
ECCOE: TOWARD A ROBUST SOLUTION FOR THE CROSS-INSTITUTIONAL RECOGNITION AND VALIDATION OF PRIOR LEARNING

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Abstract

ECCOE, the European Credit Clearinghouse for Opening up Education, aims to facilitate the endorsement and appropriation of open, online and flexible higher education by increasing trust in technology-enabled credentials among students, higher education institutions (HEIs) and employers. To this end, the project is developing a complete solution in the form of the ECCOE-system, with publicly reviewed credential descriptors, Model Credit Recognition Agreements (MCRAs), an online catalogue of over 60 disciplinary and transversal modules, and a robust solution for technology-enabled credentials and a network of stakeholder users. In this paper the analysis and classification of existing prior learning agreements (at higher education institutions) is presented as a first step towards a generic recognition structure that subsumes all types of recognition and can form the basis for the MCRA template. The result of this work was the identification of four characteristics present in each type of recognition agreement: its type, the objective of applying it, the process steps that need to be followed, and constraints for a successful application.

Introduction

ECCOE, the European Credit Clearinghouse for Opening up Education (ERASMUS+ KA203 2019-1-FR01-KA203-062951), supports the drive towards more open, online and flexible higher education. Policy makers at European and national level are responding to the needs of an increasingly diversified student population with calls for a more modular approach to credentials, and employers are focusing more and more on the actual competences that graduates are able to demonstrate. Furthermore, in the current political climate, transnational mobility, whether physical, virtual or a combination of the two, is a powerful vehicle for increasing cross-cultural awareness.

For this vision to become reality, there is a great need for a solid, trustworthy system supporting the cross-institutional recognition of credits at the level of courses or modules.

Over and above the technology, such recognition will not take off without appropriate quality mechanisms and the demonstration that the overall process, the ECCOE-system, has been tried and tested with a critical mass of stakeholders. As pointed out in the European Commission (2018) proposal for a Council Recommendation on promoting automatic mutual recognition of higher education and upper secondary education diplomas and the outcomes of learning periods abroad:

“There are still too many cases in higher education where complicated, expensive, time-consuming recognition procedures hinder the free movement of learners. In some cases, these procedures can take several months and be very costly, with inconsistency and a lack of transparency adding to the difficulties learners face. One of the reasons for this is that decisions on recognition are often left to the discretion of the higher education institution to which the learner is applying, with varying institutional practices and a lack of uniformity in criteria.”

The main goal of ECCOE is thus to facilitate the endorsement and appropriation of open, online and flexible higher education (Orr, Weller, & Farrow, 2018). In support of this overarching objective, the project aims at increasing trust in technology-enabled credentials among students, higher education institutions (henceforth, HEIs) and employers. To facilitate sustainable take-up, ECCOE is committed to the use of open metadata based on ESCO (European Skills, Competences, Qualifications and Occupations) (European Commission, 2019), open source codes and Creative Commons licences.

The benefits for HEIs include greater efficiency, quality and transparency for lifelong learning. Students will benefit from flexible opportunities in support of transnational mobility as well as improvements in employability, being able to demonstrate competency-based credentials both for degree-level qualifications and for recognition by employers. In terms of societal impact, the quality-based ECCOE-system will open up opportunities for citizens to develop intercultural skills through flexible, transnational lifelong learning.

Progress and problems in the recognition of prior learning

Since the 1950s, with the increase of student mobility in Europe, the recognition of prior learning has been a goal in Europe. However, as Teichler (2003) argues, cross-border recognition using the European Credit Transfer System (henceforth, ECTS) could be improved, since it arguably depends on the limited mutual acceptance of course structures and content from other institutions, in the shape of credits. While the ECTS has become a standard in Europe, its adoption has proved to be far from easy. For example, Tovar (2004) discusses the difficulties encountered when the ECTS was implemented in Spanish

universities, including the need to balance the curriculum between the number of hours spent in a classroom and their equivalent value in ECTS. Both lecturers and students struggled with the change and it took some time to overcome these. It is the objective here that ECCOE should prove easier to adopt and apply.

In a similar way to ECTS, other attempts have been made to facilitate the recognition of prior learning. For example, the “credit bank” transfer system proposed by Sun (2018). The author notes that more work is required to overcome problems that have appeared in the development and use of this system, such as the organisational complexity regarding policies and regulations, the lack of unified standards, differences between educational institutions (even those of a similar type), and the need to make the use of such a bank more attractive for students.

The recognition of prior learning is not just problematic for standard degree and master’s programmes. Non-formal learning such as MOOCs has also proved challenging for students wishing to have their courses or other types of learning scenarios (such as work experience) accredited in a broader academic context. Pressure from the high number of students who have undertaken MOOCs to obtain this has led to a range of digital credentials and badges, that can be obtained in a variety of circumstances, for example, when students complete 80% of the activities, when they pass a final text. As Jobe (2014) argues, students accept the difficulties with these credentials and are forced to accept non-formal recognition as a complement to traditional educational credits. Anything is better than nothing!

As Castle and Attwood (2001) argue in general terms, the cross institutional recognition of prior learning is a complex and difficult process due basically to the difficulty of establishing equivalencies between the diversity of the kinds of experience, knowledge and learning that adults may have acquired. In ECCOE these problems are being addressed in terms of two essential components: a series of quality descriptors, based on open metadata-based standards and essentially closed vocabularies, used to quantitatively instantiate the quality of a given digital credential, and a Model Credit Recognition Agreement (henceforth, MCRA), that will facilitate the cross-institutional recognition of digital credentials between HEIs. In this paper the analysis and classification of existing prior learning agreements is presented with a view to establishing a generic recognition structure than subsumes all types of recognition and can form the basis for the MCRA.

Recognition elements for an MCRA

To specify an MCRA it is necessary to undertake an analysis of existing processes at the partner HEIs that are collaborating in this project, specifically on the ways prior learning

is already “recognised” or “validated” (the use of these terms here is based upon Rampelt et al., 2018), where recognition essentially refers to formal learning undertaken at HEIs and validation to competences earned outside of a university. In order to gather the data two types of templates were prepared, one for existing recognition agreements and another for institutional expert interviews. The information gathered from the latter is particularly valuable since it complements that which is present in the former with the experiences of those who undertake the processes. The partners used these to record the information about their institutions. Subsequently, the data was transformed during this analysis and classification process into Mind Maps (Politecnico di Milano – METID had also provided data in Mind Map format that greatly helped the work undertaken here). This visual representation enables the data to be grouped and ungrouped, linked and unlinked, and underlying patterns to be identified in a way that is much easier than working directly with the completed templates.

The data collection was conducted within four European HEIs: Duale-Hochschule Baden-Württemberg (DHBW) in Germany, Politecnico di Milano (POLIMI) in Italy, Universidad Nacional de Educacion a Distancia (UNED) in Spain, and Vytautas Magnus University in Lithuania.

The high-level map of the prior learning recognition and validation pathways identified in this analysis (for DHBW, POLIMI, UNED & VMU) can be seen in Figure 1. During this process it became obvious that there was more than one way to structure the data. There are arguably at least two dimensions in the data that could have formed the base of the classification discussed here, namely where the recognition and validation takes place at an HEI (two levels were identified: at faculty level and at institutional level) and what type of learning is being recognised (three types have been identified: non-formal [open learning], formal learning [undertaken on taught courses awarding credits], and cross-institutional agreement scenarios). Not all of these scenarios lead to results that can be recognised or validated as part of other programmes, but some do, which justifies their inclusion here. Since the objective of Output 2 is to produce a model credit recognition agreement, then the former (where the recognition takes place) was chosen over the latter (what type of learning is being recognised). Anticipating what will be seen in this article, it should be noted that this initial structuring of the data, which made analysis easier to begin with, has not arguably affected the overall result of the analysis, and is therefore, not so important, but it is illustrative.

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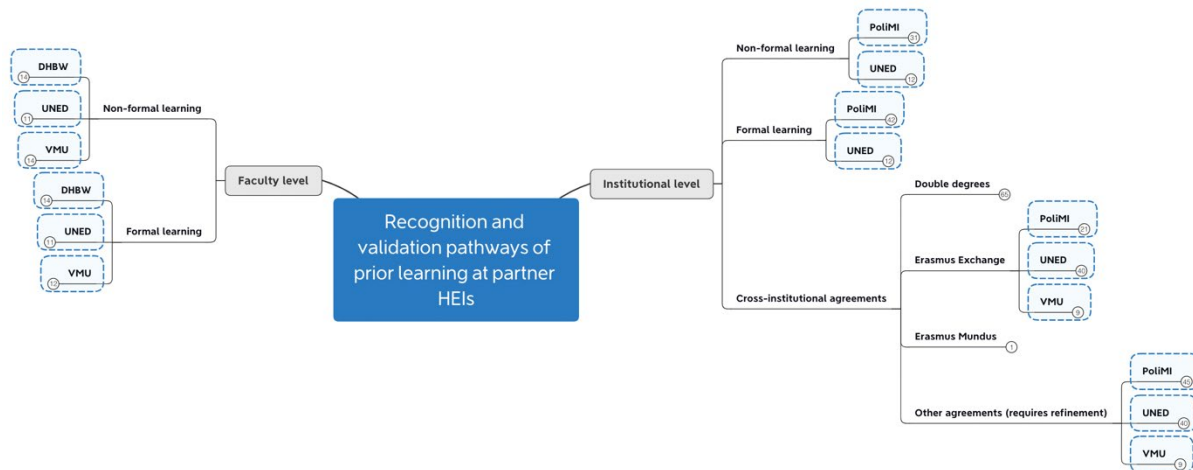


Figure 1. A high-level view of the pathways for the cross-institutional recognition and validation of prior learning

Analysing the recognition and validation pathways

During the analysis of the faculty level validation of non-formal learning (including but not restricted to MOOCs) and recognition of formal learning undertaken at HEIs. For each institution four characteristics were commonly identified: the type of recognition/validation, its objective, the process steps followed, and any constraints that might influence the result. An example from UNED can be seen in Figure 2. It should be noted that three of the four partners (DHBW, UNED and VMU) undertake recognition/validation at a faculty level. This appears not to be the case for POLIMI. In the case of UNED, for example, the process detailed for MOOC and for formal learning are exactly the same. Both types of courses can be accredited in terms of ECTS, either specific ones, corresponding to actual subjects or so-called “free elective credits” (these are credits that a student can bring from outside the course s/he is studying). This mechanism is complemented by another one (not included in the map) for students who want to transfer their studies to UNED and present a range of courses from their original institution that they want to have accredited in substitution for studying the equivalents at UNED as part of the degree they want to study. Here it is the subject teachers that decide whether there is a match between the external courses and the internal ones, and facilitate the recognition, or not, on a case by case basis. In the case of VMU.

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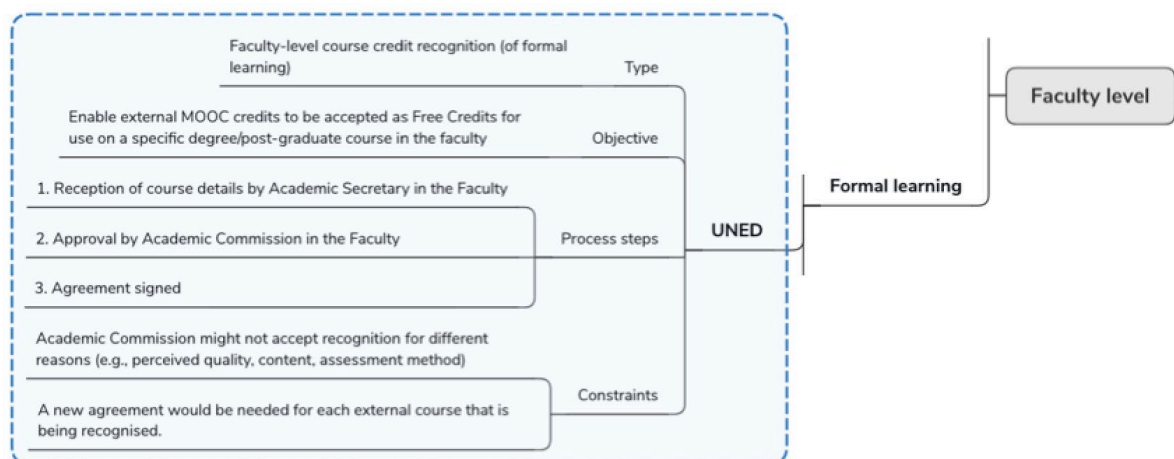


Figure 2. Example of the four characteristics underlying recognition/validation processes

Finally, there is an “other agreements” type included, that is a catch-all for agreements that need to be refined and included separately in future research. It should be noted that these agreements do not follow the same structure as the previous figures (i.e., they do not contain the four characteristics of type, objective, process steps, and constraints), since they contain a very diverse type of scenarios (this does not imply that such characteristics could not be identified for each of them post hoc). Furthermore, not all of these scenarios lead to results that can be accredited as part of other programmes, but some do. Specifically, POLIMI include a series of such agreements (Athens, UNITECH International Society, Global Engineering Education Exchange, QTEM Quantitative Techniques for Economics and Management, MEDes, and Magalhães), and while UNED does not list such agreements, it does detail the 12 steps that need to be followed by any HEI (or other institution) that wants to establish a bilateral collaborative agreement with UNED. This process is very clearly detailed since these types of agreements have been developed and undertaken for nearly 50 years. There are over 16,000 signed agreements in the university register that can testify to this process. The only limitation with these agreements is that they are typically specified to last for only a certain number of years. Therefore, as time passes, they typically cease to be active and need to be renewed, if there is still institutional commitment.

As has been seen in this section, each of the accreditation processes, independently of where the recognition/validation takes place in the institution, it can consistently be characterised in terms of four elements: its “type”, the “objective” of applying it, the “process steps” that need to be followed, and “constraints” for a successful application. The next logical step would be to instantiate these characteristics into a procedure that will be detailed in the MCRA. However, it can be noted here that the use of these elements would give rise to a relatively flat classification, although it might prove necessary to deepen it as the project develops.

Discussion

In the previous section an analysis of the prior learning recognition and validation pathways identified at the partner HEIs has been presented for three types of prior learning (non-formal learning, formal learning, and cross-institutional agreement-based scenarios), that are processed at two different levels (faculty and institutional). As was noted at the beginning, this structure has been adopted because it reflects what the partner institutions have presented, and seems appropriate for the MCRA, but does not ignore the fact that the data can be classified in other ways. The prominence given to the “level” at which such accreditation is undertaken, over “which type of learning” is being accredited, was considered to be important initially, to help structure the data make classification easier. However, after the analysis has taken place, it can be argued to be less important, since the four characteristics identified in the analysis to be key for the MCRA, do in fact encapsulate the notion of level where the accreditation takes places, so such a separation of where it takes place, at faculty or institutional level (or even possibly at other levels in other institutions, e.g., departmental), is not really important.

As we move forward from this work and consider the next steps that have to be undertaken for the MCRA it can be appreciated that each of these characteristics need to be carefully defined in terms of the results highlighted previously. Considering the first two characteristics, type and objective, given their reduced scope, it should be possible to specify them using closed vocabularies. Process steps would need to be generated by following an algorithm that would be designed in order to reflect the results presented here and would lead to a “cooking recipe” for each institution and its governing organisms, where a sequential set of steps would identify the necessary causal details of the process (e.g., documents, actors, decisions). The “constraints” characteristic has been adopted as a kind of “catch all” to try to unify the different recognition and accreditation processes, and will inevitably, require careful refinement for the MCRA. It should be possible, for the sake of the algorithm, to achieve a sub-classification of elements that make up constraints, although it might be a little optimistic to assume that we can achieve a closed vocabulary.

The approach proposed here, of defining all recognition and accreditation in the MCRA in terms of four characteristics, and an associated algorithm for specifying the process steps is argued to be an appropriate and potentially effective solution for the project and the cross-institutional recognition and validation of the online catalogue of potential courses, MOOCs or modules identified in the project. It should as such, illustrate a wide range of cases of how such processes might work for future HEIs that want to be incorporated in to the ECCOE system. In the future, HEIs who want to use the ECCOE system would need to complete and sign a copy of the MCRA detailing such processes in their own institutions.

However, we shouldn't be lulled into a sense of success where an obvious problem can be identified, i.e., the question of scalability if this accreditation process has to be followed on a student by student basis. As the use of the ECCOE system gains size and momentum, and more institutions wish to subscribe, then the MCRA could arguably become harder to apply, for questions of scalability and the implications that the recognition processes can have for human resources at the HEIs. We should, therefore, consider how this problem might be addressed before the MCRA is drafted and it becomes too late.

Conclusion: toward an "ECCOE Fast Track" recognition and validation process

The problem highlighted in the previous section requires a solution that moves the question of the recognition and validation of credentials away from the need to study individual student cases, where HEI staff have to study each application for such accreditation on a one by one basis. Such an approach is inherently unscalable and would eventually threaten the integrity of the ECCOE system. A better and more ambitious approach is required.

While a solution to this problem will require significant thought and discussion by project partners, as the project moves forward, a possible first generation solution could be offered here, in the spirit of exploration of the conceptual space of possibilities, namely to encapsulate the recognition and validation process into what could be defined as a generic "ECCOE Fast Track", whereby any prior learning credential from an HEI that carries the ECCOE quality stamp (defined as a faithful representation of the quality characteristics mentioned above) would be automatically recognised and accredited by the partner institutions, in as wide a sense as possible, without any further analysis or administrative intervention in the recognition process. This approach would both make the process more agile, scalable, and at the same time, not burden the human resources at the partner HEIs.

To this end, meetings have been held with the members of the university governing team responsible for recognition and validation of prior learning at UNED regarding the possibility of establishing such a fast track. As a result, and thanks to the importance given to such innovation by the team, a prototype of this fast track mechanism is being developed and will be tested at UNED for all MOOC credits that carry the "ECCOE quality stamp". Hence any student that presents a credential that comes from a course that carries the ECCOE quality stamp, will have its credit value automatically recognised and accredited as free credits that can be used on any degree programme offered by the institution. It is suggested that other HEI partners consider following a similar approach, thereby lightening the administrative load, and adding considerable agility and scalability to the processes specified in the MCRA.

Finally, as food for thought, it is argued that the key to the success of this type of automatic accreditation process are the details contained in the constraints section of each process, our ability to define them in a controlled manner, and HEIs willingness to accept them, while at the same time recognising the need to find a balance between streamlining such recognition and validation processes and ensuring ownership by learners and teachers through transparency. As the saying goes, the devil is in the details!

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