Crowdlearning: A strategy in the face of learning challenges in higher education

Crowdlearning: estratégia frente aos Desafios de Aprendizado no Ensino Superior

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ABSTRACT

This article aims to understand the main learning difficulties on the part of higher education students in online modality and discuss the operational viability of a crowdlearning platform from the interaction dynamics perspective. An exploratory research was conducted through individual interviews with a group of online course managers of both public and private universities in the country selected in a non-random way. The research revealed that the difficulties experienced by students have multiple causes, especially a structural educational disability, i.e., text reading and interpretation skills, low and medium complexity calculations, as well as attitudinal aspects such as autonomy and self-discipline. It was also recognized the feasibility of the contribution of the principles of collaborative economy in the learning of these students through the interaction, cooperation and collaboration of students, lecturers and other participants; thus, the conditions for the operation of a crowdlearning platform as a tool to assist students in this context are specified. This research inovates in relating crowdlearning to learning challenges in Brazilian higher education, revealing, as a contribution to literature, critical points of contact between the two issues. In practical terms, in addition to disseminating the principles of collaborative economy applied to learning, the paper discusses and brings directions to the application of crowdlearning in particular IESs, considering the structural, cognitive and operational challenges to higher education learning.

Keywords: Collaborative economy, Crowdlearning, Higher education, Management education, Content analysis.

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RESUMO

Este artigo tem como objetivos compreender as principais dificuldades de aprendizado por parte de alunos do ensino superior na modalidade EaD e discutir a viabilidade operacional de uma plataforma de *crowdlearning* a partir da perspectiva da dinâmica de interação. Realizou-se uma pesquisa exploratória por meio de entrevistas individuais junto a um grupo de gestores de cursos na modalidade EaD de universidades públicas e privadas no País selecionados de maneira não-aleatória. A pesquisa revelou que as dificuldades vivenciadas pelos estudantes

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RESUMO

têm múltiplas influências, sobretudo a deficiência educacional estrutural, i.e., habilidades de leitura e interpretação de texto, cálculos de baixa e média complexidade e também aspectos atitudinais como a autonomia e a autodisciplina. Reconheceu-se também a viabilidade da contribuição dos princípios da economia colaborativa no aprendizado desses estudantes mediante a interação, cooperação e colaboração de discentes, docentes e outros participantes; são, assim, especificadas as condições para a operação de uma plataforma de *crowdlearning* como ferramenta de auxílio ao aprendizado de alunos nesse contexto. Esta pesquisa inova ao relacionar *crowdlearning* aos desafios de aprendizado no ensino superior brasileiro, revelando, como contribuição à literatura, pontos críticos de contato entre as duas questões. Em termos práticos, além de difundir os princípios da economia colaborativa aplicados ao aprendizado, o artigo discute e traz direcionamentos à aplicação do *crowdlearning* em IESs particulares, considerando desafios estruturais, cognitivos e operacionais ao aprendizado no ensino superior.
Palavras-chave: Economia colaborativa, *Crowdlearning*, Ensino superior, Ensino de administração, Análise de conteúdo.

Introduction

Over the years, Brazilian education has shown insufficient performance, as evidenced in the International Student Evaluation Program (PISA). Despite the volume of investments as percentage of GDP, above the average of OECD countries, Brazil performs less than the average of other Latin American countries such as Colombia, Mexico, and Uruguay (OECD, 2018). In 2017, the Basic Education Development Index (IDEB), an indicator created by the Brazilian Federal Government to assess the quality of education in public schools, evidenced that only seven of the Brazilian states achieved the learning goals set for elementary school, whereas for high school goals, no Brazilian state achieved them (BRASIL, 2017). This situation, in addition to the results shown in the Basic Education Assessment System (SAEB), i.e., low cognitive development of high school students and the low percentage of maximum grades of students from higher education institutions (HEIs) in the National Student Performance Exam (ENADE) (INEP, 2017a; 2017b), draw a worrying scenario for the management of HEIs in the country, specifically regarding the effectiveness of learning, quality of teaching, and interruption of studies.

In the midst of major challenges, some innovations, even if limited in scope, have been developed and implemented in HEIs and brought satisfactory answers to

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the aforementioned problems. Dunlap and Lowenthal (2018), for example, point out that experienced educators have been invited to make use of collaborative strategies and tools (crowdsourcing, specifically) via digital platforms as a means of sharing knowledge, making distance learning (e-learning) more attractive, effective, and feasible, and also as a student and learning support solution in the traditional education model (SOUMPLIS et al., 2011).

Crowdsourcing has in essence the sharing of issues or problems to be solved among groups or networks of individuals, usually through a digital interaction platform, so that they work and cooperate via the web (MOTA; LIMA, 2018). Thus, from the application of the concept of crowdsourcing to education, associated with the principles of e-learning, the concept of crowdlearning, or collaborative learning, arises: learning built on the combination of information technologies (internet and digital platforms) and the initiative of knowledge sharing by different people (crowds).

Considering the education scenario as a strategic issue from the general environment to Brazilian HEIs and the possible local responses from the application of crowdlearning principles and tools – especially as a response to learning obstacles and consequent performance – the following research question was formulated: how can crowdlearning respond to the main learning obstacles of higher education students? Thus, as research objectives, we propose: to understand the main learning difficulties on the part of higher education students, specifically in online education, and to discuss the operational viability of a crowdlearning platform from the perspective of interaction dynamics.

Although there are already technological resources in use to enable this learning model, the literature on crowdlearning in the Brazil, especially regarding its management within educational institutions, is still scarce. Thus, it is intended from the results to contribute to the discussion about how using the principles of collaborative economy to learning can become an institutional strategy in order improve learning goals, and thus benefiting students, educational managers, and HEIs in general.

Literature Review

The phenomenon of collaborative economy has changed the way people live, in particular, social relations, through spontaneous interaction mediated by modern

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information and communication technologies (ICTs). These same technologies have also changed consumer relations with sharing practices between individuals and communities and awakened the spirit of community sharing (LESSIG, 2008; BOTS-MAN; ROGERS, 2011; BELK, 2014; OWYANG, 2015; SCARABOTO, 2015).

The so-called collaborative economy occurs when, naturally, individuals and communities are organized aiming at the exchange, acquisition or distribution of goods and services for money (BOTSMAN; ROGERS, 2011; MOTA; LIMA, 2018). Having expanded rapidly from new ICTs, specifically through digital platforms and the Internet, such behaviors are present in various circumstances of every-day life, as in collaborative consumption, crowdsourcing, crowdfunding, and crowdlearning (STOKES et al., 2014).

Among these different categories within collaborative economy, crowdlearning is an instructional or education format based on cooperation that aims to stimulate collaboration and integration among participants through digital tools or platforms (ZHOU et al., 2018). Although labeled as online education, a teaching modality already consolidated in several countries, the main and fundamental innovation in crowdlearning is in cooperation through collaborative tools focused on the integration between teachers and students (ZHOU et al., 2018). Examples of this integration are the massive open online courses (MOOCs), learning options focused on sharing relevant content, many of which focused on supplementing learning and often including some kind of recognition or certification (SANDEEN, 2013).

Sandeen (2013) also points out that the phenomenon of MOOCs has accelerated innovation, especially regarding online pedagogy, as well as predictive analysis, which can contribute to students' learning improvement strategies. MOOCs served as the basis for the emergence of so-called collaborative open online courses (COOC), online courses based on the concept of crowdlearning and cooperation, making open education broader and stimulating collaboration and integration between actors (CLOW, 2013; ZHOU et al., 2018; KAPLAN, I.A. HAENLEIN, 2016).

By seeking greater interaction in learning, crowdlearning has provided considerable value for education. Since students practice the construction of shared cognitive knowledge, thus making content more pertinent to each reality in question, such contents are multifaceted and quickly developed, that is, involving person-

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al experiences, documented knowledge, and the interaction process itself (KING; BOYATT, 2014; ZHENG; NIIYA; WARSCHAUER, 2015). Specifically, crowdlearning involves members of a group through the transmission or reception of information for problem solving, for the generation of content, for votes on these solutions, for the exchange of ideas with experts and for the integration of different perspectives: collective wisdom, knowledge of experts and comments of other participants (SHARPLES et al., 2016).

The use of crowdsourcing principles in the academic setting has gathered diverse knowledge applied to education (Skaržauskaitė, 2012). Hills (2015) recalls that one of the greatest difficulties in the development of crowdlearning aimed at the classroom is the lack of knowledge on the subject itself, besides the difficulty of many in manipulating ICTs. Solemon et al. (2013) also point out that, in order to prepare teachers and students for the challenges of the future with online education, and to keep HEIs at the forefront of education and innovation in research, crowdsourcing has been one of the key elements specifically in monitoring the new methodologies for assessing educational skills. Clow (2013), however, stresses that in online education platforms there is an inevitable tendency of students to abandon the online open activities due to low degrees of involvement and commitment. In addition, Balasubramanian (2016) highlights the limitation that crowdlearning presents in relation to the quality and reliability of the posted material. Another limiting factor in democratic learning digital platforms is evasion, also due to low engagement and limited involvement (CLOW, 2013). In addition, the lack of feedback is a risk that discourages effective participation. Despite these arguments, there is a need for a more comprehensive and systemic understanding of the mechanisms that contribute to the success of a digital collaborative platform and, in particular, how crowdlearning can tackle learning difficulties of students in higher education.

Methodological Procedures

With the purpose of understanding the main learning difficulties of higher education students and discuss the operational viability of a crowdlearning platform from the structure of interaction between participants, this research departs from a

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constructivist epistemology of transactional and experiential knowledge. For Tesser (1994) and Fraser and Gondim (2004), constructivism is related to an idiographic approach, in which, from the perspective of the social sciences, it aims to understand the human reality lived socially.

The research used a qualitative approach, which allowed verifying the particular perspective of subjects and, thus, understand the meanings that sustain their positions and worldviews (FRASER; GONDIM, 2004). The research is also categorized as exploratory and had as data collection strategy individual interviews guided by a semi-structured interview script. Data collection was performed between January and March of 2020; subjects were contacted via telephone and e-mail.

Subjects included managers of online education courses from both public and private universities based in multiple locations in Brazil. Although initially selected using the authors' network, subjects were further contacted through suggestions based on the desired respondent profile. This non-random selection of interviewees is justified by the difficulty of locating subjects with the needed knowledge to discuss the items addressed, as well as their accessibility. Interviews were conducted in person, and in some cases, through videoconferencing, totaling in 10 subjects. According to Minayo, Deslandes, and Gomes (2018), the sample size should be interrupted when the criterion of information saturation is reached, a fact that occurred after the 7th interview; however, the essential aspect in research involving interviews is to capture meanings (FRASER; GONDIM, 2004). All interviews were recorded for later transcription and analyses, displaying an average length of 54 minutes.

From the group, eight subjects were managers or coordinators of online courses and two held management positions in their respective institutions; seven respondents had a master's degree or a post-graduation degree; the remaining held doctorate degrees. The group's average time of experience with online education projects totaled 8.4 years, each one managing directly or supervising the management of an average of 28 online education projects per year.

For the analysis, a thematic content analysis by categories was chosen, from which the researcher overcomes uncertainties from the exploratory phase due to the observed findings and content enrichment (MINAYO; DESLANDES; GOMES, 2018); the researcher conducts the interview process having a report as a goal, the result of the dialogue between the researcher and the researched (ICHIKAWA; SAINTS 2012).

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Table 1 Subjects' and institutions' profile

Subject	Education	Position	Experience with online education projects (in years)	Number of students currently supervised in online programs	Online education technical staff (employees)	Number of online education projects yearly
1	Masters degree	Online education coordinator	8	170	8	6
2	Masters degree	Online education coordinator	14	2.500	20	12
3	Doctorate degree	Communication and informatics manager	4	100	15	10
4	Masters candidate	Online education coordinator	3	4.500*	20	40
5	Doctorate degree	Vice director of online education	2	1.800	30	16
6	Doctorate degree	Director of educatio-nal innovation	19	20.000	40	90
7	Doctorate degree	Online education coordinator	16	2.800	15	4
8	Graduate degree	Online education coordinator	10	300	7	47
9	Graduate degree	E-learning manager	4	6.000	7	40
10	Masters candidate	Online education coordinator	4	5.000	15	15

Source: Research data (2020)

*Regarding 20% of online classes in traditional courses.

After reading and rereading the interviews, a coding protocol was followed based on a thematic framework using a criterion of thematic and content similarity, following Minayo, Deslandes, and Gomes (2018). For this, the software ATLAS.ti version 8 was used, from which it was possible to perform a graphical and connec-

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tivity analysis between the categories and, thus, obtain a both focal and systemic understanding of the reports.

Results

Following categorization and coding based on key terms, results were described and analyzed. First, the main learning difficulties in higher education in the online environment are analyzed, and then the operational viability of a crowdlearning platform, with the interaction between participants as the main element of analysis.
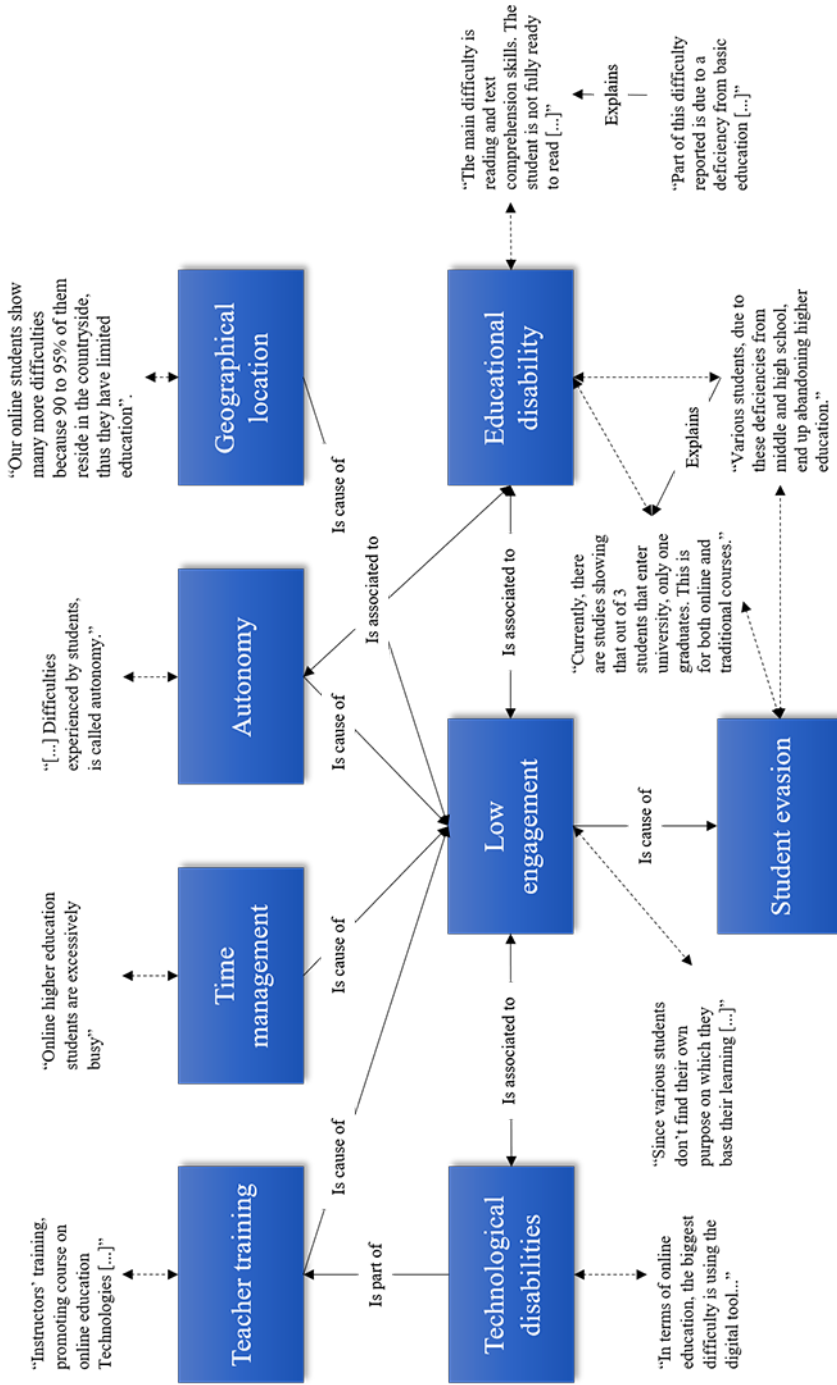
LEARNING DIFFICULTIES

Taking the first research objective, we investigated the main difficulties of students in online education, likely antecedents, and also the consequences of these difficulties for the HEIs. It is emphasized that, although online education and crowdlearning are not synonymous, the research elements related to both are similar; crowdlearning is considered a distinct category of online education given the complexity in content generation, learning and relationships between participants.

Thus, in the case of students' difficulties, the difficulty in relation to (1) personal time management, (2) autonomy and discipline, (3) educational disability and, a more superficial aspect, but closely related to disability, (4) the student's place of residence, were identified.

Time management and autonomy and discipline are aspects bound to the individual and derive from the lack of time or conflict between educational activities and domestic or professional responsibilities, despite the flexibility enabled by online education. It can be affirmed that flexibility and the absence of specific learning routines, in this case, can affect students' perception of the importance of discipline and autonomy in relation to learning, as well as time management itself. On the other hand, the urgency of professional activities, which are essential for the individual's subsistence, can hinder more flexible commitments, i.e., online education, since future gains and benefits are not always clear to the student.

From the main difficulties mapped, the educational deficit was the most mentioned by the interviewees. A large number of students arrive at higher education

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Figure 1 Learning difficulties on the part of higher education students in online education platforms and crowdlearning obstacles.

Source: Research data (2020) aided by ATLAS.ti software.

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with low reading and comprehension skills, in addition to difficulties with of low and medium complexity math calculations, skills that should be, in theory, mastered at the end of high school. This aspect, evidenced in the results, is also demonstrated in the ENADE national examination, whose recent results show the majority of students' performance as below average, a phenomenon that clearly describes an educational lag (INEP, 2019b). Such observations are proven from the following interview excerpts: "the main difficulty is the reading and interpretation of texts" (Subject 7); "many students arrive with serious problems in writing, related to articulation, organization of thoughts and logical reasoning" (Subject 5); or "part of this reported difficulty is related to a debility from high and middle school [...] especially regarding interpretation" (Subject 2).

An unusual aspect associated with educational deficit is geographical location, as one isolated reference to debility in basic education outside large urban centers was verified. According to Subject 2, "the online education clientele is formed by students with more difficulties and disabilities because it consists of 90 to 95% of students living in the countryside; in most cases, they have precarious literacy". In addition, this educational deficiency directly impacts the autonomy necessary for the student, since their difficulties bring insecurity.

To the extent that time management and autonomy and discipline lead to a low engagement of students, educational disability is associated with low engagement. This low engagement, as well as the educational disability itself, were verified as key influence factors on student evasion, this, one of the most critical problems of HEIs in the whole country. It was observed that learning-related difficulties are either associated or directly influenced by low engagement (Figure 1). In addition, other considerations on the part of the interviewees could be obtained: "the lack of a purpose, whether by students, teachers or the HEI, is a point of attention to low engagement" (Subject 9); "students do not seem to be aware of their current reality, social and economic, [...] they become short-sighted, immediatist, which in turn reflects on low engagement" (Subject 6). Part of this low engagement, according to Subject 2, is directly linked to low family support and incentive, in addition to deficiencies arising from basic education.

On the other hand, the fundamental role of instructors in this process is also highlighted. The interviews revealed that the role of instructors is in mastering the

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available technologies, training, and promoting this technological learning environment among students. Low student engagement is also associated with this factor. Thus, teaching education is also directly related to student engagement and evasion, although it is not widely mentioned in the interview transcripts.

OBSTACLES TO CROWDLEARNING

As for the second research objective – to discuss the operational viability of a crowdlearning platform based on the interaction dynamics between participants – part of the conceptual model of crowdsourcing creation in microteaching of Suhonjic et al. (2019) was used, especifically, the entity aspects: students (individuals), contributors (crowdsourcers) and crowd.

Thus, in view of the entity elements related to a crowdlearning platform and the management experiences of the subjects (interviewees), the following codes were structured: knowledge taker, knowledge donor, autonomy, security, technology, internet, usability, teacher training, language, pedagogical project and HEI policy.

As in the subsection addressing the difficulties, it was verified from the reports that the geographical location is also directly associated with the viability of the crowdlearning platform, particularly in relation to the technological infrastructure (internet) differences among regions, which in turn can affect the engagement of both students and others interested in collaborating (crowd).

An aspect mostly mentioned by the subjects and experienced by most students are autonomy issues, which relate to a culture of teaching practices based on the transmission of content and with low levels of interaction between participants and little emphasis on research and debate. Student autonomy, as shown in figures 1 and 2, was verified as a key direct influencer of student engagement, according to respondents, besides being directly associated with educational deficit, considering the limited conditions or little interest in research and self-directed learning activities. This aspect can be exemplified from excerpts from subject 4: "we were trained in classroom processes, in which our education was based exclusively on memorization, memorizing contente, and not to ponder critically and not to have autonomy".

The construction of autonomy on the part of the student, according to the reports, depends largely on self-discipline. And, through this autonomy, both knowledge donors and takers are better able to exercise their performance via platform,

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both as a learning tool and as a means for sharing content or answers to questions, for example. Autonomy contributes to participation and collaboration, important elements of crowdlearning and, at a broader level, to collaborative economy, and, in this case, it promotes interaction via platform at the most appropriate moments for content production (Figure 2). For Hosseini et al. (2014), the autonomy of sharing knowledge is essential in a crowdlearning platform. The progress made in online learning, combined with the aspect of collaboration and dynamics through a virtual platform, is based on the principle of autonomy and cooperation (ZHOU et al. 2018).

Figure 2 Autonomy, self-discipline, and monitoring in a crowdlearning platform.
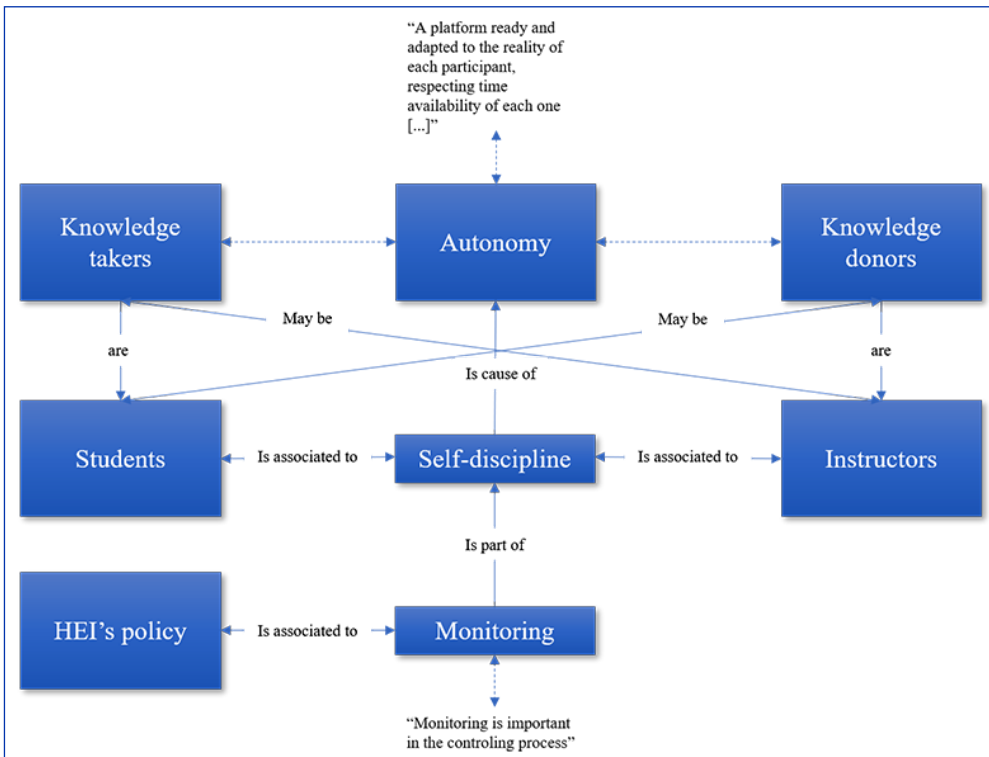
Source: Research data (2020) aided by ATLAS.ti software.

Time management was also verified as a major crowdlearning challenge, also an impact factor to low engagement of students (figures 1 and 2). One of the diffe-

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rentials of online courses is that students may take them according to their time and place of preference, thus, making it very convenient. However, it is known that time management is an important fator since students may have difficulties in organizing tasks, studying content outside of the online environment, and in participating in routines within platforms, thus causing the accumulation of tasks and preventing learning progress. For subject 1, "higher education students in AD are busy people." However, it should be noted that tasks and routines, even allowing participants free to perform at their own convenience, should include a period for participation as a way to ensure greater engagement in them.

Regarding shared collaborative learning, the main difficulty reported by the interviewees concerns the use of technologies, by both students and instructors. This technological shortcoming, in many cases, is due to instructors' training experience based exclusively on face-to-face and traditional teaching, which, with time, tends to create greater resistance to new digital learning technologies. For Hills (2015), one of the biggest difficulties in developing crowdsourcing aimed at the classroom is the difficulty of some in using the necessary technologies. In a recent study conducted by subject 10, "whenever online education is mentioned, it was identified that the greatest difficulty among participants is the use of digital tools". This aspect regarding the use of technologies was associated to issues of instructors' training by respondents, which can be overcome through specific training promoted by the HEI (Subject 4).

Based on these findings, some discussions are presented in the following section.

Discussion

N Notoriously, the educational deficiency of higher education students in Brazil, specifically regarding reading, textual interpretation, and mathematical skills (i.e, calculations of low and medium complexity), generates problems for both students who may struggle with more complex content inherent to higher education and for HEIs, which must deal with serious learning gaps of their students. From the use of new technologies, tools such as crowdlearning can bring benefits to students with

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difficulties and, at the same time, contribute to a greater interaction between instructors, students, and other groups interested in creating knowledge and enhancing learning collaboratively. However, some aspects should be analyzed with caution.

The first one of these is geographical location. A student's place of residence is an aspect directly associated with learning difficulties, in their educational disability, but also with technological disability (internet and hardware infrastructure). Thus, in addition to serious differences related to training, there is also access to technological means from which a crowdlearning platform has the potential to assist in the academic environment (HALL JR.; GRIFFY-BROWN, 2016).

The lack of training combined with low levels of autonomy in the academic environment was the greatest challenge to students as reported and this aspect is connected to the culture of learning based on the predominance of a teaching model around expositive classes (unidirectional communication) in which contents, tasks, deadlines, evaluations, and other practices are previously outlined, structured and communicated. However, the development of online courses in online platforms has aroused interest in new generations and new challenges and opportunities are emerging to generate and spread content through new educational tools (KAPLAN; HAENLEIN, 2016). Thus, there is a great question about the creation of a culture of autonomy and discipline so that both online education and the success of crowdlearning as an institutional strategy, specifically by means of cooperation, may occur.

On the other hand, in the case of instructors, much work is still needed on technological skills, i.e., handling of digital platforms, but also communication, i.e., instructions and directions, which directly impact the increase in evasion, one of the main challenges of HEIs in Brazil. There has been a lot of resistance to online teaching in institutions from instructors and this aspect has also been documented in other studies: Hills (2015), for example, highlights that one of the biggest challenges in the development of crowdlearning is the difficulty in using technology.

As this technological deficiency goes together with instructors' training, the solution may be to continuously prepare them to manipulate technological and digital learning tools, as well as to incorporate teaching practices that involve cooperation and collaboration for the purpose of building and sharing relevant and necessary knowledge. The lack of specific training skills on the part of instructors asso-

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ciated with the use of virtual technologies, as evidenced, affects the engagement of students with difficulties and, in turn, influences student evasion.

Finally, a structural aspect of a crowdlearning platform is the flexibility it should provide to each participant. According to Subject 10,

If the tool is prepared to adapt to the reality of each participant, knowledge donors and takers, respecting the free time of each, in which the platform can provide a listing with all tasks and routines of interactions made by both, as well as the contacts they have to make [...], both donors and knowledge takers will be able to appropriate the tasks in accordance to their availability.

Final Remarks

Through a qualitative research involving semi-structured interviews with ten online course managers in public and private universities in Brazil, this research mapped the main learning difficulties faced by higher education students, as well as a discussion about the feasibility of a crowdlearning platform to address it. Thus, it contributes to literature by connecting crowdlearning to the learning challenges in Brazilian higher education, revealing critical points of contact between the two issues. In addition, as a practical contribution, it shows how the principles of collaborative economics can be applied to learning, directing the application of crowdlearning in the context of private HEIs in the midst of structural, cognitive, and operational challenges to learning in higher education.

From the perspective of the interviewed subjects, it is concluded that the difficulties experienced by students in online courses have multiple influences, the main one being structural educational deficiency, arising from more basic stages. This deficiency concerns not only fundamental skills such as reading and interpreting texts and low and medium complexity calculations, but also atitudinal aspects that are equally essential to learning, such as autonomy and self-discipline. Knowledge and atitudinal skills (these more intensely) directly and positively influence the engagement of students in their learning activities and individual progress, which in turn, impacts evasion, a worrisome phenomenon for HEI managers. This reality leads us to believe that management efforts to reduce evasion should be intrinsi-

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cally linked to a support infrastructure (people and systems) that considers time management by students, their self-discipline for the execution of tasks and activities to a better course fulfillment and their learning needs. Hereupon, communication campaigns that show the recognition of these problems by the HEI can contribute to students' perception of a more receptive atmosphere, and so, they become more aware of their limitations and may display more initiative in seeking answers to their disabilities. The effort of instructors is also a relevant contribution, especially in terms of mastering the tools and technologies aimed at online education. This teaching competence is essential to bring security and promote engagement, as much as it is necessary an active participation of the HEI itself in the promotion of these qualifications.

In this context, the contribution of collaborative economy principles to learning was recognized through the interaction, cooperation and collaboration of students, instructors and other participants. Conclusions in this regard are summarized with the following: (1) a crowdlearning platform initially requires a change regarding teaching practices, as it requires engagement and self-discipline for periodic, collaborative, and productive participation capable of promoting learning and meeting knowledge needs; (2) a platform should be able to meet different needs of students, since geography is a factor that determines the level of preparation of students as well as reliable access to the Internet, a fundamental structural factor for its feasibility; (3) the institutional commitment to the development and maintenance of a platform like this is essential and the ideal way for this to occur is to link it to the HEI organizational strategy; (4) instructors as contributors to knowledge on a platform like this should master their operation. In addition to these considerations, it should be noted that, ultimately, the production of relevant knowledge is the crucial objective to be sought. Personal life conflicts, unclear future benefits of higher education, as well as time scarcity that are part of the student's life in online education compete for the fundamental value of a learning that has almost immediate application. Solving real problems, case studies and tacit knowledge records can contribute in this sense.

Finally, for future research, it is initially suggested the preparation of surveys based on the results of this research, aiming at greater robustness of the results at a regional level and evidencing possible discrepancies between different regions of

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the country. It is also suggested a more in-depth look at how interventions in the field of autonomy and self-discipline influence students' evasion. As for the operationalization of a crowdlearning platform, it is also suggested to investigate how autonomy and self-discipline, in addition to the engagement and role of students, influence spontaneous content generation and its consumption, thus contributing to the institutionalization of this tool in HEIs, far beyond a technological "fad".

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