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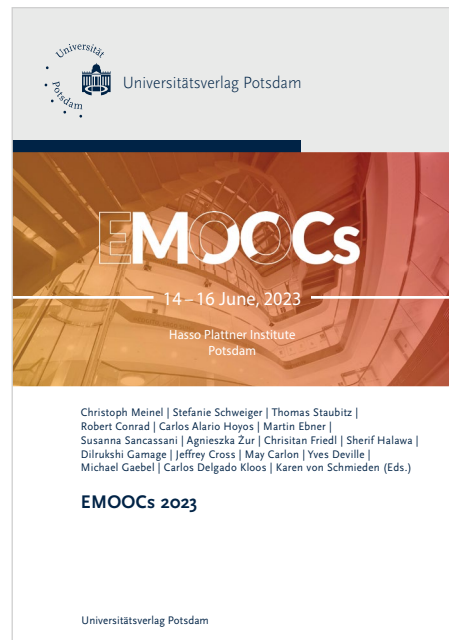
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Role of MOOCs and Imoox for Austrian Universities

Analysis of Performance Agreements and Activities at imoox

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This research paper provides an overview of the current state of MOOCs (massive open online courses) and universities in Austria, focusing on the national MOOC platform *iMooX.at*. The study begins by presenting the results of an analysis of the performance agreements of 22 Austrian public universities for the period 2022–2024, with a specific focus on the mention of MOOC activities and *iMooX*. The authors find that 12 of 22 (55 %) Austrian public universities use at least one of these terms, indicating a growing interest in MOOCs and online learning. Additionally, the authors analyze internal documentation data to share insights into how many universities in Austria have produced and/or used a MOOC on the *iMooX* platform since its launch in 2014. These findings provide a valuable measure of the current usage and monitoring of MOOCs and *iMooX* among Austrian higher education institutions. Overall, this research contributes to a better understanding of the current state of MOOCs and their integration within Austrian higher education.

1 Introduction

Universities have traditionally reserved their educational offerings for a select group of students, typically those with university entrance qualifications. However, MOOCs provide a unique opportunity for these institutions to broaden their reach and offer educational resources to a wider audience. The benefits of MOOCs extend beyond increased accessibility, as they allow for a diverse range of perspectives to be combined in a single course and offer flexible access to course content. MOOCs are especially useful for creating continuing education programs that can reach individuals unable to attend face-to-face events due to time and mobility constraints [16].

The Austrian platform *iMooX.at* is a central platform for MOOCs, and many Austrian universities act as providers of these courses, with hundreds or even

thousands of participants enrolled in each. However, there is a lack of data and information regarding the current state of MOOC dissemination in Austrian higher education. This paper seeks to address this gap by analyzing the performance agreements of Austrian public universities for the period 2022–2024, focusing on the mention of MOOC activities and the *iMooX* platform. By examining these documents, the authors aim to provide a more detailed description of the status of MOOC dissemination in Austria and identify potential avenues for future growth and development.

2 Usage of MOOCs at Austrian universities

With the outbreak of the Covid-19 pandemic, the associated closures of universities, and the transition to phases of only distance learning, the experiences and practices of students and teachers have changed significantly [15]. However, while little is known about the actual use of MOOCs by students in Austria, numerous publications regarding the establishment and implementation of MOOCs at Austrian universities can be referred to. In the following, we briefly describe MOOC developments available in the current scientific literature.

After the launch of the *iMooX.at* platform in 2013, one article, initially still cautiously, posed the question: "Introducing MOOCs to Austrian universities – is it worth accepting the challenge?" [14]. In the following years, several contributions dealt with the use of individual MOOCs on *iMooX.at*, for example in the field of engineering [4], the STEM MOOCs by the TU Austria [12], the use in a university cooperation for teacher education [7] or the promotion of digital competencies among employees [10]. Some contributions from Austria also look at MOOCs from other MOOC platforms [11]. Another group of contributions deals with novel teaching scenarios using MOOCs [7], new teaching design principles involving MOOCs such as "Inverse Blended Learning" [3], but also the role of open educational resources for various use cases in online courses ([5] or recommendations for MOOCs in the field of adult education [16]. Several contributions to MOOCs also exist in the context of learner data analysis, in other words learning analytics (e.g. [13]). Evidence on student use of MOOCs and the role MOOCs play for higher education institutions is still scarce. This paper attempts to provide the impetus to fill this research gap.

3 Methodology

For this article, two approaches have been chosen:

(a) The performance agreements of the 22 Austrian public universities have already been analyzed in [9, 8] for a possible mention of the term OER and related terms. In this paper, the current performance agreements (for the period 2022–2024) were analyzed regarding the mention of "MOOC" or "iMooX" [6]. Performance agreements are publicly available in Austria and are a sort of contract between a public university and the ministry for two years, defining and declaring future steps beyond their regular duties. These documents are about 80 to 100 pages long. The simple, text-based analysis consisted of searching for the terms MOOC and *iMooX*. Simple statistical analysis will be applied for the result presentation. These results are presented in English for the first time. The corresponding texts are a translation of the article already published in German [6].

(b) Then, it was analyzed how many of the different types of higher education institutions in Austria have already offered a MOOC on the platform *iMooX.at*. For this purpose, we use internal documentation as the platform operator of *iMooX.at*; these results will be shared publicly for the first time. Official data regarding the university landscape, provided by public sources such as the ministry, are used as a basis. Again, our analysis consists of simple descriptive statistics.

4 Evaluation Results

The results of the two analyses are presented below.

4.1 Spread of MOOC and iMooX in performance agreements

The performance agreements concluded between the Austrian public universities and the Federal Ministry of Education, Science and Research from 2022 to 2024 were examined about the mention of the term MOOCs or *iMooX*. An overview of the results of the quantitative content analysis can be found in Table 1.

Twelve of twenty-two universities (55 %) mention the terms MOOC and/or *iMooX.at* in their performance agreement or have already named specific goals in this regard. Of these, six universities cite the intent to produce or (further) develop MOOCs and/or *iMooX.at* (Academy of Fine Arts Vienna, Medical University Graz, University of Leoben, Paris Lodron, University Salzburg, Graz University of Technology, Vienna University of Technology). Two universities, the University of Natural Resources and Applied Life Sciences Vienna and the University of Continuing Education Krems, cited the development of OER and their provision and use of MOOCs and/or *iMooX.at*. Another two universities award their intention to jointly develop, offer and implement courses in a university partnership using *iMooX.at* (University of Applied Arts Vienna, Vienna University of Economics and Business).

Table 1: Mentions of the terms MOOC and *iMooX* in the performance agreements of the 22 public universities in Austria from 2022 to 2024.
Source: Analysis of results presented in [6].

Mentions of terms	Number of universities with mentions (percent)	Number of universities without mentions (percent)
Mention of "MOOC"	9 (41 %)	13 (59 %)
Mention of "iMooX"	7 (32 %)	15 (68 %)
Mention of "MOOC" and "iMooX"	4 (18 %)	18 (82 %)
Mention of "MOOC" or "iMooX"	12 (55 %)	10 (45 %)

The Vienna University of Technology also states in its performance agreement that MOOCs will be used to create an additional digital information channel for prospective students. In addition, the university promotes support for teachers in the development and subsequent use of open educational resources such as *iMooX.at*. Two universities see university cooperation on *iMooX.at* and support for these platforms as a contribution to achieving social objectives (Graz University of Technology, University of Continuing Education Krems). The performance agreement of TU Graz also states that it plans to establish an *iMooX.at* partnership board consisting of five universities by 2024, as well as calls for Excellence MOOCs and MOOC kick-offs.

Figure 1 visualizes the results in a pie chart. It must be noted that the number of students greatly varies between public universities (Bundesministerium für Bildung, Wissenschaft und Forschung, 2022 [1]). In fact, the percentage of students studying at a university where MOOC or *iMooX* is mentioned is much higher, especially since large universities like the University of Vienna mention the topic in their performance agreements.

4.2 Development of MOOCs per university: Analysis of the *iMooX* documentation data

The *iMooX* platform has been documenting all MOOCs and organizers on *iMooX.at* since its inception. To better understand the extent to which Austrian universities have become involved with the platform, we have compiled a list of universities that have provided a MOOC. Table 1 below provides an overview of the current state as of March 2023.

To contextualize the results, it is essential to consider that the majority of students in Austria attend public universities, comprising about 70,000 individuals, while
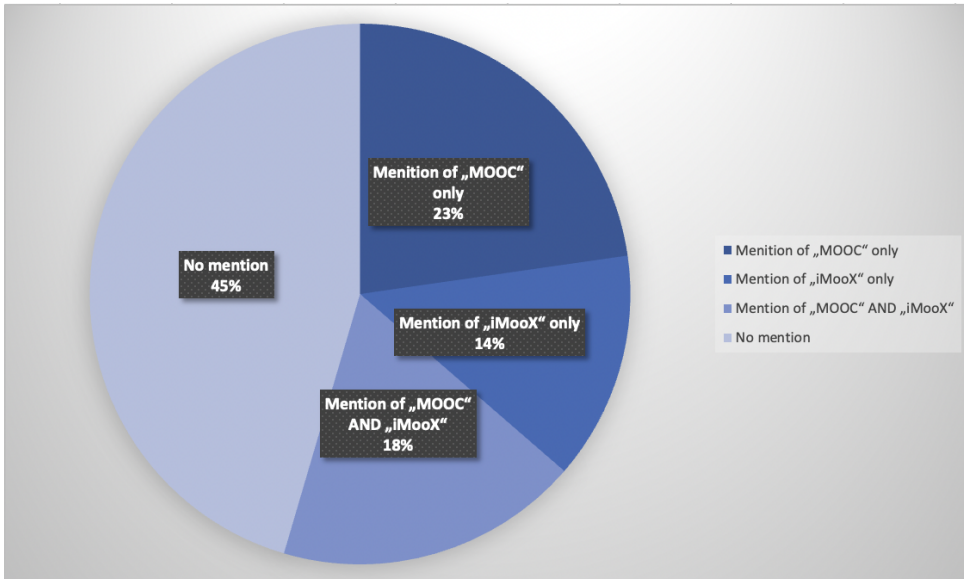
Figure 1: Percentage of 22 public universities mentioning MOOCs and/or *iMooX* in current performance agreements (2022–2024).

only a small proportion of students attend private universities, which amounts to approximately 2,700 students as reported by the Bundesministerium für Bildung, Wissenschaft & Forschung [1].

5 Discussion

About half of all public universities have registered and already organized a MOOC on *iMooX.at*. A third of all universities of applied sciences and a quarter of university colleges of teacher education did so as well. The slight discrepancy between the number of mentions of MOOCs in performance agreements and the number of universities that have produced a MOOC thus far, aligns with our own experience. We have been in communication with two other universities that are currently planning to develop a MOOC at *iMooX*.

Two major limitations should be noted in the analysis presented: For the analysis of the performance agreements, it must be added that only some university activities need to be mentioned there. Therefore, it is possible that universities may want to implement MOOCs or MOOC-related activities but have not described them

Table 2: Number of Austrian universities by university type that have already offered at least one MOOC on *iMooX*.at since 2014.
Source for the number of universities in Austria in 2023: Bundesministerium für Bildung, Wissenschaft und Forschung [2]

Type of the University	Number of universities (03/2023)	Number of universities that have already offered at least one MOOC on iMooX (in percent)
Universities (public)	22	11 (50 %)
Universities of Applied Sciences (public)	21	7 (33 %)
University Colleges of Teacher Education (public)	14	4 (27 %)
Private universities and Universities of Applied Sciences	18	0 (0 %)

in their performance agreements. This is specifically the case for project-related MOOC developments the authors of the performance agreements were not (yet) aware of. For the second analysis, it needs to be added that Austrian universities might not or not only use *iMooX.at* as a platform for their MOOCs. Especially if universities are part of European projects, they might also use other platforms not analyzed in this publication. To capture these activities, a survey of all universities would need to be conducted in the future.

A major advantage of the data presented is to be able to determine future developments and, if necessary, quantify them better. In a next step, we would like to provide more targeted support for re-using MOOCs by third parties – especially such universities that have not already developed their own MOOCs at *iMooX* – and try to quantify it.

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