

**10<sup>th</sup> EDEN Research Workshop**

**Towards Personalized Guidance and  
Support for Learning**

10<sup>th</sup> EDEN Research Workshop

Barcelona, Spain

24-26 October 2018

**CONFERENCE PROCEEDINGS**

Edited by

Josep M. Duarte, András Szűcs

on behalf of the European Distance and E-Learning Network

European Distance and E-Learning Network, 2018

10<sup>th</sup> EDEN Research Workshop  
Barcelona, Spain

Published by the European Distance and E-Learning Network

Editors:

Josep M. Duarte  
András Szűcs

Editorial co-ordination:

Judit Kőműves

EDEN Secretariat, c/o Budapest University of Technology and Economics  
H-1111 Budapest, Egry J. u. 1, Hungary  
Tel: (36) 1 463 1628, 463 2537  
E-mail: [secretariat@eden-online.org](mailto:secretariat@eden-online.org)  
<http://www.eden-online.org>

Conference organised in collaboration with



Supported by the Erasmus+ Programme of the European Union  
The publication reflects the authors' view, the EACEA and the European Commission are not responsible for any use that may be made of the information it contains.

Copyright Notice 2018 European Distance and E-Learning Network and the Authors

This publication contributes to the Open Access movement by offering free access to its articles and permitting any users to read, download, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software. The copyright is shared by authors and EDEN to control over the integrity of their work and the right to be properly acknowledged and cited.

To view a copy of this licence, visit  
<http://www.creativecommons.org/licenses/by/4.0/>

ISBN 978-615-5511-25-7

## Introduction

High quality research into open learning is indispensable. It provides important information to enhance learning with technologies, improving the learner's experience, to assist effective decision-making, and helps to ensure the viability of products and services. This is vital in a field where change is constant and new innovations arise on a daily basis.

Significant interest from the professional community has clearly confirmed the relevance of the EDEN initiative to run the forum of the bi-annual Research Workshops. The RWSH series represent the meeting place of top European and global research for open learning and draws the map of major trends in the field.

EDEN's 2018 Workshop "Towards Personalized Guidance and Support for Learning" focused on the crucial and changing roles of teachers in supporting student learning in the digital world. This includes the creation of enabling conditions that encourage learning personalization, learner agency and self-direction. Experiences of learner empowerment resulting from balanced "guide on the side" teaching, timely teaching interventions, consistent feedback and feedforward, explicit teaching of learning-to-learn strategies, assessment for learning, and technology-based adaptive teaching provided substantive background for reflection and discussion.

Research topics of interest included: Personalized learning: accompanying learners while addressing distinct learning needs, situations or preferences – Teachers' and learners' roles: rethinking teaching facilitation strategies using the potential of digital technologies – Open education: making the most of openness to ensure student success – Adaptive teaching: enhancing teacher decisions through course analytics and course awareness methodologies – Formative assessment: assessment for learning and the implementation of complementary approaches – Feedback: reinforcing teacher-learner dialogue through different channels in networked environments.

The tradition of awarding the "EDEN Best Research Paper" will be continued. The selection process takes place in collaboration with the Ulrich Bernath Foundation for Research in Open and Distance Learning. In 2018, the 10<sup>th</sup> Anniversary of this movement has been celebrated. The Foundation also supported five young scholars with grants for successfully submitting a conference paper to be presented in Barcelona in 2018.

A PhD Student Symposium was organised the day before the Research Workshop, hosted by the Universitat Oberta de Catalunya (UOC), with the participation of 30 young scholars. The Symposium has been designed to foster the exchange of experiences and knowledge among doctoral students doing research in the area of the event's theme, while providing a discussion forum for the advancement of doctoral research. The Symposium was led by a panel of international experts on e-learning.

Higher Education is changing in nature. The new way of thinking, shaping a new paradigm is based on modularization. In this paradigm, the vision of personalized pathways of higher learning, qualifications and certification is manifested. In frames of the RWSH10, the OEPass Multiplier Event was organised, as initiative of the Open Education Passport project on the topic of micro-credentials, a timely and relevant concept in higher education and adult learning.

András Szűcs	Professor Josep M. Duart
Secretary General,	
European Distance and E-Learning Network	Universitat Oberta de Catalunya (UOC)

## **Acknowledgement and thanks are given to the Programme and Evaluation Committee**

### **Conference Chairs:**

**Airina Volungeviciene**, EDEN President, Director of Innovative Studies Institute at Vytautas Magnus University, Lithuania;

**Josep Maria Duart**, Universitat Oberta de Catalunya, Spain

**Francesco Agrusti**, University Roma III, Italy;

**Diana Andone**, eLearning Center, Romania;

**Deborah Arnold**, Universitat Oberta de Catalunya, Spain;

**Quelic Berga Carreras**, Universitat Oberta de Catalunya, Spain;

**Ulrich Bernath**, Ulrich Bernath Foundation for Research in ODL, Germany;

**Lisa Marie Blaschke**, Carl von Ossietzky University of Oldenburg, Germany;

**Mark Brown**, National Institute for Digital Learning, Dublin City University, Ireland;

**Nati Cabrera**, Universitat Oberta de Catalunya, Spain;

**Elena Caldirola**, University of Pavia, Italy;

**Helga Dorner**, Central European University, Hungary;

**Ulf-Daniel Ehlers**, DHBW, Germany;

**Kurt Galle**, VIVES University, Belgium;

**Iolanda Garcia Gonzalez**, Universitat Oberta de Catalunya, Spain;

**Lourdes Guardia**, Universitat Oberta de Catalunya, Spain;

**Teresa Guasch**, Dean of the Faculty of Psychology and Education Sciences, Universitat Oberta de Catalunya, Spain;

**Montse Guitert**, Universitat Oberta de Catalunya, Spain;

**Sandra Kucina Softic**, University of Zagreb, Croatia;

**Marcelo Fabian Maina**, Universitat Oberta de Catalunya, Spain;

**Mark Nichols**, The Open University, United Kingdom;

**Ebba Ossiannilsson**, Swedish Association of Distance Education, Sweden;

**Antoni Perez-Navarro**, Universitat Oberta de Catalunya, Spain;

**Antonella Poce**, University Roma III, Italy;

**Juliana E. Raffaghelli**, Universitat Oberta de Catalunya, Spain;

**Timothy Read**, UNED, Spain;

**Maria Rosaria Re**, University Roma III, Italy;

**Albert Sangra Morer**, Universitat Oberta de Catalunya, Spain;

**Andras Szucs**, EDEN, United Kingdom;

**Ferenc Tatrai**, EDEN, United Kingdom;

**Leen Thys**, VIVES University, Belgium;

**Sylke Vandercruysse**, VIVES University, Belgium;

**Delphine Wante**, VIVES University, Belgium.

## TABLE OF CONTENTS

EDEN 10 <sup>th</sup> Research Workshop Contribution to Research in Open and Distance Learning.....	1
<i>Including Summarising Statements, Challenges Raised and Recommended Actions</i>	

### MOOCS

Designing a New Generation MOOC for Undergraduate Mathematics .....	7
<i>Geoff Woolcott, Raina Mason, Carolyn Seton, Southern Cross University, Australia</i>	
Oscar and Niamh two MOOC Animation Robots: How did Learners Respond? .....	15
<i>Sally Mhic Dhomhnaill, Mairéad Nic Giolla Mhichíl, Dublin City University, Ireland</i>	
Moody MOOCs: An Exploration of Emotion in an LMOOC .....	22
<i>Elaine Beirne, Conchúr Mac Lochlainn, Mairéad Nic Giolla Mhichíl, Dublin City University, Ireland</i>	

### LEARNER NEEDS, ATTITUDES, BEHAVIOUR

Can you Give me Sanctuary? Exploring the Transition Experiences of Refugees and Asylum Seekers to Online Distance Learning.....	29
<i>Orna Farrell, Mark Brown, James Brunton, Eamon Costello, L. Delaney, C. Foley, Dublin City University, Ireland</i>	
Support Holes: Distance Students Experience of Support in a Dual Mode University .....	35
<i>Lorraine Delaney, Mark Brown, Dublin City University, Ireland</i>	
The Experience of Distance Learners as Writers .....	44
<i>Phil Wood, Bishop Grosseteste University, Palitha Edirisingha, University of Leicester, United Kingdom</i>	
Scholars' Changing Social Media use: Implications for Teaching and Learning in Higher Education .....	53
<i>George Veletsianos, Royal Roads University, Canada, Nicole Johnson, Open University of Catalonia, Spain, Olga Belikov, Brigham Young University, United States of America</i>	
Virtual and Mobility Activities to Promote Dual Learning Approach in Higher Education: The EuroDuaLE Project Experience .....	59
<i>Antonella Poce, Maria Rosaria Re, Francesca Amenduni, Università degli Studi Roma Tre, Italy</i>	
Best Practice for Supporting Students in the Workplace .....	69
<i>Fiona J. Aiken, Hilary A. MacQueen, The Open University, United Kingdom</i>	
Achieving Student Centred Facilitation in Online Synchronous Tutorials .....	76
<i>Diane Butler, Lynda Cook, Vikki Haley-Mirnar, Catherine Halliwell, Louise MacBrayne, The Open University, United Kingdom</i>	
How Science University Students use the Video in their Learning Process? .....	83
<i>Victor García, Antoni Pérez-Navarro, Jordi Conesa, Universitat Oberta de Catalunya, Spain</i>	
Wiki Course Builder, a System for Managing and Sharing Didactic Material and Concept Maps.....	92
<i>Carlo De Medio, Carla Limongelli, Fabio Gasparetti, Filippo Sciarrone, Roma Tre University, Giovanni Adorni, Frosina Koceva, Ilaria Torre, Genoa University, Italy</i>	

### EDUCATIONAL SYSTEMS

How do you Build a Bold Research Culture? Insights from the National Institute for Digital Learning Experience .....	99
<i>Mark Brown, Gráinne Conole, Dublin City University, Ireland</i>	
Don't do Evil: Implementing Artificial Intelligence in Universities .....	109
<i>Mark Nichols, Wayne Holmes, The Open University, United Kingdom</i>	

Personalised Learning in Developing Countries – Is Higher Education Ready? .....	118
<i>Jennifer Roberts, University of South Africa, South Africa</i>	

## OPEN EDUCATION

Open Education Practices in Higher Education.....	132
<i>Ulf-Daniel Ehlers, Baden-Wurttemberg Cooperative State University, Germany, Elena Trepule, Estela Dauksiene, Marius Sadauskas, Vytautas Magnus University, Lithuania</i>	

University Teacher Skills and Attitudes to Create and use OER.....	144
<i>Marius Šadauskas, Margarita Teresevičienė, Estela Daukšienė, Vytautas Magnus University, Lithuania, Ulf-Daniel Ehlers, Baden-Wurttemberg Cooperative State University, Germany</i>	

Open Virtual Mobility: A Learning Design 4 SRL .....	150
<i>Gemma Tur, Santos Urbina, University of the Balearics Islands, Spain, Olga Firssova, Kamakshi Rajagopal, Open University the Netherlands, The Netherlands, Ilona Buchem, Beuth University of Applied Sciences Berlin, Germany</i>	

## TEACHER TRAINING AND COMPETENCES

Enhancing Teacher Decisions through Learning Analytics.....	158
<i>Airina Volungevičienė, Vytautas Magnus University, Lithuania, Josep M. Duarte, Universitat Oberta de Catalunya, Spain, Giedrė Tamoliūnė, Justina Naujokaitienė, Vytautas Magnus University, Lithuania</i>	

Developing a Framework of e-Leadership Literacies for Technology-Enhanced Learning in Higher Education: A Delphi Study .....	161
<i>Deborah Arnold, Albert Sangrà, Universitat Oberta de Catalunya, Spain</i>	

Learner Agency and the “Self”-Pedagogies .....	170
<i>Lisa Marie Blaschke, Carl von Ossietzky Universität Oldenburg, Germany</i>	

Videomining for the Assessment of Teacher Skills in Higher Education.....	179
<i>Mercè Gisbert, Mireia Usart, Universitat Rovira i Virgili, Spain</i>	

Teachers’ Perceptions on Digital Technologies: Identification of Patterns and Profiles in the Catalan Context .....	192
<i>Montse Guitert, Teresa Romeu, Marc Romero, Pedro Jacobetty, UOC, Spain</i>	

Teachers’ Digital Competencies for e-Learning Application in Higher Education.....	201
<i>Sandra Kučina Softić, University of Zagreb University Computing Centre, Croatia</i>	

## ASSESSMENT

The Design of a Rubric for Defining and Assessing Digital Education Skills of Higher Education Students .....	211
<i>Herve Platteaux, Emanuelle Salietti, Centre NTE DIT – University of Fribourg, Laura Molteni, University of Fribourg, Switzerland</i>	

Rethinking Assessment Potential in Massive Open Online Courses to Support Student Learning: The Experts’ Point of View .....	220
<i>Maite Fernández-Ferrer, Universitat Oberta de Catalunya, Spain</i>	

Digital Competence Assessment Framework for Primary and Secondary Schools in Europe: The CRISS Project .....	229
<i>Lourdes Guàrdia, Marcelo Maina, Pablo Baztán, Universitat Oberta de Catalunya, Spain</i>	

## METHODOLOGY

Maturity Models for Improving the Quality of Digital Teaching .....	238
<i>Felix Sanchez-Puchol, Universitat Oberta de Catalunya (UOC) &amp; SEIDOR SBS Learning Services, Joan A. Pastor-Collado, Universitat Politècnica de Catalunya (UPC), Lourdes Guàrdia-Ortiz, Universitat Oberta de Catalunya (UOC), Spain</i>	
Towards a Structured Process for Involving Distributed Teachers in Facilitation Strategy Design and Review .....	254
<i>Ann Walshe, The Open University, United Kingdom</i>	
Personalised and Multi-Sensory Approaches to Engaging Students at A Distance: A Case Study from Religious Studies .....	261
<i>John Maiden, Stefanie Sinclair, The Open University, United Kingdom</i>	

## THEORY

Selecting the Best Open Access Journal Articles: To What Extent does this go Beyond Being a Subjective Exercise? .....	270
<i>Mark Brown, Eamon Costello, Mairead Nic Giolla Mhichil, Dublin City University, Ireland</i>	
Revisiting the Transactional Distance Theory: A Qualitative Study of Two Web-based Distance Learning Courses at a Campus-based University .....	280
<i>Palitha Edirisingha, Mengjie Jiang, University of Leicester, United Kingdom</i>	
Learning Explained: A Schema-building Scaffolding Framework to Make Sense of Personalised Guidance and Support for Learning .....	289
<i>Ignatius G.P. Gous, University of South Africa, South Africa</i>	

## SOCIO-CULTURAL-ECONOMIC

Teacher Roles and Digital Threats: Preventing and Addressing Cyberbullying in European Schools.....	312
<i>Alan Bruce, Imelda Graham, Universal Learning Systems, Ireland</i>	
Understanding Media Usage Patterns of Students and Faculty via a Media Acceptance Approach: A Case of a Multi-Campus University in Ghana.....	321
<i>Frank Senyo Loglo, Carl von Ossietzky University Oldenburg, Germany, Selorm Agbleze, Copenhagen Business School, Denmark</i>	
Supporting Learners and Societal Needs through Evolution of Innovative Digital Learning Architectures.....	333
<i>Elsebeth Wejse Korsgaard Sorensen, Aalborg University, Denmark</i>	

## POSTERS

Institutional Support to Provide Freshmen with Flexible Learning Paths at Course and Semester Level in Open Higher Education.....	344
<i>Loles González, eLearn Center (eLC) / Universitat Oberta de Catalunya (UOC), Julià Minguillón, UOC, Josep Antoni Martínez-Aceituno, eLC / UOC, Julio Meneses, UOC, Spain</i>	
Meaningful Gamification in a Collaborative Learning Hub for Virtual Mobility Skills: Research and Design .....	351
<i>Ilona Buchem, Beuth University of Applied Sciences Berlin, Germany</i>	
The Time Factor in Studies on Dropout in Online Higher Education: Initial Review of the Literature and Future Approaches.....	357
<i>Marlon Xavier, Julio Meneses, Universitat Oberta de Catalunya (UOC), Spain</i>	

Supporting Autonomous Learning: The Role of Project Design and Students' Coordination in Intercultural Exchange Practice .....	364
<i>Marta Fondo, Universitat Oberta de Catalunya, Spain, Michael Arnold, University of Minnesota, United States of America</i>	
Museum Education Communication in Facebook and Twitter .....	372
<i>Antonella Poce, Francesco Agrusti, Sebastiana Sabrina Trasolini, Roma TRE University, Italy</i>	
Future of Legal Education.....	382
<i>Ausrine Pasvenskiene, Paulius Astromskis, Vytautas Magnus University, Lithuania</i>	
Teachers' Training on Critical Thinking Teaching Strategies: The CRITHINKEDU Experience .....	384
<i>Antonella Poce, Francesco Agrusti, Maria Rosaria Re, Roma Tre University, Italy</i>	
Network Learning Environments: Integrating an Online Learning Model with the WordPress Publishing Model for the Teaching-Learning of Graphic Design and Arts.....	392
<i>Quelic Berga, Laia Blasco, Javier Melenchón, Universitat Oberta de Catalunya (UOC), Spain</i>	
Learning Ecologies Oriented to the Professional Development of University Teachers .....	398
<i>Mercedes González-Sanmamed, Universidade de A Coruña, Albert Sangrà Morer, Universitat Oberta de Catalunya, Alba Souto-Seijo, Francisco Santos Caamaño, Iris Estévez Blanco, Universidade de A Coruña, Spain</i>	
Engaging Online Learners through Formative Feedback: UNED Developments and use of Automatized and Mobile Feedback for Closed and Open-ended Questions .....	408
<i>Miguel Santamaría Lancho, Angeles Sánchez-Elvira Paniagua, UNED, Spain</i>	
The Impact of the Flipped Classroom Methodology in the Acquisition of Learning to Learn Competence .....	415
<i>Vicent Fornons, Departament d'Ensenyament, Ramón Palau, Universitat Rovira I Virgili, Spain</i>	
An Experience of Flipped Classroom for the Training of Future Teachers .....	423
<i>Ramon Palau, Tania Molero, Universitat Rovira I Virgili, Spain</i>	





---

## THE TIME FACTOR IN STUDIES ON DROPOUT IN ONLINE HIGHER EDUCATION: INITIAL REVIEW OF THE LITERATURE AND FUTURE APPROACHES

*Marlon Xavier, Julio Meneses, Universitat Oberta de Catalunya (UOC), Spain*

---

### Summary

This paper addresses the factor of *time* in relation to dropout in online higher education (OHE), linking both to fully online models such as UOC's. In OHE, time-related reasons are the most important factors for dropping-out; conversely, time management factors emerge as a key issue for continuance intention and re-enrolment. This paper thus presents an initial review of the literature, with key concepts and approaches on the time factor, which shall inform future research. Key issues are centred upon two phenomena: the *flexibility* offered by OHE and asynchronous learning, which is the main attraction for busy adult learners but can also induce *procrastination* and conflict; and the common *misconceptions* about the magnitude of workload, time, and effort required by OHE. We present two main theoretical approaches: time management studies, and work-study-home conflict/balance; and discuss possible implications and interventions for fully online models of OHE.

### Dropout in online higher education and the time factor

Over the last 20 years, research on dropout in online higher education (OHE) have gained tremendous importance. Most studies investigate the factors that influence attrition, retention, persistence, and success, trying to construct new models of attrition and profiles of students most likely to dropout or persist. A review of the research (Holder, 2007) on the profile of persisters indicates that, besides being academically prepared, they possess time management skills and high levels of engagement, self-directedness, self-discipline, motivation, and commitment.

In that regard, the time factor has been pointed out as an important issue for dropout in many studies in traditional, brick-and-mortar universities. Kember (1999), the author of a classic model on attrition, mentioned that many students face difficulties in trying to conciliate study requirements with conflicting demands from family, work, and social commitments. Reviewing the literature in Spanish on dropout in higher education, Tuero, Cervero, Esteban, and Bernardo (2018) found that one of the most important variables is the time dedicated to work while studying. However, other studies (e.g. Sánchez-Gelabert & Andreu, 2017) found that what really makes it difficult for the students to persist are not the hours dedicated to a job, but their time management skills – which allow them to balance effectively their study and job responsibilities. Other factors connected to dropout proneness and persistence also have strong

correlations with the time factor. Success and performance in traditional educational settings are strongly influenced by time management skills (Michinov, Brunot, Le Bohec, Juhel, & Delaval, 2011). That influence is stronger in non-traditional students – adult learners, which constitute the majority in OHE – who are usually more affected by work-study and family-study obligations (O’Toole & Essex, 2012).

In the context of online open universities, on the other hand, the influence on dropout of factors related to time are even stronger. In a review of dropout factors in OHE, Lee and Choi (2011) found a number of studies that highlighted time management skills, estimation of the time required to balance academic and professional obligations, and ability to juggle roles/balancing multiple responsibilities as key factors that influence persistence and attrition.

The Universitat Oberta de Catalunya (UOC) radicalizes such context. As a *fully* distance teaching university, it delivers education through an asynchronous mode based on e-learning (Sangrà, 2002), with a highly flexible educational model with no permanence requirements and very few enrolment requirements. UOC’s typical students mirror the main group likely to enrol in virtual university degrees, that of *non-traditional learners*: mature-aged or adult, with full-time or part-time jobs and family responsibilities, or a combination of these characteristics. Statistically, 40.5% of students are 30 or over, 81.5% study and work, and 72.6% have a prior university education; dropout rate at UOC is 57.6%, with first semester drop-outs accounting for nearly half of this total (Grau-Valldosera, Minguillón, & Blasco-Moreno, 2018). The correlation is clear: “non-traditional students tend to drop out more frequently than their traditional counterparts even when they have good performance” (Sánchez-Gelabert & Andreu, 2017; p.28). UOC’s flexible model implies that online learning is largely self-directed and dependent upon the learners’ agency and ability to manage their personal and academic responsibilities. However, this produces high attrition rates, especially after finalizing their first semester, due to misconceptions learners have about the workload (Bawa, 2016), and their home/family obligations and employment commitment (Carroll, 2008). Grau-Valdossera et al. (2018) thus point that time-related reasons were the most important factors for dropping-out; conversely, time management factors during the first semester emerge as a key issue for continuance intention and re-enrolment.

Therefore, if *time* appears to be a crucial factor for attrition both in face-to-face and online learning environments, more research is needed on its impact and dynamics in fully OHE models such as UOC’s, so as to improve retention, performance, evaluation, and personalized guidance and support for e-learning.

### **The time factor: initial review and implications for OHE**

This paper thus presents an initial review of the literature, with key concepts and approaches on the time factor, which shall inform future research. The key issues seem to be centred upon two phenomena: the *flexibility* offered by OHE and asynchronous learning, which is the main attraction for busy adult learners but can also induce or facilitate *procrastination* and conflict (Doherty, 2006; Holder, 2007); and the common *misconceptions* about the magnitude of

## **The Time Factor in Studies on Dropout in Online Higher Education: Initial Review of the Literature and Future Approaches**

Marlon Xavier, Julio Meneses

workload, time, involvement, and effort required by OHE (Bawa, 2016). Indeed, time related issues involved in online courses have replaced the problem of distance (Mason, 2001) that was more typical of brick-and-mortar universities and are clearly connected to high attrition rates in online learning environments.

In that regard, many authors (see Holder, 2007, for a review) stressed the importance of *time management* for persistence and successful online learning. Bunn (2004) found that students with a heavy workload tended to persist and succeed, provided they had good time management skills so as to deal effectively with conflictive demands. Reviewing the literature, Lee and Choi (2011) found that the skills included the ability to estimate the time and effort required for a task, to manage time effectively, and to balance multiple responsibilities. Conflictive demands raised by engaging with OHE degrees seem to be central for persistence and attrition. Reviewing the most common reasons for withdrawal, Ashby (2004) found that the most important ones were “the difficulties students have in juggling their studies with other aspects of their lives”, especially personal/family or employment responsibilities, concluding that “[t]ime is clearly a major issue for O[pen] U[niversity] students” (p.72). Corroborating other literature, Yukselturk and Inan (2006) found that the most important factor affecting student retention is finding sufficient time to study; work life demands played a special role in that. Such phenomena have been studied via two main theoretical approaches: *time management* and *work-study-home balance/conflict*.

### **Theoretical approaches**

#### ***Time management approach***

Time management can be defined as the ability to plan study time and tasks (Broadbent & Poon, 2015), or the learners’ scheduling, planning, and properly managing their study time (Pintrich, 2004). It has been studied as part of academic self-regulated learning (SRL) strategies (Pintrich, 2004). Self-regulation is more crucial in online education (i.e., given the lack of face-to-face interaction with instructors and peers, no need to be physically present), for it heavily relies on active, autonomous participation. Among the SRL strategies with the strongest findings for academic achievement is time management (Broadbent & Poon, 2015). An analogous, slightly more specific concept is employed by Puspitasari (2012): *study time management*, which refers to “academic time management, in which one is managing his or her time to study by setting learning goals, scheduling study time, and monitoring the attainment of the learning goals” (p.6).

A secondary and related theoretical approach refers to studies on academic *procrastination*, which is viewed as a specific learner characteristic in time management and is defined as intentionally postponing or delaying work that must be completed (Michinov et al., 2011). Research into the relationship between procrastination, motivation, and performance has forayed into their underlying self- and social-regulation processes, showing that higher levels of procrastination are related to lower levels of self-regulation and poorer learning outcomes (Michinov et al., 2011).

Research has found numerous correlations between time management skills/procrastination and motivation, retention/persistence, performance, and dropout proneness. Holder (2007) points that time management skills are connected to learning orientation (cognitive styles), environment (allocating space and time to study), and motivation (to avoid procrastination in self-directed learning). Not surprisingly, in asynchronous learning, time management is strongly connected to performance (Loomis, 2000). Conversely, procrastination is negatively related to learners' participation and performance (Michinov et al., 2011). Regarding online academic achievement/success, a review of the literature by Michinov et al. (2011) found a significant positive relation with time management/study management. Of course, all these factors impact dropout and persistence in OHE. Time restraints, lack of time, time management, and procrastination are the primary reasons for students failing or dropping an online course (Doherty, 2006). In contrast, time management is a key factor for persistence: persisters score higher in emotional support, self-efficacy, and time and study management (Holder, 2007).

### ***Work-study-home conflict/balance approach***

This approach is derived from the tradition of research on work-family balance/conflict. Work/study, or work/school conflict (WSC), is defined as the degree to which work affects the student's ability to meet school-related demands and responsibilities (McNall & Michel, 2017). Eller, Araujo, and Araujo (2016) extended the concept to research *work-study-home* conflict/balance in online master's students. However, the emphasis on conflict dominates research, which usually seeks to study its impact on stress and well-being, and indicates that non-traditional students experience intense conflicts between the work, study, and home domains, especially female students (Carney-Crompton & Tan, 2002). Thus, WSC is negatively related to academic performance (Owen, Kavanagh, & Dollard, 2017). Research usually focuses on the institutional domain – i.e. how its structure and dynamics produce conflictive demands and how to alleviate or prevent them. However, Eller et al. (2016) studied the individual strategies online learners used to manage demands. Yet, being rather new, this approach has produced little research, and there is a lack of research on non-traditional students. It has rarely been applied to study the relation with dropout and persistence in OHE (e.g. Pierrakeas, Xeno, Panagiotakopoulos, & Vergidis, 2004).

### **Future directions: possible interventions and results**

Besides furthering research on the time factor in its relations with dropout and related concepts, some possible interventions and strategies can be envisioned to prevent dropout and time-related conflicts, and to develop and hone learners' time management skills – which would probably improve student retention (and agency, self-direction, performance, success, satisfaction, and motivation). Their focus should be on the first academic year, especially the first semester (which presents the highest attrition rates), and preferably be embedded in ampler interventions, for time management and issues influence and are influenced by other dropout factors - indeed, it is usually the interaction among different factors that lead to completion or

## The Time Factor in Studies on Dropout in Online Higher Education: Initial Review of the Literature and Future Approaches

Marlon Xavier, Julio Meneses

non-completion (Lee & Choi, 2011). Such strategies would ideally address situational, institutional, and personal factors:

- Provide *flexibility in student assessment* (to avoid dropout or stop-out) (Carroll, 2008);
- *Identify at-risk students* early on and provide them with appropriate, personalized training opportunities and support (Pierrakeas et al., 2004), e.g. an introductory course for the organization of academic work;
- Provide *targeted advice and orientation* to students, regarding time management, procrastination issues, and a realistic picture of what is required at various stages of the course, especially at key points (first semester/first year) and to students identified as “at risk” (Ashby, 2004; p.74);
- Design *personalized course plans* and curricula, focusing on adequate first enrolment;
- Provide *staff trainings* to qualify staff and provide guidance/support regarding such issues (Castles, 2004).

Finally, more research on the subject is needed in order to build robust frameworks for action, implementation, and monitoring the impact of interventions (Ashby, 2004), especially in the context of fully online universities. UOC has recently implemented a research/interventional institutional project, called ESPRIA (“First-year students”), which shall further enrich our scientific understanding of these important matters and how to deal effectively with them.

## References

1. Ashby, A. (2007). Monitoring student retention in the Open University: definition, measurement, interpretation and action. *Open Learning*, 19(1), 65-77. doi:10.1080/0268051042000177854
2. Bawa, P. (2016). Retention in online courses: Exploring issues and solutions – A literature review. *Sage Open*, 6(1), 1-11. doi:10.1177/2158244015621777
3. Broadbent, J., & Poon, W. L. (2015). Self-regulated learning strategies & academic achievement in online higher education learning environments: A systematic review. *The Internet and Higher Education*, 27, 1-13. doi:10.1016/j.iheduc.2015.04.007
4. Bunn, J. (2004). Student persistence in a LIS distance education program. *Australian Academic & Research Libraries*, 35(3), 253–69. doi:10.1080/00048623.2004.10755275
5. Carney-Crompton, S., & Tan, J. (2002). Support systems, psychological functioning, and academic performance of nontraditional female students. *Adult Education Quarterly*, 52(2), 140-154. doi:10.1177/0741713602052002005
6. Carroll, D. (2008). *Factors affecting the retention and progression of postgraduate Business distance education students*. (Master’s dissertation). University of Southern Queensland, Brisbane, Australia. Retrieved from <https://eprints.usq.edu.au/4922/>

7. Castles, J. (2004). Persistence and the adult learner: Factors affecting persistence in Open University students. *Active Learning in Higher Education*, 5(2), 166–179. doi:10.1177/1469787404043813
8. Doherty, W. (2006). An analysis of multiple factors affecting retention in web-based community college courses. *The Internet and Higher Education*, 9, 245–255. doi:10.1016/j.iheduc.2006.08.004
9. Eller, A. M., Araujo, B. B., & Araujo, D. B. (2016). Balancing work, study and home: A research with master's students in a Brazilian university. *RAM. Revista de Administração Mackenzie*, 17(3), 60-83.
10. Grau-Valldosera, J., Minguillón, J., & Blasco-Moreno, A. (2018). Returning after taking a break in online distance higher education: From intention to effective re-enrolment. *Interactive Learning Environments*, 15(1). doi:10.1080/10494820.2018.1470986
11. Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *Internet and H Education*, 10(4), 245–260. doi:10.1016/j.iheduc.2007.08.002
12. Kember, D. (1999). Integrating part-time study with family, work and social obligations. *Studies in Higher Education*, 24(1), 109-124. doi:10.1080/03075079912331380178
13. Lee, Y., & Choi, J. (2011). A review of online course dropout research: implications for practice and future research. *Educational Technology Research and Development*, 59(5), 593–618. doi:10.1007/s11423-010-9177-y
14. Loomis, K. D. (2000). Learning styles and asynchronous learning: Comparing the LASSI model to class performance. *Journal of Asynchronous Learning Networks*, 4(1), 23–32.
15. Mason, R. (2001, Feb). *Time is the new distance?* Inaugural Lecture, Open University, Milton Keynes, UK.
16. McNall, L. A., & Michel, J. S. (2017). The relationship between student core self-evaluations, support for school, and the work–school interface. *Community Work & Family*, 20(3), 1-20. doi:10.1080/13668803.2016.1249827
17. Michinov, N., Brunot, S., Le Bohec, O., Juhel, J., & Delaval, M. (2011). Procrastination, participation, and performance in online learning environments. *Computers & Education*, 56(1), 243–252. doi:10.1016/j.compedu.2010.07.025
18. O'Toole, S., & Essex, B. (2012). The adult learner may really be a neglected species. *Australian Journal of Adult Learning*, 52(1), 183-191. Retrieved from <https://www.learntechlib.org/p/54800/>
19. Owen, M. K., Kavanagh, P. S., & Dollard, M. S. (2017). An Integrated Model of Work–Study Conflict and Work–Study Facilitation. *Journal of Career Development*, 1-14. doi:10.1177/0894845317720071

## **The Time Factor in Studies on Dropout in Online Higher Education: Initial Review of the Literature and Future Approaches**

Marlon Xavier, Julio Meneses

20. Pierrakeas, C., Xenou, M., Panagiotakopoulos, C., & Vergidis, D. (2004). A comparative study of dropout rates and causes for two different distance education courses. *International Review of Research in Open and Distance Learning*, 5(2). doi:10.19173/irrodl.v5i2.183
21. Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385-407. doi:10.1007/s10648-004-0006-x
22. Puspitasari, K. (2012). *The effects of learning strategy intervention and study time management intervention on students' self-regulated learning, achievement, and course completion in a distance education learning environment*. (Doctoral dissertation). Florida State University, Tallahassee, FL, USA. Retrieved from <https://diginole.lib.fsu.edu/islandora/object/fsu:183075/datastream/PDF/view>
23. Sánchez-Gelabert, A., & Andreu, M. E. (2017). Los estudiantes universitarios no tradicionales y el abandono de los estudios. *Estudios sobre Educación*, 32, 27-48. doi:10.15581/004.32.27-48
24. Sangrà, A. (2002). A new learning model for the information and knowledge society: The case of the Universitat Oberta de Catalunya (UOC), Spain. *The International Review of Research in Open and Distributed Learning*, 2(2), 1-19. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/55/114>
25. Tuero, E., Cervero, A., Esteban, M., & Bernardo, A. (2018). ¿Por qué abandonan los alumnos universitarios? Variables de influencia en el planteamiento y consolidación del abandono. *Educación XX1*, 21(2), 131-154. doi:10.5944/educxx1.20066
26. Yukselturk, E., & Inan, F. A. (2006). Examining the factors affecting student dropout in an online learning environment. *Turk. online j. distance educ.*, 7(3), 76-88. Retrieved from <https://files.eric.ed.gov/fulltext/ED494345.pdf>