

RESEARCH IN PROGRESS

UNIVERSITY STUDENTS' LEARNING IN TRANSITION: A RESEARCH-IN-PROGRESS PERSPECTIVE ON INTERNET PLATFORM AFFORDANCES BEFORE AND DURING THE COVID-19 PANDEMIC

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Abstract COVID-19 has forced universities worldwide to rapidly change their lectures to a distance setting, leaving students to a high degree on their own and engaging in informal learning. In this regard, user-generated content-based Internet platforms (UGC platforms) such as Wikipedia, YouTube, and Facebook provide users with openly accessible support for various informal learning needs. This research in progress applies a two-staged qualitative interview study with students comparing the situation before and during the Covid-19 pandemic by applying an affordance perspective. We seek to offer differential insights on perceived affordances of UGC platforms and conditions facilitating their actualization. Based on an adapted Grounded Theory-based analysis, the stage-1 interviews have already shown the viability of this analytic approach and that students perceive and actualize a range of affordances of UGC platforms. Facilitating conditions for affordance actualization embrace two main themes: default behavioral and motivational conditions. In stage 2, the results will be verified, and new insights into changes compared to the pre-pandemic state will be derived.

Keywords:

user generated content, Internet platforms, informal learning, affordances theory, facilitating conditions, Covid-19 pandemic.

1 Introduction

COVID-19 has reshaped life, also in the educational field (Marinoni et al., 2020). Before, students learned on campuses and with their peers. Suddenly, lectures had to be transferred to the online world (Zhao & Watterston, 2021), leaving students on their own to a greater extent than ever before. New ways of getting information and knowledge, communicating, and collaborating had to be found.

Prior work on higher education during COVID has emphasized challenges to teaching (e.g., Mishra et al., 2020; Rapanta et al., 2021). There seems to be a lack of research focusing on distributed, self-directed learning by students, especially regarding informal opportunities for information acquisition and collaboration. In this respect, we assume that Internet platforms like Wikipedia, YouTube, and Facebook have supported students, providing rich amounts of user-generated content (UGC) for emergent learning needs (Nagler et al., 2017). While there are critical views toward UGC usage in higher education (Pal & Chua, 2016), others see it as enrichment (Meseguer-Artola et al., 2019), promising compensation for the lack of physical closeness during the pandemic.

This research in progress seeks to analyze how UGC platforms support university students' learning through an affordance perspective. Affordances provide us with a new lens to explore emergent use of UGC platforms from the perspective of usefulness to support users' individual objectives in a particular context (Fayard & Weeks, 2014; Majchrzak et al., 2013). The particular context for us refers to alternative learning on UGC platforms in higher education before and during the pandemic. Specifically, we investigate the following research questions: (i) Which main affordances of UGC platforms have students perceived and actualized to support their learning goals before and during the COVID-19 pandemic? (ii) Which factors can facilitate (or inhibit) students' actualizing of perceived affordances in the respective periods?

Methodologically, we apply a qualitative-interpretative research strategy to discuss UGC platform use from an affordance perspective. Therefore, explorative interviews with students at different academic levels and programs were/will be conducted. Data were/will be analyzed using Grounded Theory-based techniques (Sarker et al., 2001; Strauss & Corbin, 1990, 1998).

2 Theoretical Background

2.1 User-Generated Content (UGC) for Learning

UGC platforms enable users to openly create, distribute, and consume information via various social media/web applications, e.g., Wikipedia (wiki), YouTube (content-sharing platform), Facebook (social network), Pinterest (social bookmarking), forums (information and knowledge commons) and virtual worlds (Kaplan & Haenlein, 2010; Treem & Leonardi, 2013). In this regard, the community accomplishes production and quality assurance (Yaari et al., 2011) based on the “wisdom of crowds” (Surowiecki, 2005).

Previous research has investigated students' usage of UGC platforms for academic and other purposes (Aillerie & McNicol, 2018; Nagler et al., 2017; Raith, 2019), user-related differences (Kim et al., 2013), quality perceptions (Raith, 2018; Tan, 2013), and factors driving usage (Arteaga Sánchez et al., 2014; Kim et al., 2014; Sharma et al., 2016). Most of these accounts draw on surveys.

Only a few studies used qualitative methods to explore students' motivation deeply. For example, from interviews with engineering students, Ali et al. (2017) concluded that “personality, social influence, information quality, system usefulness, and satisfaction” (p. 559) were deciding to use social media for entertainment, socializing, information sharing, and learning. Other studies reported similar results (e.g., Aillerie & McNicol, 2018; Sharma et al., 2016).

2.2 Affordance Theory

Affordances are based on the original introduction by the ecological psychologist Gibson (1977, 1979), who defined affordances as “the possibilities for action” an object or environment offers to a perceiving and goal-directed subject. The original definition differentiates between affordances and physical properties like color and form, which in our context are the features of UGC platforms. After some debate between ecological psychologists (Chemero & Turvey, 2007), the consensus is that affordances are emergent, relational properties of animal-environment systems. In our context, we define a UGC-platform affordance accordingly as “*the potential for*

action associated with achieving an immediate concrete outcome which arises from the relation between the UGC platform and a goal-oriented student user” based on Strong et al. (2014, p. 69).

To generate a concrete outcome or an effect, perceived affordances have to be actualized. The literature argues that certain conditions might foster, or impede, affordance actualization, e.g., labeled as actualization effort (Bernhard et al., 2013), potency (Anderson & Robey, 2017), or facilitating conditions (Thapa & Sein, 2018). These concepts mainly refer to the ease or difficulty an individual experiences in actualizing a perceived affordance in a given context. Thereby, lower energy requirements increase the probability of actualization (Anderson & Robey, 2017). Within this study, we use the term facilitating conditions for factors promoting affordance actualization.

3 Research Design and Methodology

The unforeseen onset of the Covid-19 pandemic allowed for a two-staged research design. Stage 1 was completed before the pandemic and includes explorative interviews with 18 students at different academic levels at WU Vienna in Austria. Stage 2 is ongoing and relates to the time of the pandemic.

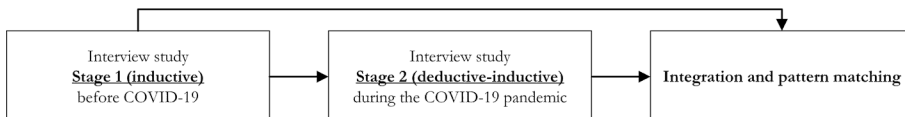


Figure 1: Qualitative and interpretative two-staged research strategy

Interviewees were/will be recruited via contacts and a mailing list and should originate from (under)graduate and post-graduate programs to gain variant views. Questions asked relate to their information sources for academic challenges, focusing on informal sources, how and why they used them—and, in stage 2, changes over time. With our last interview, we will seek theoretical sufficiency (Dey, 1999), i.e., the point at which no new topics emerge (Guest et al., 2006).

The interviews were/will be transcribed and analyzed in Atlas.ti, using Grounded Theory-analysis techniques adapted from Strauss and Corbin (1990, 1998) by Sarker et al. (2001). After bottom-up open coding, structures and hierarchies are derived

interpretively in axial coding. The authors suggest using a meta-theory to guide theory building around a core category for the final selective coding phase. In the analysis, perceived possibilities of action on UGC platforms emerged relevant, leading us to affordance theory as a basis for further development. Here, we introduced themes as higher-level categorizations for significant theory elements. Within the limits of the approach, stage 1 focused on inductive theory generation. Stage 2 will follow a deductive-inductive logic to validate the findings and explore pandemic-induced changes.

4 Preliminary Results

Figure 2 highlights the preliminary results of the first pre-pandemic stage for which Students mostly used Wikipedia, YouTube, and Facebook for academic purposes, besides lesser used platforms such as blogs, forums, and Q&A sites. Based on the data, four categories of **perceived and actualized affordances** on UGC platforms were derived:

- **Internalization affordances** refer to the possibility of acquiring information and knowledge (*"If I want to understand a new concept, I would first look at a simple explanation given in Wikipedia"*, ID18, PhD).
- **Externalization affordances** refer to the possibility of providing content, e.g., sharing one's knowledge (*"[...] somebody poses questions, and you answer them because you think: Someone must do it, why not me?"*, ID2, BA).
- **Interactional affordances** refer to the possibility to exchange with others, e.g., peer interaction and collaboration (*"[...] other students can help me when I ask [...] in the group"*, ID11, MA; *"In the groups, we work on a topic together [...], upload drafts of the homework [...] give feedback [...]"*, ID13, BA).
- **Communal affordances** refer to the possibility of connecting with others, e.g., relatedness, and collective support. (*"[...] we are all somehow equal [...] people [...] help each other learn. [...] I do not think it would work if you had to deal with it on your own"*, ID3, BA)

Internalization affordances appeared relevant for all used platforms, while externalization affordances were, by tendency, more significant on Facebook. Interactional and communal affordances emerged for Facebook only.

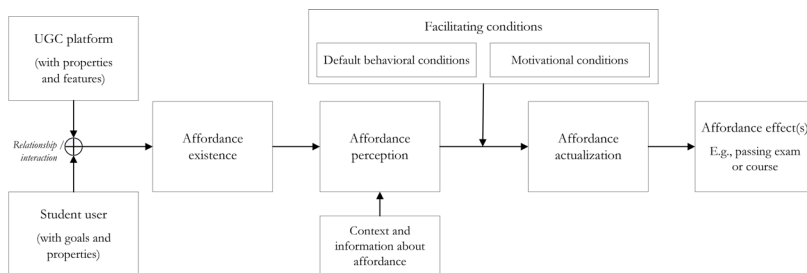


Figure 2: Affordance perception and actualization with facilitating conditions

Source: Adapted from Bernhard et al. (2013) and Pozzi et al. (2014)

Regarding **facilitating conditions** supporting affordance actualization, or impeding it in case of a negative manifestation, two main themes have emerged:

- **Default behavioral conditions** refer to students' past behavior and pressure and cues in the environment (“Wikipedia is purely a matter of habit. [...] it really is the first choice”, ID1, BA; “[...] someone also said: There are videos, [where] someone explains it to you really well”, ID12, BA).
- **Motivational conditions** refer to the perceived probability of expected outcomes and values attached to them, e.g., accessibility, information quality, coverage, comprehensibility, usability, efficiency, interest satisfaction (“Wikipedia because you can find [...] well researched and reasonable information on various topics [...] quickly, easily, and free of charge”, ID4, BA; “[On] YouTube [...] if you have not fully understood something in lecture, it is explained in ten, 15 minutes”, ID14, MA)

In terms of effects that emerge through affordance actualization, students rather reported close outcomes like mastering a task and passing an exam or a course.

5 Anticipated Contributions and Next Steps

This research in progress should enhance our understanding of how students used UGC platforms for university before and during the pandemic and facilitating conditions of such use. After stage 1, we can already report that students perceived and actualized a range of affordances for learning and academic development, and that these affordances differed by UGC platforms.

The preliminary findings are in line with previous research on affordance actualization (Anderson & Robey, 2017; Bernhard et al., 2013; Thapa & Sein, 2018) and driving factors for social media usage (e.g., Ali et al., 2017; Sharma et al., 2016), but provide a more comprehensive view, embracing two types of facilitating conditions: (1) behavioral conditions, triggered by students' past usage (habit) and their environment, playing a significant role; (2) motivational conditions, comprising the perceived quality, comprehensibility, and coverage of information, followed by convenience factors (accessibility, efficiency, usability).

In stage 2 (during the pandemic), we will seek to validate the findings from stage 1 and explore transitions of the identified themes. For example, community-based platforms like Facebook might have gained attraction to students due to social distancing. Also, perceiving interactional and communal affordances on other platforms like YouTube might have increased. Finally, other (UGC) sources could have arrived in students' informal learning like Pinterest (social bookmarking) or traditional open educational resources (OER) and MOOCs. These aspects should be examined in stage 2 based on open-ended questions, allowing us to compare the pre-pandemic with the current state and to deepen our understanding of UGC platform usage under the affordance lense.

6 Conclusions

This research-in-progress paper reported on a two-staged interview study on students' perception and actualization of affordances regarding UGC platforms for learning purposes. Stage 1 of this study showed that, before the pandemic, students perceived and actualized internalization, externalization, interactional and communal affordances to a varying degree on different platforms. The facilitating conditions for affordance actualization embraced two broad themes: default behavioral and motivational conditions. The findings from stage 2 will extend our knowledge of how these issues have developed during the pandemic.

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