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A LITERATURE REVIEW ON THE DEFINITIONS OF DROPOUT IN ONLINE HIGHER EDUCATION

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Abstract

Online higher education continues to grow, yet its high dropout rates remain a pressing and complex problem. However, there are many different definitions of dropout (and related concepts: attrition, persistence, and retention) in the literature, usually related to a temporal conception, and the issue is controversial. Inconsistent terminology is problematic because the ways dropout is defined determine how it is measured, tackled, and researched. This contribution seeks to remedy such issue by summarizing a scoping review of the recent literature on the theme, focusing on the key issue of online higher education students' dropout conceptualization and definition. A scoping review between 2014 and 2018 yielded 138 articles and dissertations. Findings reveal a complex yet disorganized field, lacking standard definitions. Some concepts (e.g. completion) were defined clearly more often, while others (e.g. attrition and dropout) varied wildly; few papers employed previous definitions from the body of literature. Future research should strive to achieve greater consistency in terminology, so as to compare findings and produce reliable knowledge for intervention in online higher education institutions.

Background: Conceptualizing Dropout Research in Online Higher Education

The issue with Definitions

Dropout can be broadly defined as the student's failure to enrol for a definite number of successive semesters. However, there are many different definitions of dropout in the literature, usually related to a temporal conception, and the issue is controversial (Grau-Valldosera & Minguillón, 2014). A number of related concepts are often employed, some as synonymous –attrition, withdrawal, non-completion– and others as antonymous - retention, persistence, continuance, completion, and success. However, they largely suffer from the same imprecision. Inconsistent terminology is problematic because the ways dropout is defined determine how it is measured, tackled, and researched (Ashby, 2004). The main issue regards who to count as having dropped out (Nichols, 2010); a single course

definition is prevalent, i.e. dropping out of a specific course, yet other authors have proposed a program perspective (Lehan, Hussey, & Shriner, 2018), i.e., not graduating in a program. However, the time frame is also problematic, as students may take a break (of several semesters) but eventually return and re-enrol later in their academic trajectories.

Prevalence and Importance of Dropout

Over the last 20 years, research on dropout in online higher education (OHE) has gained importance, as official online programs have shown significantly higher student dropout rates than face-to-face (f2f) programs (Grau-Valldosera, Minguillón, & Blasco-Moreno, 2018), which makes dropout rates one of the greatest challenges faced by OHE educators and administrators (Lee & Choi, 2011). Hence, in-depth understanding of the phenomenon, early identification of at-risk students, and efficient prevention measures have become crucial. Nonetheless, there appears to be a tension between conceptions and studies of dropout in traditional, f2f settings (the origin of dropout models), and in online settings. Hence, it is important to review definitions employed in recent years for OHE, and their friction with older f2f models. It is about ordering a field that is clearly ample and somewhat disorganized, in order to better understand it and the phenomena it studies.

A Scoping Review of Dropout in Online Higher Education

This article summarizes part of a scoping review of dropout in OHE (Xavier & Meneses, 2020), focusing on dropout (and related concepts) definitions. Scoping reviews can be defined as a method of research synthesis that seeks to map the relevant literature on a specific topic or research area, identifying and clarifying key concepts (Peters et al., 2017). The scoping method was chosen because it is best designed for cases in which the body of literature exhibits a large, complex, and heterogeneous nature (Khalil et al., 2016), and when its key concepts are less well defined in advance (Gough & Thomas, 2016).

Method

The scoping review followed the framework proposed by Arksey and O'Malley (2005). Although the complete review aimed at answering a broad research question, here we will focus on a specific question: "How was dropout (and related concepts) defined in recent OHE dropout research?" Studies were searched and selected from two databases (Web of Science and Education Database); hand-searching of eight key journals; Google Scholar; and key papers reference lists, using key search terms related to dropout and OHE. Studies were eligible for inclusion if they were in English and published between 2014 and 2018, having academic dropout or related subjects (persistence, completion, etc.) in OHE as main research subject, and being a scientific publication with full text available. This search generated 3900 records. Applying the inclusion criteria, a total of 138 publications were included in the review (see Xavier & Meneses, 2020, for the complete list of references). To

chart the data, each paper was coded in terms of dropout (or related) concepts or definitions employed.

Results

Definitions and concepts

Table 1 summarizes the definitions and concepts employed in the dropout literature (see Xavier and Meneses, 2020, for the spreadsheet with the detailed chartered studies, and the definitions employed in each paper). The most salient fact is that the majority of papers did not provide a clear definition of the central concepts employed. In fact, 78% of the studies that used the concept of withdrawal, 70% of the ones that employed dropout, and 63% of those using retention did not define such concepts, taking them for granted. Other concepts such as persistence and completion were defined more often (65% and 56% of the studies that employed them, respectively).

Table 1: Concepts and definitions

Concepts and definitions	n	%	Shared characteristics/Selected references
Attrition			
From author(s)	9	18.37	Attrition as failing (depending on grades) or withdrawing from course or program was prevalent (Dews-Farrar, 2018; Glazier, 2016; Zimmerman & Johnson, 2017). Three papers defined attrition as leaving the university (Figueira, 2015; Hart, 2014; York, 2014). Most papers employed other concepts (dropout, completion, withdrawal, retention) to define attrition (Figueira, 2015; Knestrick et al., 2016; Nadasen, 2016).
From literature	15	30.61	Most common definition was failing to complete, or not continuing, course or program (Burgess, 2017; Huggins, 2017; Lucey, 2018; Wright, 2015). Two papers defined attrition as leaving the institution (Moore, D., 2014; Nuesell, 2016). Only one paper mentioned a specific timeframe (Hannah, 2017). Two papers (Strebe, 2016; Struble, 2014) defined attrition as a synonym of dropout, and one as the antonym of retention (Johnson, C., 2015). Martinez (2003) was the most employed author for definitions (Lucey, 2018; Russo-Gleicher, 2014; Wright, 2015).
Not Provided	25	51.02	Many papers simply did not provide any definition (Ali & Smith, 2015; Bawa, 2016). Two papers did not provide a definition but employed the concept specifically in relation to courses (Cochran, Campbell, Baker, & Leeds, 2014; Greenland & Moore, 2014).

Completion			
From author(s)	13	48.15	6 articles: completing and obtaining a degree in a time period (usually 6 years) (Allen, 2017; Brock, 2014; Shea & Bidjerano, 2018). 4 articles: completing a course, which depends on grades (Nadasen, 2016; Strebe, 2016).
From literature	2	7.41	The first referred to course completion (pass), the second to graduation in a program (Heald, 2018; Moore, D., 2014).
Not Provided	12	44.44	Three papers did not provide a definition but employed the concept specifically in relation to courses (Gardner, 2016; Murphy & Stewart, 2017). And two papers specifically in relation to a degree (Rashid, Jahan, Islam, & Ratna, 2015; Sweeney, 2017).
Dropout			
From author(s)	11	22.45	Definitions varied wildly; some focused on dropout from an institution or program in a time period (2-4 semesters) (Brock, 2014; Gregori, Martínez, & Moyano-Fernández, 2018). Others focused on dropout from course(s), depending on sitting exams (Deschascht & Goeman, 2015; Tan & Shao, 2015).
From literature	4	8.16	Definitions varied wildly; some focused on graduating or not, voluntarily or involuntarily; others on withdrawing from courses, depending also on grades (Franko, 2015; Gangaram, 2015; Grau-Valldosera & Minguillon, 2014; Seabra, Henriques, Cardoso, Barros, & Goulão, 2018).
Not Provided	34	69.39	Three papers did not provide a definition but employed the concept specifically in relation to courses (Burgos et al., 2018; Croxton, 2014; Mahmodi & Ebrahimzade, 2015). Others mentioned course or program (Yang, Baldwin, & Snelson, 2017; Yukselturk, Ozekes, & Türel, 2014), or course or institution (Sanz, Vírseda, García, & Arias, 2018; Woodley & Simpson, 2014).
Persistence			
From author(s)	16	33.33	Continuous enrolment (in the next course or semester) was the most common definition (Allen, 2017; Bettinger, Doss, Loeb, Rogers, & Taylor, 2017). Some employed a time frame (enrolment for 3-4 consecutive semesters) (Arifin, 2016; Dexter, 2015).
From literature	15	31.25	Martinez (2003) was the most employed author (to remain enrolled or complete a course or program) (Budash, 2015; Nuesell, 2016; Verdinelli & Kutner, 2015). Most studies defined it as completion of degree or program (Duckett, 2014; Johnson, 2015; Struble, 2014). Intention to continue, or continuation itself in HE (Tinto) (Adams, 2017; Mitchell, 2015). Antonym of dropout, indicator of performance (Franko, 2015).
Not Provided	17	35.42	(Banks, 2017; Bornschlegl & Cashman, 2018; Choi & Kim, 2017).

Retention			
From author(s)	13	18.57	Continuous enrolment (in the next year) was the most common definition (Chiyaka et al., 2016, mentioned "in the same institution") (Allen, 2017; Chiyaka, Sithole, Manyanga, Mccarthy, & Bucklein, 2016; James, Swan, & Daston, 2016; Macy, 2015). Graduation or completion of a program/degree (Banks, 2017; Gazza & Hunker, 2014; Knestrick et al., 2016; Wright, 2015). Completion of course and/or degree; opposite of attrition (Dews-Farrar, 2018; Nadasen, 2016). Intention or attempt to complete courses (González, 2015; Harris, 2015).
From literature	13	18.57	Student progress or continuous enrolment from the institution perspective (Adams, 2017; Johnson, C., 2015; Strebe, 2015; Vadell, 2016). Ability of an institution to retain a student through graduation (Duckett, 2014; Giannaris, 2016; Moore, D., 2014). Hannah (2017) mentions a time-period. Number of online students who complete online courses (Heald, 2018; Marshall, 2017; Struble, 2014).
Not Provided	44	62.86	(Armstrong et al., 2018; Sorensen & Donovan, 2017; Stone, 2017).
Success			
From author(s)	7	33.33	Course grades or grade point average (GPA) (Dexter, 2015; Gardner, 2016; Harris, 2015; Levy & Ramim, 2017). Course grades and retention rates (Glazier, 2016). Different definitions - at the institutional level (retention and graduation rates), program level (retention and program completion), and course level (completion of courses) (Nadasen, 2016).
From literature	2	9.52	Students who display persistence throughout courses, measured by grades (Marshall, 2017; Wright, 2015).
Not Provided	12	57.14	(Andrews & Tynan, 2014; Banks, 2017; Winger, 2016).
Withdrawal			
From author(s)	2	22.22	Voluntary or involuntary removal from a course prior to completion (Lim, 2016; McClelland, 2014).
From literature	0	0	
Not Provided	7	77.78	Most papers did not provide a definition but two employed the concept in relation to courses (Greenland & Moore, 2014; Murphy & Stewart, 2017).

Completion seems to be a clearer, less controversial concept in the literature, usually alluding to completion of course or program. However, it must be emphasized that very few authors employed completion definitions from the body of literature. Many papers defined concepts such as attrition, persistence, and success employing other related concepts, sometimes without defining the latter (e.g., retention and persistence as completion; success as retention; etc.). Definitions of dropout varied wildly but centred upon dropping out from either institution, program or course, during a certain time period,

and depending on grades or sitting exams. Perhaps the concept of withdrawal may summarize a general trend in the field. Although one fifth of the articles that centred on studying such concept provided definitions, and they were based on another concept (i.e. completion), the vast majority of papers did not present a clear definition. Comparatively few papers drew definitions from previous literature (with the exception of papers that employed attrition, persistence, and retention, where half of the definitions came from other authors), which seems to point that there is not still a theoretical continuance in the field.

Conclusion: A Complex Phenomenon without a Clear Definition

Dropout-related phenomena are complex and thus require clear definitions. However, the field is almost chaotic in that regard. The vast majority of the papers studied did not provide any definition; when they did, usually they did not employ previous definitions available in the literature. Also, some definitions are narrow, others very broad and vague, and most are used interchangeably. Another problem is that most definitions are designed as institutional indicators (e.g. retention as completion of a course or a program) that do not take into account students' desires and expectations. In OHE, many students do not plan to graduate or even complete their courses (Woodley & Simpson, 2014). Definitions are still "shaped by theories that view student retention through the lens of institutional action and ask what institutions can do to retain their students" (Tinto, 2015; p. 254). Unsurprisingly, they usually do not consider factors such as transfer to another institution (Ashby, 2004), which imply that students continue their HE studies yet are regarded as dropouts. Thus, stakeholders and policy makers have little accurate and reliable information about dropouts (Grau-Valdossera & Minguillón, 2014), which affects monitoring and comparing interventions in practice. Hence, results are often not comparable across courses, programs, institutions, and countries.

Inconsistent terminology is crucial, for dropout definitions determine how it is measured, confronted, and researched (Ashby, 2004). In other words, the whole field depends, first and foremost, on the definitions it employs. Thus, developing common standard definitions and data collection procedures would benefit the field and impact policy and retention strategies. Tinto (1975) stressed that the field suffered from "inadequate attention given to questions of definition", requiring the development of "theoretical models that seek to explain, not simply to describe, the processes" (p.89) that lead to dropout. Given our results, it seems the field has changed little since Tinto (1982), still studying f2f settings, warned that "dropout research is in a state of disarray, in large measure because we have been unable to agree about what behaviours constitute an appropriate definition of dropout" (p.3).

This issue constitutes a major challenge for OHE dropout studies: in theoretical-empirical terms, they need generalizable, ample, and precise definitions; but they also demand context-dependent, flexible definitions that allows addressing situated interventions. Given the variability of contexts (different university systems, countries and OHE models), it seems this impasse is central to the field. The only answer to that question in our sample was given by Grau-Valldosera and Minguillón (2014), who formulated a program- and context-dependent definition based on learning analytics.

Therefore, many efforts are still needed to develop the field, and it seems the most crucial one should focus on establishing common and shared definitions. Its main research gaps include theorization and precise definitions, which would impact measurement, new models, and the need for stronger evidence on the effectiveness of strategies and early interventions (which is only achievable through comparison between different interventions in different contexts). However, possibly the field will remain as varied and complex as the phenomena it studies: after all, "[t]here is no simple formula that ensures student persistence" (Rovai, 2003; p.12), nor its understanding or definition.

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