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Editorial: Data-driven practices in Universities: Rethinking students as subjects and owners of their data

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The presence of huge amounts of digital data has become more and more common in our society, leading to the generation of new social practices (Raffaghelli, Manca, Stewart, Prinsloo & Sangrà, 2020). Universities have grasped the possibilities for innovation conveyed by these data-driven practices. In 2011, the first Learning Analytics and Knowledge conference (LAK, 2011) inaugurated a new area of research focused on the "*measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs*" (Siemens, 2013; p. 1382). Since then, universities have been increasingly interested in the transformation of traditional student data access practices. Data on learning and learners has been collected on a large scale, leading to an upsurge in educational data mining and learning analysis, conducted through statistical investigations of student participation and behavior in online environments (Siemens & Long, 2011). These practices have been seen as an opportunity to improve efficiency, objectivity, transparency and innovation (Daniel, 2015).

It is undeniable that the presence of such large amounts of data can constitute an additional opportunity for research and allow for the opening of new frontiers and new professional practices. However, alongside the perceptions of the positive aspects of this approach, various researchers (Tsai et al., 2020; Zuboff, 2019) have expressed critical positions that have highlighted the dangers and risks of a pos-

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sible distortion related to the use of information by unaware parties. It has become clear that a deterministic approach to data does not provide adequate tools to support and direct learning (Perrotta & Williamson, 2018; Selwyn, 2019). Learning analytics tools are unable to solve problems due to the lack of authentic approaches to evaluation, the absence of interaction skills both of teachers and learners (Vuorikari et al., 2016), and the social and ethical issues related to equity (Broughan & Prinsloo, 2020). Furthermore, with the massive spread of social media among students, new types of data have been generated, and sometimes collected without the teachers and student's awareness. This data, when combined with that collected by online learning environments, has been used to create new forms of data (Manca et al., 2016).

Student data, whether in the form of engagement, assignments, or examinations, represents the foundation for assessment and evaluation in higher education. As universities progressively move towards mixed and online environments, they have access to more data than ever before and to a greater variety of demographic and behavioral data (Krutcha et al., 2019). There is, therefore, a strong need to include students as partners in the collection, analysis and use of their data. The exclusion of students from many current learning analytics practices leads to a shallow understanding of the complexities of learning and assessment but can also increase vulnerabilities and perpetuate prejudices and stereotypes (Broughan & Prinsloo, 2020). Rethinking students as subjects and owners of data, and not merely as objects on which to collect data, could be the first step to using Learning Analytics in an equitable process. A process that could enhance student agency, to support the transformative potential for subjects and institutions, and to improve educational equity.

This issue of QWERTY presents five contributions, with each presenting a possible starting point for a shared reflection about effective ways to address the challenges of using data collected in online learning environments.

The article by Guarguaglini and colleagues presents an online course run on the Moodle platform. It discusses how an online course, based on the guidelines of the Context Based Learning Approach,

could be an effective tool to help secondary school teachers to deliver effective biotechnology courses. Data collected with pre/post tests and perception questionnaires shows that both students and teachers appreciate the materials and the active-learning approach.

Sofwan and colleagues, in a study conducted with preservice teachers, explore the relationship between Technology Innovation Acceptance and Organizational Innovation Climate as predictors for Innovative Teaching Behavior with Information and Communication Technology (IT-ICT). The findings suggest that while Technology Innovation Acceptance does not significantly predict innovative teaching in a direct way, the Organizational Innovation Climate seems to be the most important factor affecting innovative teaching.

Data practices in teaching and learning, according to the contribution by Raffaghelli et. al., have a relatively small diffusion. In universities, traditional approaches connected to cultures of using analog data in evaluation, still prevail. The potential of digital data as a dynamic structure is not routinely exploited as an element to support the feedback discussion with and among students, even though it could be a useful element to improve the learning process.

Monaci's article considers use of data in a review of the literature on the topic of creating fake profiles in online environments. The creation of fake profiles is a relatively recent phenomenon: research on it is limited but it begins to delineate some underlying psychological factors. The article intends to identify the characteristics of this evolution and brings out the relational dynamics that the false self builds in the digital world.

In the final contribution, Fattorini and Paoletti present the results of a survey conducted with a group of university students. The study analyzes information from two data sources, both related to a blended university course: the data collected automatically by a system with Learning Analytics procedures and self-observation diaries. The analysis confirms a relationship between resource consultation and final profit. In so doing, it highlights how the use of a mixed approach, using Learning Analytics in connection with qualitative methods, could be a promising direction for engaging students in both data collection and reaching a shared understanding of the results.

Éditorial

La présence d'une énorme quantité de données numériques génère de nouvelles pratiques sociales. En 2011, la première conférence Learning Analytics and Knowledge (LAK2011) a inauguré un nouveau domaine de recherche concentré sur «la mesure, la collecte, l'analyse et la communication de données sur les apprenants et leurs contextes, à des fins de compréhension et d'optimisation de l'apprentissage et des environnements dans lesquels il se produit» (Siemens, 2013, p. 1382). Depuis, les universités ont commencé à envisager la transformation des pratiques traditionnelles d'accès des étudiants aux données. Les données sur l'apprentissage et les apprenants ont été collectées à grande échelle et permis une exploration des données éducatives et une analyse de l'apprentissage menée grâce à des analyses statistiques de la participation et du comportement des élèves dans les environnements en ligne (Siemens et Long, 2011).

Parallèlement à la perception des aspects positifs de cette approche, diverses recherches (Tsai et al., 2020; Zuboff, 2019) ont mis en évidence des positions critiques qui tendent à souligner les dangers et les risques de distorsion possibles dans le cas d'une utilisation naïve de l'information. Une approche réductionniste et déterministe des données ne peut pas fournir des outils adéquats pour soutenir et diriger l'apprentissage (Perrotta & Williamson, 2018; Selwyn, 2019). Les outils Learning Analytics sont incapables de résoudre les problèmes liés au manque d'authenticité de l'évaluation, au manque de capacités d'interaction de la part des enseignants et des apprenants (Vuorikari et al., 2016), ni les problèmes sociétaux et éthiques liés à l'équité dans l'éducation (Broughan & Prinsloo, 2020).

À mesure que les universités évoluent progressivement vers des environnements mixtes et en ligne, elles ont accès non seulement à plus de données, mais aussi à une plus grande variété de données démographiques et comportementales (Krutcha et al., 2019). Il est donc nécessaire d'inclure les étudiants en tant que partenaires dans la collecte, l'analyse et l'utilisation de leurs données. L'exclusion des étudiants de nombreuses pratiques d'analyse de l'apprentissage appauvrit la compréhension des complexités de l'apprentissage et de

l'évaluation, mais accroît également les vulnérabilités et contribue à perpétuer les préjugés et les stéréotypes. Ce n'est qu'en repensant les étudiants en tant que sujets et propriétaires de données et non en tant qu'objets sur lesquels collecter des données que l'approche Learning Analytics peut être utilisée comme un processus équitable, capable d'améliorer l'*agency* des étudiants, de réaliser son potentiel de transformation pour les sujets et les institutions, et d'améliorer l'équité éducative.

Editoriale

La presenza di una enorme quantità di dati digitalizzati sta generando nuove pratiche sociali. Nel 2011 la prima Learning Analytics and Knowledge conference (LAK2011) inaugurava un nuovo ambito di ricerca focalizzato sul "measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs" (Siemens, 2013, p. 1382). A partire da quella data, le università hanno iniziato a prendere in considerazione la trasformazione delle tradizionali pratiche di accesso ai dati degli studenti. I dati sull'apprendimento e sugli studenti sono stati raccolti su grande scala e hanno dato origine al data mining educativo e all'analisi dell'apprendimento condotta attraverso analisi statistiche sulla partecipazione e sui comportamenti degli studenti negli ambienti online (Siemens & Long, 2011).

Accanto alla percezione degli aspetti positivi di questo approccio, diverse ricerche (Tsai et al., 2020; Zuboff, 2019) hanno evidenziato posizioni critiche che tendono a mettere in risalto i pericoli e rischi di distorsione possibili nel caso di un utilizzo ingenuo delle informazioni. Un approccio riduzionista e deterministico ai dati non può fornire strumenti adeguati a supportare e indirizzare l'apprendimento (Perrotta & Williamson, 2018; Selwyn, 2019) e gli strumenti dei Learning Analytics non sono in grado di risolvere i problemi legati alla mancanza di approcci più autentici alla valutazione, alla scarsa capacità di interazione da parte di insegnanti e discenti (Vuorikari et al., 2016)

e alle questioni sociali ed etiche connesse all'equità nella formazione (Broughan & Prinsloo, 2020).

Man mano che le università si spostano progressivamente verso ambienti misti e online, si ha quindi accesso non solo a un numero maggiore di dati, ma anche a una accresciuta varietà di dati demografici e comportamentali (Krutka et al., 2019). Emerge dunque con forza la necessità di includere gli studenti come partner nella raccolta, analisi e utilizzo dei loro dati. L'esclusione degli studenti da molte delle attuali pratiche di analisi dell'apprendimento non solo impoverisce la comprensione delle complessità dell'apprendimento e della valutazione, ma può effettivamente aumentare le vulnerabilità e perpetuare pregiudizi e stereotipi. Solo ripensando gli studenti come soggetti e proprietari dei dati e non come oggetti su cui raccogliere dati, si potrà utilizzare l'approccio Learning Analytics come processo equo, in grado di valorizzare l'agency degli studenti e di realizzare il suo potenziale di trasformazione, per i soggetti e per le istituzioni, in vista del raggiungimento di una reale equità educativa.

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