluation. 80% of the learners were very highly or highly satisfied with the course. For 78% of the participants the learning content and structure were “excellent” or at least “good”. Furthermore, 77% rated the design of the texts and 76% the graphic presentation with “excellent” or at least “good”. In summary the majority of the participants assessed the platform plus the three offered courses with “excellent” or at least “good”.

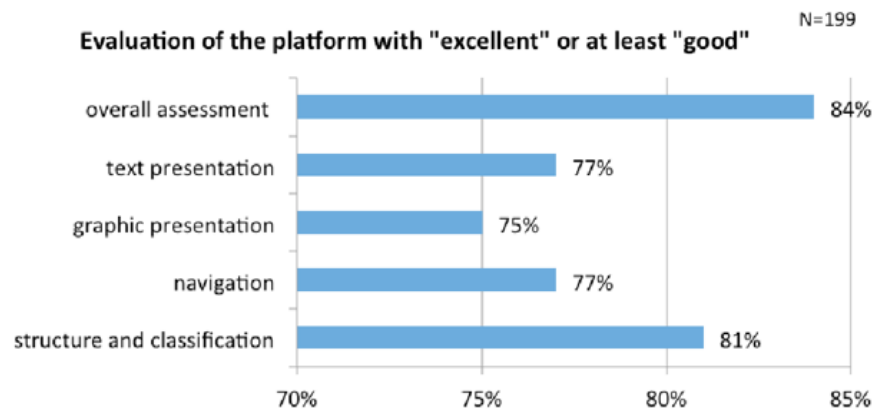


Figure 6. Evaluation of the platform.

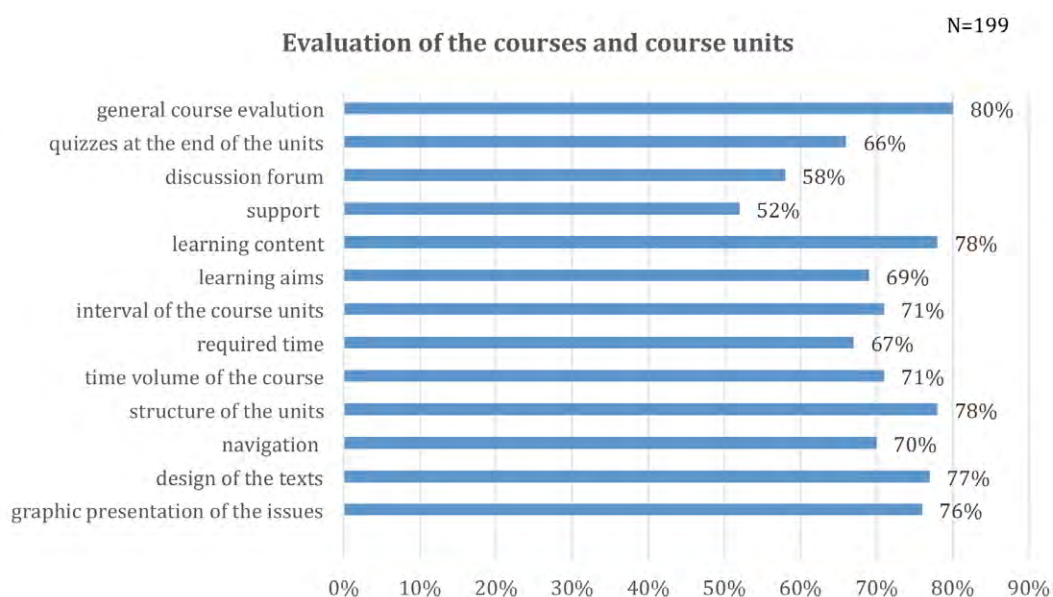


Figure 7. Evaluation of the courses and the course units.

Activity and competences of iMooX users

The number of certificates showed that the completion rate is about 7,6%, which is comparable to other research studies (Hanan & Ebner, 2014). Generally, the majority of MOOC participants (about 88%) are lurkers or drop the course (cf. Koutropoulos et al. 2012:2f). In this regard it is particularly interesting how many course units were completed by the participants. This can be - among other things - analyzed by the frequency of quiz starts. Quizzes at iMooX and general at MOOCs are a kind of knowledge check. These checks can be found at the end of each unit and support the users in reviewing their increase of knowledge.

The quiz of the first learning unit was started most frequently in all three courses. As Fig.8 shows the number of quiz starts in the course Learning online - from what is possible and feasible was altogether 4,044. It must be taken into account that each user has theoretically the possibility to start/complete each quiz 5 times, which means that the first quiz was started on average 4 times/learner. The second quiz was started/completed 1,947 times. Fig.8 demonstrates also the decrease of the quiz activities during the course. The result of the course Learning online is more or less the same in comparison to the number of quiz starts in the courses Mechanics and Experimental Physics. Compare this result with the result from Rodriguez (cf. Rodriguez 2012:9).

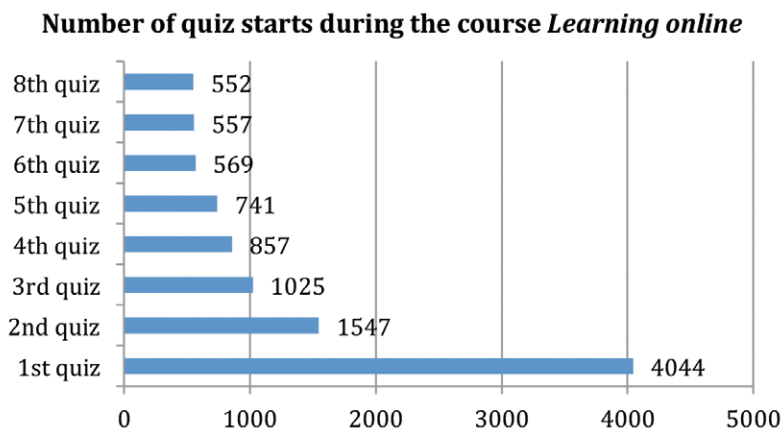


Figure 8. Number of quiz starts.

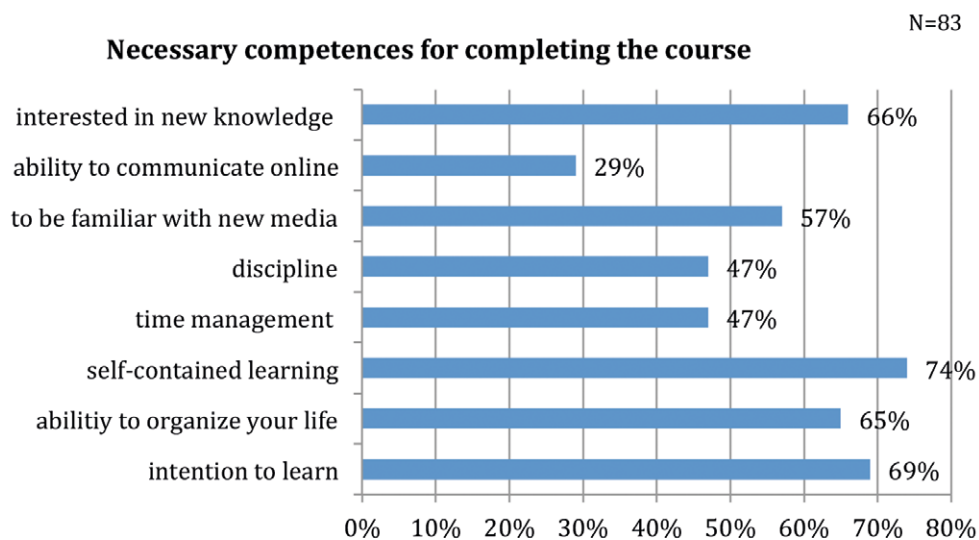


Figure 9. Which competences do you need as a learner to complete a MOOC?

Summary of the survey

In summary it can be stated that the typical iMooX user in the summer term 2014 was male, between 20 and 34 years old and she/he obtained either a school leaving certificate or an academic study. The most important reasons for participating in an online course at iMooX were the topics of the course and to collect experiences with MOOCs. iMooX had a positive connotation, the learners were very satisfied with the offered courses and the platform. Further, the activity of iMooX participants during the different courses is of interest: the activity of the MOOC participants decreased with the increase of course units, but at least 7,6 % of the participants finished the entire course. These graduates mentioned that the ability of self-contained learning, the intention to learn as well as their interest in new knowledge were decisive for completing the course. Finally, it must be pointed out that the limit of this study is that the evaluation form was mainly filled out by learners who completed the course. In other words we only got response from the most successful population and did not know why others skipped the course at an earlier stage.

Discussion

The evaluation of the summer term 2014 at the iMooX produced some interesting results:

- Fig.2 shows that the majority (44%) of the participants are students aged between 20 and 44 and that more than the half (54%) of the learners are older than 34 years, which means that our MOOCs particularly address the sector of adult education. This educational field is currently not in the scope of universities at least in German-speaking countries. As Kopp et al. (2014) pointed out further strategies on how to offer education, also to the adult sector in a long run, are needed.
- The idea of iMooX is not only to offer MOOCs for free and as Open Educational Resource but also to attract a broad public for learning. Nevertheless, Fig.3 shows clearly that only 11% of the (successful) learners have no school leaving examination. In other words a typical MOOC participant is a very highly experienced learner. This fact corresponds with Fig. 9 because learners rated the competence of self-contained learning as most important. It must be mentioned that the ability of self-contained learning is a precondition to pass an online course successfully. Due to the fact that our primary and secondary schools do not have a strong focus on teaching such competencies, learners with low education simply do not have the ability to succeed.

- Fig.5 shows also an interesting outcome. Due to the fact that especially in Central Europe the education is primarily face-to-face the need for distance education is rather low. MOOCs will not solve a distance problem but will help to support time flexibility.
- Learning only happens in a user-friendly environment (Ebner & Holzinger, 2003). Learners have to concentrate on the content and should not be stressed by the hosting information system. Fig.6 and Fig.7 show that learners like the iMooX platform, which was developed with the idea to present a smart, innovative and less complex interface.
- Finally, Fig.8 shows an exponential decrease of learners over the duration of the course. This result correlates highly with other research studies summarized by Khalil & Ebner, 2014. Due to the fact that all courses show similar curves the duration of the MOOCs should be discussed. From our point of view we lost most of the learners until week 5. From week 5 onwards the number of participants was more or less stable. In the future the idea of short MOOCs (sMOOC) should be taken into account so that it is easier for learners to succeed (for example to split one course into two).

Conclusion

In this contribution we took a first closer look at our learners. The evaluation results opened our minds towards new strategies we have to address, especially for the adult learner. Furthermore, the main competence to pass the course successfully is the ability of self-contained learning. If we would like to bring learning content to a wide and broad public this is maybe the crucial factor we have to ensure on the learner's side.

Finally, it must be pointed out that this study is a first insight to learners' profiles and lot of further research will be necessary to increase the power of Massive Open Online Courses.

References

- **Creelman, A. & Reneland-Forsman, L.** (2013). Completion Rates – A False Trail to Measuring Course Quality? Let's Call in the HEROEs Instead. In: *European Journal of Open, Distance and e-Learning* – Vol. 16/No.2. Page: 40-49. Online: <http://www.eurodl.org/index.php?p=archives&year=2013&halfyear=2&article=583>. [30.9.2014]
- **Ebner, M.; Holzinger, A.** (2003). Instructional Use of Engineering Visualization: Interaction-Design in e- Learning for Civil Engineering. HCI Konferenz Kreta 2003, *Human-Computer Interaction Theory and Practice: Volume I*, ISBN 0-8058-4930-0, Lawrence Erlbaum Associates, S. 926-930.
- **Ebner, M.; Lackner, E.; Kopp, M.** (2014). How to MOOC? A pedagogical guideline for practitioners. In: *eLearning & Software for Education*. Vol 1. 2014.
- **Fischer, H., Dreisiebner, S., Franken, O., Ebner, M., Kopp, M., Köhler, T.** (2014). Revenue vs. Costs of MOOC Platforms. Discussion of Business Models for xMOOC Providers, based on Empirical Findings and Experiences during Implementation of the Project iMooX. (pp. 2991-3000), *ICERI2014 Proceedings, 7th International Conference of Education, Research and Innovation, Seville (Spain) 17-19 November, 2014*: IATED.
- **Gabel, M.; Kupriyanova, V.; Morais, R.; Colluci, E.** (2014). *E-Learning in European Higher Education Institutions*. Results of a Mapping Survey conducted in October-December 2013.a
- **Khalil, H. & Ebner, M.** (2014). MOOCs Completion Rates and Possible Methods to Improve Retention - A Literature Review. In *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2014* (pp. 1236-1244). Chesapeake, VA: AACE.
- **Kopp, M.** (2014). How long will MOOCs remain free for the general public? In: *Check.point eLearning. Special-Edition ONLINE EDUCA 2014*. Page: 1-2.
- **Kopp, M.; Ebner, M.; Dorfer-Novak, A.** (2014). Introducing MOOCs to Middle European Universities - is it worth it to accept the challenge?. *International Journal for Innovation and Quality in Learning*, Vol. 2/3, pp. 46-52.
- **Kopp, M. & Lackner E.** (2014). Do MOOCs need a special instructional design? In: *EDULEARN14 Proceedings*. Page: 7138-7147. IATED.
- **Koutropoulos, A., Gallagher, M., Abajian, S. et al.** (2012). *Emotive Vocabulary in MOOCs: Context & Participant Retention*. Online: <http://www.eurodl.org/index.php?p=archives&year=2012&halfyear=1&article=507>. [30.9.2014]
- **Mahieu, R. & Wolming, S.** (2013). Motives for lifelong learners to choose web-based courses. In: *European Journal of Open, Distance and e-Learning* – Vol. 16/No. 1. Online: http://www.eurodl.org/materials/contrib/2013/Mahieu_Wolming.pdf. [15.10.2014]
- **Neuböck, K.** (2014). Evaluierungsergebnis iMooX: Eine erfolgreiche Absolvierung von Online-Kursen erfordert spezielle Kompetenzen. In: <fnm> Newsletter: Themenschwerpunkt: Moocs – Massive Open Online Courses. 3/2014. Online: http://www.fnm-austria.at/fileadmin/user_upload/documents/Newsletter/2014-03.pdf [28.04.2015]
- **Rodriguez, C.** (2012). Moocs and the AI-Stanford like Courses: Two Successful and Distinct Course Formats for Massive Open Online Courses. In: *European Journal of Open, Distance and e-Learning*. Online: <http://www.eurodl.org/?p=archives&year=2012&halfyear=2&article=516>. [28.04.2015]
- **Statistik Austria 2014**, Bildungsstand der Bevölkerung. Online: http://www.statistik.at/web_de/statistiken/bildung_und_kultur/bildungsstand_der_bevoelkerung. [23.12.2014]