USING ECTS FOR OPEN EDUCATION

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Calculating Worload in a fully-flexible environment

OEPASS

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Table of Contents

1. OEPass: Recognition of Open Education 4
   1.1 Introduction 4
   1.2 European Credit Transfer and Accumulation System (ECTS) 5
   1.3 Current Research on Workload Calculation 6
2. Recommendations on Workload Calculation in a Fully Flexible Environ-ment 8
3. Conclusion 11
4. References 12

1. OEPass: Recognition of Open Education

1.1 Introduction

The demographic composition of learners today is much different than it was a decade ago with an overall shift in focus towards lifelong learning, as such the ‘one size fits all’ model fails to provide for the needs of every sub section of learners (Mintz, 2015; Pelletier, 2010). The needs of the modern learner revolve around personalization of study pathways instead of a readymade bundle of courses that have no scope of being individualized. The emergence of online learning in the form of MOOCs (Massive Open Online Courses) in the digital content space has played a significant role in aiding and complementing existing learning processes. As a result, both traditional and non-traditional students are now exposed to a much wider offer of courses as well as degree programmes from sources such as EdX, Udacity, Coursera, Udemy and others. In recent years, they have penetrated the threshold of adoption, even collaborating with some of the most prestigious universities in the world to further enhance their offer (Chafkin, 2013). Many universities now offer study content via or in close collaboration with these third party digital content providers, which is already a good indication towards an unbundled curricula. A review by Class Central (2017), states that by 2017 there were 81 million registered users studying online courses with at least 800 universities participating.

In spite of the positive momentum that open education resources have gained, the issue of formally recognizing learning that has taken place 'elsewhere' is still a major issue. The difficulties in recognition often stem from three possible sources, namely:

- The Open Education course is not described in terms of existing recognition instruments, such as ECTS.
- Recognition is not granted due to lack of trust in the teaching/learning methodologies used in course delivery.
- Recognition is not granted due to difficulties in integrating the content between several courses offered by different bodies.

Open education and open education resources (OERs) in general are in need of established mechanisms that aid their validation and recognition at an EU level. There are considerable issues when it comes to documenting formal/informal learning experiences for recognition purposes, especially when it comes to instruments of formal recognition such as ECTS (European Credit Transfer System). The EC’s ‘Rethinking Education’ communication admits that “critical elements are not in place to enable digital learning and OER to be mainstreamed across all education and training sectors”. **OEPass** is an Erasmus+ funded project which aims

towards enhancing the recognition of learning experiences that do not fall within the purview of 'traditional university education'.

The project intends to :

• Increase trust in open and innovative practices, by providing valid pathways to recognition;

• Widen the scope of internationalisation and credit-mobility by fully encompassing virtual mobility experiences into Bologna-tools;

• Improve the transparency and recognition of open qualifications.

One of the major barriers when recognizing flexible learning experiences formally is their lack of compatibility with ECTS. ECTS has a clearly defined requirement of workload that helps standardize the quantity of work needed to achieve the learning outcomes successfully. This report addresses the issue of workload calculation in flexible learning environments and how they can be mapped to ECTS for recognition purposes.

1.2 European Credit Transfer and Accumulation System (ECTS)

In order to apply the concept of ECTS to the Open Education context we refer to the ECTS Users' Guide (2015) and the European Standards and Guidelines (ESG 2015) as our main sources. The ECTS Users' Guide clearly defines key concepts relevant for OEPass as follows:

- "ECTS is a learner-centred system for credit accumulation and transfer, based on the principle of transparency of the learning, teaching and assessment processes. Its objective is to facilitate the planning, delivery and evaluation of study programmes and student mobility by recognising learning achievements and qualifications and periods of learning." (ECTS Users' Guide 2015, p. 10)

- 60 credits measure the workload of a full-time student during one academic year. The student workload of a full-time study programme in Europe amounts in most cases to around 1500-1800 hours per year and in those cases one credit stands for 25 to 30 working hours.

- Credits in ECTS can only be obtained after successful completion of the work required and appropriate assessment of the learning outcomes achieved. Learning outcomes are sets of competences, expressing what the student will know, understand or be able to do after completion of a process of learning, long or short.

- Student workload in ECTS consists of the time required to complete all planned learning activities such as attending lectures, seminars, independent and private study, placements, preparation of projects, examinations, and so forth.

- Credits are allocated to all educational components of a study programme (such as modules, courses, placements, dissertation work, etc.) and reflect the quantity of work each component requires to achieve its specific objectives or learning outcomes in relation to the total quantity of work necessary to complete a full year of study successfully.

As is clear from the ECTS directives, the credits reflect the volume of learning that takes place whereas learning outcomes reflect the content of that learning. Every single credit corresponds to 25-30 hours of workload that includes not only contact hours between the teacher and students but also the 'time-on-task'. Time-on-task can be defined as the time directly spent on the act of learning (Carroll, 1989; Berliner, 1990; Brodhagen & Gettinger, 2012; Scheerens & Hendriks, 2014). It has often been synonymously referred to as active study time or engaged time as it is meant to include all the time that a student spends being engaged with the study material irrespective of the external setting (Kärner et al., 2016). Conclusively, ECTS credits today are increasingly used as a tool for designing curricula because they express student workload measured in time and allow higher education institutions to plan the most effective way to achieve desired results within the time constraints of the length of their degree programmes. ECTS credits also provide a useful means for monitoring results and improving teaching/learning performance. ECTS also facilitates student and teacher mobility by providing a common currency and transparency on content and weight of course material and information on assessment methods.

1.3 Current Research on Workload Calculation

In the current research, student workload has often been measured using 'retrospective methods', which might not be considered as completely accurate (Schulmeister & Metzger, 2011; Brandl & Gunzer, 2009). Much of the actual calculation of the student workload of a course is done by guesswork, intuition or from experience of working on courses rather than in any more rational or scientific way. Calculation of academic workload in flexible environments is a complex process due to the number of variables involved in such an ecosystem that can influence such a process. However, in the last few years, HEIs have increasingly accepted and recognized courses finished off-campus via online content providers for ECTS purposes. In some cases, HEIs have even collaborated with such providers to collaboratively design and plan courses or even complete degree programs. For instance, digital content provider Udacity collaborated with Georgia Institute of Technology and technology giants AT&T and Accenture in 2014 to create an online Master of Science degree programme in Computer Science. Bringing down the cost of the online programme to about $6600, which is only one-sixth the cost of what the same programme would cost on campus (Mckenzie, 2018). In Europe, Technical University of Munich has actively created MOOCs in collaboration with edX and Coursera since 2013. RWTH Aachen, Sorbonne in Paris and EPFL Lausanne have been collaborating with edX since 2015.

While the Unites States of America is the leading country when it comes to recognizing online and flexible learning as an integral part of a university curriculum, the transferability of the learning achievements into ECTS still remains inconclusive in Europe. The primary reasons for this gap can be summarized as follows:

- The main concern is regarding the quality and standards in flexible learning environments. As there are no universal standards for the design and implementation of such learning, it is hard to estimate the relative quality. The case becomes more complicated when the enrolment is very high and diverse in nature.

- There are valid concerns regarding the identity verification of students that do not present themselves in face-to-face learning.

Academics that design and develop the curriculum as well as carry out the courses in practice are at the centre of the quality determination when it comes to flexible learning environments. There is a heightened need for transparency when it comes to estimating and calculating workload in such an expansive ecosystem. Another important area of concern is the need to map out such learning experiences not just to ECTS but also to make them transferable to other reference framework tools such as ECVET (European Credit System for Vocational Education and Training) and the EQF (European Qualifications Framework). Compatibility with EQF makes any kind of learning readable and understandable across countries and systems thereby, facilitating student mobility.

As per the practical guidelines developed by the ENIC-NARIC (European Network of Information Centres in the European Region - National Academic Recognition Information Centres in the European Union) network in the EAR (European Area of Recognition Project) manual (2016), the huge variability in the calculation of workload depending upon the context presents a unique problem. For example, a master's programme that is based on classroom instructions may have a well defined workload but a master's programme based mainly in research may define workload in a more abstract sense. The guidelines further suggest that specific details about how the workload is calculated must be noted in the transcript.

2. Recommendations on Workload Calculation in a Fully Flexible Environment

According to the practical guidelines developed by the ENIC-NARIC network in the EAR manual (2016), flexible learning paths refers to any situation “in which the graduate has obtained a qualification in a way that is not the standard learning path followed by the mainstream student”. Examples of a flexible learning path are:

- When access and admission to the programme are not based on the standard requirements in terms of entrance qualifications (e.g. a secondary school leaving certificate);
- When exemptions of part of the programme are based on a previously obtained qualification or period of study;
- When exemptions of part of the programme, or the whole programme, are based on non-formal or informal learning;
- When the programme or part of the programme has been completed through distance learning and e--learning.

2.1 Setting Workload

In order to be able to translate flexible learning experiences into ECTS when it comes to workload, it is crucial to define and plan the workload in advance. One must remember that credits on their own are not very descriptive. It is only when credits are linked to standardized levels of learning which are further defined by the learning outcomes they encompass, that they reveal their true importance (ENQA, 2015; Pouliquen, 2007; Wagenaar, 2006). In order to facilitate the process of recognition, it is important to provide enough information in a transparent manner to all the stakeholders involved in decision making.

When setting workload in flexible learning, the following elements must be considered:

- The learning outcomes (and the level of learning) must be clearly specified and should correspond to the credits being offered.

- All the activities included in the course must be clearly listed and defined in advance.
- The course designers must have a clear and realistic idea about the average time that learners need to not only finish the activities involved in the course but also consider the time needed for self-study, self-reflection and self-evaluation.
- As the ECTS system has an already defined equivalence (one credit= 25-30 hours of work), the same mechanism should be applied in order to measure flexible open learning experiences.
- The European Qualifications Framework for Lifelong Learning provides eight levels of reference to facilitate the recognition and validation of non formal and informal learning based on learning outcomes. Although a voluntary frame of reference, the EQF-LL could serve as an effective tool for National Qualification bodies to recognize the diversity in flexible learning pathways.
- Educational activities must take into consideration the mode of instruction (pre-recorded lecture videos, interactive lectures, live chats, forums and discussion boards, google drive or similar collaborative tools), the type of assessment (automated quizzes, essays, peer grading, manual grading by instructor) and the type of activity itself (quizzes, learning diaries, numerical exercises, written exams, peer reviews, problem based learning).

Setting workload can be an iterative process with each round of implementation, taking into account the feedback received from students regarding the appropriateness of the workload. Similar methods are followed in traditional learning environments by employing mandatory course feedback mechanisms. Thus, it is important to educate students about the crucial role they play in course design.

2.2 Monitoring and Evaluating Workload

The process of monitoring and evaluating workload once it has been set should ideally be a binal process centered around the two main participants: learners and course providers (or instructors). As highlighted before, iteration based on feedback and practical implementations is the key to estimating workload in a pertinent way.

Monitoring and Evaluation of Workload with Students

Understanding workload expectations prior to the course from a learner's perspective

What does the term "workload" mean to learners in a flexible context? Learners' understanding of workload is complex: it might mean attendance, amount of required reading, researching, group activities and assessment tasks, or a combination of all of these.

Communicate learning outcomes and unit design to learners in order to improve their perception of workload is vital.

Putting the tasks at hand into a bigger picture will motivate learners and lessen the perception of the workload. Learners are more likely to be engaged with content that fits in their wider program of study, and with tasks that they saw as relevant for their work or future study. This could be done by clubbing similar courses together in a larger module so that learners can have access to a holistic view surrounding the undertaken course.

Understanding the reaction to workload calculation after the course

Workload can be monitored on a regular basis based on progressive feedback from learners throughout the course. Questionnaires and feedback forms are an effective method of dealing with and repurposing student feedback about workload into practice.

Monitoring and Evaluation Workload with Course Providers

Forming learning agreements beforehand with the partners involved in the course

Undertaking detailed Memoranda of Understanding between the course creators and course providers serves as an important first step towards collaboration and ensuring quality assurance processes in effect. Learning agreements (LA) that take into consideration the interests of all stakeholders involved in the process perform the function of creating a commonly agreed upon recognition approach for workload calculation. Such learning agreements may even enable the process of cutting through a variety of recognition processes in place in different scenarios. This has been successfully proved in the case of Kiron, which is instrumental in safeguarding the academic interest of refugee learners (Suter & Rampelt, 2017). Once the learning agreements are in place, they offer a systematic method of monitoring and evaluating the workload that was set prior to the beginning of the course by satisfying the conditions written into the LAs.

Workload measurement during the course

Avoid over-assessing or assessing the wrong things. Assessment tasks are opportunities for students to demonstrate their achievement of the unit learning outcomes. They are not intended as punishment for students, or traps to catch them out. It is also questionable to use assessment to "keep them working" although this is a common strategy for less mature, self-directed students. Assessment must focus on what it is that we want students to learn (the learning outcomes). Assessment tasks should give students a reasonable chance of demonstrating achievement of specific learning goals, and not their ability to memorise everything associated with a subject area. Consider carefully how many times a student must demonstrate a skill in a program - giving a presentation, for example - so that you know they can do it.

3. Conclusion

The concept of workload as applied in ECTS can be applied to fully flexible learning experiences if there are proper quality assurance mechanisms in place. These mechanisms should be regulated on a regular basis in a manner similar to how it takes place in traditional education. ECTS defines workload in terms of hours and learning outcomes achieved which are defined prior to the course. A similar method can be used to define the workload in flexible learning experiences as long as it can be ensured that the outcomes are achieved when assessment is performed.

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The open education movement has seen a lot of progress in the last few years when it comes to content creation and delivery methods. The acceptance of these activities in mainstream higher education has however remained scant. ECTS tools were developed to provide a system of equivalence within Europe and is a widely accepted way of calculating and monitoring workload and corresponding credentials.

In order to understand how the concept of workload as applied in ECTS can be applied to describing fully-flexible learning experiences, this report makes an attempt to clarify recommendations as to (a) setting, (b) monitoring and (c) evaluating workload in such environments.

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