

## **QUALITY INTERACTION IN DISTANCE LEARNING PROCESSES. BEYOND EMERGENCY EDUCATION**

### **INTERAZIONE DI QUALITÀ NEI PROCESSI DI APPRENDIMENTO A DISTANZA. OLTRE LA DIDATTICA EMERGENZIALE**

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#### **Abstract**

Distance learning provides extraordinary opportunities to allow access to many students and reduce the cost of delivering lessons. Furthermore, if used well, it can be considered as a means to improve the quality of teaching/learning processes. However, the challenge for universities is to overcome the emergency approach that was adopted following the COVID-19 crisis and to support university thanks to an adequate and competent planning of teaching activities.

The theme of interaction in the framework of digital teaching that characterizes this intervention arises from the reflection on some characteristics of quality distance learning. It intends to focus above all on the importance of investing in the professional development of university teachers. The intent is to assume a systemic logic in the design of ecosystems designed specifically to support students in their learning paths.

L'apprendimento a distanza fornisce straordinarie opportunità per consentire la frequenza a un numero più ampio possibile di studenti e ridurre i costi dell'erogazione delle lezioni. Inoltre, se ben usato, esso può essere considerato un mezzo per migliorare la qualità dei processi di insegnamento/apprendimento. Tuttavia, la sfida per le Università è superare l'approccio emergenziale che è stato adottato a seguito dell'esplosione del COVID-19 e sostenere la didattica universitaria grazie a un'adeguata e competente progettazione delle attività.

Il tema dell'interazione nella dimensione della didattica digitale che caratterizza questo intervento nasce dalla riflessione su alcune caratteristiche della formazione a distanza di qualità. Esso intende puntare l'attenzione soprattutto sull'importanza di investire sullo sviluppo professionale dei docenti universitari. L'intento è di assumere una logica sistemica nella progettazione di ecosistemi pensati specificamente per supportare gli studenti nei loro percorsi di apprendimento.

#### **Keywords**

Distance learning, Emergency teaching, Interaction, University, Teachers continuing development

Apprendimento a distanza, Didattica emergenziale, Interazione, Università, Sviluppo professionale continuo

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## 1. The role of interaction in online learning

In a recent study published in July 2020 on the role of the university teachers in the new learning contexts changed as a result of the pandemic, the Authors, coming from universities located in different countries around the world (Lisbon, Lugano, Sydney, Barcelona, Saskatoon in Canada), analyzed the research literature of distance learning and on-line learning and interviews with world experts in distance learning. The results of their research underline two closely related aspects:

1. distance learning requires rigorous attention to *learning design* and organization, to facilitate the learning experience and create suitable learning environments;
2. in designing the learning activities, to be satisfactory, it is necessary to consider the importance of the *interaction* within the learning context and the combination of three types of teacher presence (social, cognitive and facilitation) (Rapanta, Botturi, Goodyear, Guàrdia & Koole, 2020).

About *learning design*, we cannot disagree that to help teachers navigate these troubled times, it is necessary to support them with accurate training on how to organize learning activities. Unfortunately, in the face of the urgent imperative to 'move online' caused by the COVID-19 pandemic, it was widely highlighted that the teachers did not receive any technical support for this task. But, above all, the lack of pedagogical content knowledge needed for online teaching was highlighted, understood as the basic pedagogical knowledge necessary to design meaningful online experiences (Ching, Hsu & Baldwin, 2018; Hodges, Moore, Lockee, Trust, & Bond, 2020). It is clear, however, that there is no single formula and the activities should be based on a mixture of approaches (synchronous, asynchronous, online, offline). They should also be described and communicated clearly and accurately, have an adequate level of difficulty about students' skills and expectations and be connected to authentic contexts. All this to increase students engagement and the accessibility of learning activities for each of them, also taking into consideration the problems of an unstable connection or the unavailability of the resources.

If instead we move on to discuss about interaction, those who have been involved in the design of distance learning activities tell us, without hesitation, that the key differences between face-to-face and distance learning are mainly space, presence and interaction. Concepts related to space and social presence – the latter understood as "learners' perception of having contact with 'real' people" and "positively associated with satisfaction and retention in online courses" (Strauß & Rummel, 2020, p. 252) – become crucial when we change the way we interact. Technology can alter the dimensions of time and space, compressing them metaphorically. In the face-to-face class, teachers and students are physically and temporally co-present (synchronous learning). In online learning, on the other hand, students can be physically distant but temporally present (audio or videoconferencing), or they can be physically and temporally distant, as in asynchronous mode, through email, texts, chat rooms, pre-recorded conferences or audio, video sharing. In absence of the conversation and gestures related to students and teachers behaviour, which we are used in face-to-face lessons, we must therefore pay close attention to the different interactions that occur in online activity. *Interaction* is widely recognized as one of the most important predictors of educational success in an online learning context (Moore, 1989; Picciano, 2002; Bouhnik & Marcus, 2006; Abrami, Bernard, Bures, Borokhovski & Tamim, 2011; Strauß & Rummel, 2020). However, it is "a complex and multifaceted concept" (Anderson, 2003, p. 129) and scholars do not always provide a univocal definition of it. They examine it from different perspectives and in relation to different contexts (Joksimović, Gasević, Loughin, Kovanović & Hatala, 2015).

As per Moore (1989), a pioneer in the studies on online interaction, interaction indicates the general process of building a meaningful change through coherent communication between more than two

people; it refers to the dynamics between who sends and who receives the message. The Author identifies, in this sense, three main forms of interaction in distance learning which include the teacher-student, student-student and student-content relationship. Research on types of interaction is one of the strongest research bodies in online learning. Other researchers, starting from Moore's frame of reference, later added further types of interaction, indicating, for example, those between student-interface, content-content, teacher-teacher, teacher-content, students-people outside the learning environment (such as experts or project partners) (Anderson, 2003, Salmi, 2013; Bouhnik & Marcus, 2006).

In short, research shows that the presence of each of these types of interaction, when integrated in a meaningful way and concerning the aims and expected learning outcomes (Beldarrain, 2008), increases the learning outcomes and social competences of students. This view recognizes learning as both a social and a cognitive process, and certainly does not reduce it to a matter of simple transmission of knowledge. Careful planning for online learning therefore includes not only identifying the content to be transmitted, but also careful attention to how technologies can support the different types of interactions they intend to promote.

## **2. What makes distance learning quality learning?**

There is a plethora of research papers describing the attributes of effective online settings and many of them have been written with a special focus on effective and quality learning in higher education (Martin, Polly, Jokiahho & May, 2017; Shraim, 2020). However, “perceptions of quality in online learning are as complex as the various models and delivery methods available” (Sлимп, 2014, p. 8). Herrington et al. (2001) consider three types of approaches to quality in online education, based on pedagogies, resources and delivery strategies. Berge (2002) designs a framework based on learning goals, learning activities, feedback and evaluation and Bigatel and Edel-Malizia (2017) stress that high-quality instruction has specific elements, that can improve students engagement through socio-emotional (interactions and reactions), behavioural (participation) and cognitive (intellectual) means. Recent studies have identified quality dimensions, guidelines, best practices and benchmarks for e-learning in various setting (Jung 2011; Stracke, 2019) and quality guidelines for e-learning also have been developed by several national, regional and international agencies (Pawlowski, 2006). Whatever the models we want to consider, collaboration and interaction between students - as well as between students and teachers - and teacher's ability to structure collaboration and interaction, including the online material and activities (Salmi, 2013), are essential.

Students' experiences of online interactions with their teachers and other students are considered critical factors shaping their continuance online learning intention (Brahmasrene & Lee, 2012). We must not forget that learning is a social process and that we learn from others and with others, even if at a distance. Anderson (2003) defines student-to-student interaction as collaborative learning that promotes gain in cognitive learning as well as building social skills; moreover, a sense of community and social presence has been widely acknowledged as a factor in enhancing the quality of learning and the motivation to study (Salmi, 2013). Students' experiences of online interactions with their teachers and other students are found to be critical factors shaping their continuance online learning intention (Zhu, Zhang, Au, & Yates, 2020).

Equally important is the presence of the teacher in online activities: this cannot be reduced to how the teacher talks to the camera during videoconference sessions, but if he/she is able, for example, to provide timely and accurate feedback, both on questions and as evaluations. Online learning provides more opportunities to pay attention to the review of individual work and to offer individualized feedback (Rapanta et al., 2020).

Similarly, a quality course is a course that promotes peer collaboration (Zimmerman, 2000). Although at a distance, students could establish formal and informal contacts. From the teacher's point of view,

this means stimulating collaboration through group activities or by introducing peer teaching or peer assessment: cooperative learning strategies are important pedagogical factors that may influence how much students learn when working in small groups using technology (Abrami et al., 2011). In the current situation due to the pandemic, collaboration can also help to achieve a more stable personal balance, especially in the stressful conditions that we see widely among our students.

Hence the reflection on the role of teachers, who were asked to fill the role of educators, designers, tutors and evaluators of the learning experience. If we want to reconsider the presence of the teacher in the current COVID-19 situation (Rapanta et al., 2020), we can reconceptualize that presence as:

- a cognitive presence, focused on the ways teachers take into account the readiness of students to participate in the online learning experience;
- a social presence, which refers to the social communication channels that teachers must open to maintain and strengthen the less spontaneous interaction between students and between students and teacher;
- a facilitating presence that embraces the discourse on the role of the teacher as a facilitator, and that includes the resources or tools for teaching and mentoring activities.

Moreover, students view on the role of teachers confirm that presence is not necessary, if interaction is adequately planned. Results from a qualitative survey on students interaction show that teachers should be above all regularly present and active. Students refer that answering questions promptly is essential, but if it doesn't happen, students have to start sending e-mail, removing the benefit of receiving answers that are available to all. Face-to-face or virtual oral interaction with teachers is not so vital if assignments and feedbacks are clearly expressed and feedbacks are well-timed given (Salmi, 2013). Adequate planning and clear communication of feedbacks are important also to avoid teachers overload caused by poorly designed interaction or disproportionate learner-instructor interaction (Hirumi, 2002).

### **3. A new vision of university teaching: overcoming the emergency**

Our reflection should not mislead us into assuming that learning design and a well-constructed interaction would be enough to achieve effective online teaching, even more effective than face-to-face teaching. When we consider the infrastructures created to support face-to-face education – libraries, housing, counselling services, services for disabled people and so on – it is widely recognised that these elements are crucial to enhance academic success. We can accordingly agree that face-to-face learning is not successful just because lectures are more effective (compared to distance learning): lectures are significant didactic dimensions, because they are part of a comprehensive ecosystem designed specifically to support students with formal, informal and social resources.

If we agree that the quality of teaching activity is the result of a systemic relationship between the resources put in place, effective online education requires investments to create an ecosystem to support students. To accomplish this, it takes time to design and build it. Compared to other options, simply delivering content online may seem rapid and economical, but “confusing that with robust online education is akin to confusing lectures with the totality of residential education” (Hodges et al., 2020, p. 6).

Let us then reconsider the problem of planning online activities. Typical times for planning, preparation and development of a fully online university course vary from six to nine months before the course is delivered. Teachers are generally more confident teaching online after many iterations of their online courses. Therefore, it is impossible for any member of the academic community to suddenly become an expert in online teaching and learning in the current situation, where delivery times have been almost immediate. Although there are resources and supports that faculty members

can rely upon for assistance within universities, the scale of change currently required benefits those systems that already provide such support.

It's not difficult to admit that many of the online learning experiences that we have been able to offer our students have not necessarily been well planned, and they have run, run the risk of suboptimal implementations. We must recognize that all faculty members are committed to doing their best, during such a global emergency. Therefore, it is important to distinguish between the traditional, codified type of effective online education – that is bound by many standards to ensure optimal learning – and the one that we have achieved quickly with minimal resources and inadequate time: emergency remote teaching (ERT) (Hodges et al., 2020).

Differently from experiences on purpose planned and designed to be online, ERT is a temporary shift from delivering face-to-face education to an alternative teaching modality due to crisis conditions. It implicates the use of completely remote teaching solutions for education that would otherwise be given face-to-face.

As Hodges et al. highlight (2020), in these circumstances the main goal is not to recreate a robust educational ecosystem, but rather to provide temporary access to education and teaching support, that is quick to set up and reliably available during an emergency. Adopting this framework to analyse ERT, then it becomes necessary to separate ERT from online learning and to recognize its peculiar characteristics.

The rapid approach required to deliver emergency activities can decrease the quality of the courses provided. Education technology experts believe that a full course development project can take months. The need to have online courses in response to the emergency is contrary to the conditions - time and space - required to develop a quality course. Online courses that were created or delivered during the pandemic crisis are not to be taken as long-term solutions, but accepted by the academic community as temporary solutions to an immediate problem.

## Conclusions

If we agree that teaching is a profession based on a 'combination of complex and higher-order cognitive skills, highly integrated knowledge structures, interpersonal and social skills, attitudes and values' (Kirschner, 2015, p. 312), this definition also applies to distance learning. Professional development pathways for faculty must enable them to apply what they have learned in multiple situations (transfer) and in an unlimited time (based on the perspective of lifelong learning). Technology applied to learning is therefore a tool, certainly the most recent, which requires to be learned and experimented in teaching practice (Rapanta et al., 2020).

Designing effective learning environments, thanks to the use of online technologies, can have the function of encouraging teachers to experiment new and alternative approaches, while reflecting on the practices implemented (McKenney, Kali, Markauskaite & Voogt, 2015). At the same time, the demand for quality teaching in universities, accompanied by adequate teaching evaluation methods, is compelling.

The university has the responsibility to reduce the number of dropouts due to COVID-19; but, on the other hand, it must commit itself to making students acquire the ability to interact digitally, considered an important skill in working life.

As higher education is shifting towards online education, it is of great importance to emphasize that faculty members acquire design skills (Bennett, Lockyer & Agostinho, 2018). Online teaching is an essential part of that professional preparation, but it should not be considered the only one. This is the time for universities to invest in the professional development of faculty, so that they are updated on the effectiveness of pedagogical methods and can face future emergencies with didactic awareness.

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