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Institutional Levers to Implement Digital Learning Methods in the Classroom.

Use Case: i-MOOC to Foster Information Literacy in Upper Secondary Education in Switzerland.

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Abstract

Bridging the gap between digital innovations developed in educational design research and the real-world classroom remains challenging. One of the main obstacles lies in institutions, e.g., fixed mindsets and timetables that prevent new developments from reaching the classrooms. A literature review of neo-institutionalist theories identified five levers to facilitate the change of institutions in education. By means of the use case of a massive open online course to foster information literacy in upper secondary education, we illustrate how the five levers may contribute to a sustainable implementation of digital learning settings in classrooms and, hence, institutional change.

Introduction

The ongoing digital transformation is heavily changing our private and professional lives (Blossfeld et al., 2018). The discourse about the handling of digital transformation in education may indicate that a simple addition of digital learning tools is not enough. An institutional change including the integration of open educational resources and the utilization of network effects could be of high importance (Dittler, 2017; Dillenbourg, 2016). However, many teachers still struggle to competently deal with new digital learning settings (Fraillon et al., 2019). One of the main obstacles lies in institutions, e.g., fixed mindsets and timetables that hinder new developments from entering the classrooms (Seufert, Guggemos & Moser, 2019). To tackle this issue, it might be necessary to induce institutional changes on a structural and personal level.

To our knowledge, however, the digital transformation of education has not yet been addressed from an institutional point of view. This paper aims at contributing to the discussion on how to facilitate changes in this context and bridge the gap between digital innovations in educational research and real-world classrooms. To this end, we conduct a literature review on neo-institutional organization theory's findings on how to change institutions in different settings (e.g., Durand et al., 2013). Furthermore, we demonstrate by means of a use case how the identified levers may contribute to institutional change.

Method

Identification of institutional levers

The SCOPUS database and Google Scholar were searched to find high impact (min. 400 citations) literature focusing on the neo-institutionalist perspective on institutional change in all kind of domains. We focus on high impact contributions to capture the most influential work in the field. Eventually, 36 papers were included in the review. These papers were analyzed focusing on 'obstacles for change', 'change processes', and 'change mediators' in order to condense the essential constructs to institutional levers.

Results

Institutional levers

The literature analysis revealed that in a highly institutionalized field like education (Meyer & Rowan, 2012), a bottom-up approach may be conducive to institutional change (Thornton, Ocasio & Lounsbury, 2015). We identified five levers that could facilitate the bottom-up approach:

1 *Increase interaction and cooperation* with other organizations and actors.
2 *Combine the current and the new logic* to facilitate the acceptance.
3 *Develop good practice examples* following the new logic to make it available.
4 *Create artefacts*, e.g., papers, guidelines, online courses that are easily understandable in order to spread the ideas further.
5 *Align the education* and thereby the socialization of future professionals.

Use case i-MOOC: application of institutional levers

Description of the i-MOOC

The i-MOOC (www.i-mooc.ch) is a science communication project funded by the Swiss National Fund [SNF]. The goals are to transfer research about information literacy [IL] into Swiss classrooms and foster students' IL. Using digital devices and conducting online search are important facets of IL (Seufert et al., 2016). Therefore, a digital learning environment may be adequate. In light of this, we developed a ready-to-use massive open online course [MOOC], taking teachers' expected level of digital competences (Fraillon et al., 2019) into account. Our goal is to institutionalize this MOOC as an educational measure. We illustrate how the institutional levers may contribute to accomplish this goal. Semi standardized interviews with the involved teachers were used to evaluate the success of the project and the relevance of the levers. In the first run (2019 - 2020), 32 teachers used the i-MOOC with 1061 students nested in 81 classes.

Applied institutional levers

In terms of the i-MOOC, the institutional levers are as follows:

1 By means of introductory webinars, phone and mail support, an event at our university, and interviews, we stay in close contact with the involved teachers and schools. The interviews revealed that this support was a major reason to rely on the i-MOOC and the intention to use it in the future.
2 We provided pedagogical support to integrate the i-MOOC in a traditional classroom setting. Since several teachers still reported insecurities on how to integrate such formats in their teaching practice, this lever may be relevant.
3 To ensure good practice, we designed the i-MOOC in accordance with accepted MOOC quality criteria (Stracke et al., 2018). Drawing on the feedback of the teachers, we continuously improved the i-MOOC. For instance, several teachers reported a time-consuming login process.
4 Artefacts for the i-MOOC are available: website, coverage by several newsletters from teacher associations, report by the Swiss National Television, articles of online news sites. They may help to spread the ideas behind the i-MOOC.
5 The i-MOOC is covered by the education program for prospective business education teachers at our university: discussing and evaluating the approach.

Discussion

The institutional levers for change might complement the generally accepted educational design research-principles and help to ensure transfer to practice. The institutional perspective could be useful to put the focus on the alignment of digital learning environments (e.g., i-MOOC) with traditional teaching instead of stressing its potential for future benefits and innovation. Concerning the literature review, a limitation is the focus on high-impact studies;

further levers may be conducive for institutional change. In terms of the use case and the conducted interviews, the limitation is the narrow scope because only teachers and students from the upper secondary level in Switzerland are part of the sample. We will continue to improve the i-MOOC in terms of the levers to ensure an environment conducive to institutional change.

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