Open Virtual Mobility

OPEN VIRTUAL MOBILITY: A LEARNING DESIGN 4 SRL

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Summary

The Open Virtual Mobility Erasmus+ project is aimed at promoting Virtual Mobility in the European Higher Education Area. Self-regulated learning (SRL) is an important approach over the whole project in two main lines of work and research: firstly, SRL is explored as a subset of skills of the Open Virtual Mobility competencies; secondly, the learning design of elements and strategies in the Learning Hub/MOOC to be built is established in order to develop students' SRL skills. This paper presents the analysis in which the SRL approach in the OpenVM is rooted, and examines the reviewers' assessment of the extent to which each element can support SRL.

Introduction

Higher Education is currently facing two main challenges: digitalisation and internationalisation, both of which can be addressed by the promotion of Virtual Mobility (VM) in virtual and open environments. VM has been one of the most frequently implemented policies for the European Higher Education Area as it has been a key action for the enhancement of intercultural and multilingual skills as well as others related to personal development (Buchem, Tur & Urbina, 2018). VM is conceptualised as an ICT-supported (online) learning activities for students, organized and supported at institutional level. Through VM, students from one (European) university can study online at another university enjoying the full support of the host university including formal assessment, since the cooperation between university is formalized through agreements between the two institutions and the student (Ubachs & Henderikx, 2018).

Development of the Open VM concept includes open learning and contexts in which the learner and not the institutions take the lead in VM, adding a new and valuable potential for these aims. Open education and open learning mean that the learner is free to follow education anywhere, free of curricular and other institutional constraints, often free of charge or lower fees than through more traditional universities. The implications for institutionalized virtual mobility are however unclear.

The Open Virtual Mobility Erasmus+ project is aimed at developing understanding of the potential of connecting the two concepts – Open Education and Virtual Mobility – and promoting virtual mobility skills in the context of opening up Higher Education. The openVM project[1] is a strategic partnership involving nine partners from the European region. It offers the support to students, teachers and other agents such as learning designers, leaders and policy-makers in the development and promotion of virtual mobility actions in open ecologies. By way of support, the projects' objectives include development and validation of a theoretical framework of skills and competencies that learners (can) develop through OpenVM, for example in the a OpenVM Learning Hub that aggregates a wide range of functionalities and information sources for Open VM participants, a MOOC and Open Educational Resources (OER) as sources of learning, as well as e-assessments and open credentials (Open badges) as a way to validate and recognize learning outcomes in context of OpenVM.

To construct an OpenVM competency framework, the Group Concept Mapping (GCM) methodology was applied (Kane & Trochim, 2007) in the project. All project members participated in the study and introduced the study to their networks thus facilitating the involvement of a broader representation of experts in the domains of virtual mobility and open education. GCM supports knowledge construction through the collection and organisation of ideas of individuals on a particular issue and produces an aggregated representation of all collected input that can be then further analysed, interpreted and used to feed understanding, design and /or decision or policy making. Over 30 experts took part in different phases of data collection, interpretation and validation, resulting in the creation of a competency framework that includes eight OpenVM competency areas including seven types of transversal competencies and domain knowledge, i. a. knowledge about Open / Virtual Mobility. According to this framework,

[1] URL: https://www.openvirtualmobility.eu/

the seven transversal OpenVM competencies are: open-mindedness, intercultural skills, interactive and collaborative learning, networked learning, media and digital literacy, autonomy-driven (self-directed) learning and active self-regulated learning (Buchem, et al, 2018; Rajagopal, Firssova, Op de Beeck, Van Der Stappen & Buchem, in preparation). All seven competency areas are relevant and interesting for further elaboration. This paper, however, will focus on self-regulated learning since open virtual environments demand learners who are capable of strategic learning to design and choose their our learning path along contexts and through a life-time (self-directed) as well as being able to carry out their learning experiences by controlling the process through a cycle of planning, performing and assessing their learning (self-regulated). In this regard, the OpenVM project answers to this additional potential from a double perspective: firstly, by including self-regulated learning as a set of skills to be considered within the OpenVM competence framework; and secondly, through a learning design and instrumentation which enhances self-regulated learning.

The current article presents a study evaluating to what extent these two aims are aligned by assessing the extent to which various design elements (i. e., OpenVM Learning Hub, MOOC, OER, Open Badges, e-assessment) effectively promote the development of self-regulated learning skills.

Self-regulated Learning

SRL is normally connected to "learning how to learn" (Mikroyannidis et al., 2014, p. 148), which is a task carried out by the learner in a proactive way and using metacognitive, motivational and behavioral schemes. Self-regulation is a process in which academic skills emerge from cognitive abilities developed in social environments (Zimmerman, 2002). There are different models of SRL, and one of the most popular which has received considerable attention in the context of educational technology (see for example, the most well-known model by Dabbagh & Kitsantas, 2012) is the cycle described by Zimmerman (2002, pp. 67-69), which includes the following general three phases and six sub-phases:

- "Forethought phase", which is about the metacognitive tasks performed before learning occurs. It includes two subsets of tasks in relation to task analysis, including goal setting and planning in a strategic way, and self-motivation beliefs, which is about the self-efficacy beliefs that can influence outcome expectations.

- "Performance phase". This includes the learning tasks carried out while performing learning and these can be divided into two main groups: self-control, which is about deploying the strategies that were planned in the previous phase, and self-observation, related to the monitoring of one's learning performance.

- "Self-reflection phase", which occurs mainly at the end of the learning process and it consists of two main processes in relation to self-judgement and self-reaction. The former is about the assessment in relation to standards or other colleagues' achievements whereas the latter is about the willingness whether or not to continue the current learning process. Thus this is a critical phase as it may impact further new learning cycles with positive motivational and self-efficacy beliefs.

The Learning Hub, MOOC and other elements in the OpenVM project

To address the main aim of the project and in order to contribute to the uptake of OpenVM skills to a large scale in the European Higher Education, the main challenge of the OpenVM project has been to create a Learning Hub[2] envisaged to become the reference for teachers, leaders and students for open virtual mobility by offering examples of good practices, giving support for their design and implementation, joining interested agents for collaboration in OpenVM actions as well as by assessing and recognising Open/VM skills (Buchem et al., 2018).

The Learning Hub includes elements and other innovative strategies, methods and tools for the achievement, assessment and recognition of OpenVM skills, which can be described as follows (Open Virtual Mobility, 2018): MOOC, Open Educational Resources, Open Badges, e-assessment, gamification, semantic skills directory and a matching tool to support group formation and collaboration.

[2] URL: https://www.openvirtualmobility.eu/learning-hub/446-learning-hub/

As established in the Quality Assurance Framework the OpenVM is concerned about the pedagogical design, which is a key quality characteristic for the success of most elements such as the MOOC, the OER and the Open Badges (Buchem, Tur & Urbina, 2018). The inclusion of these elements for SRL aims is justified based on diverse arguments. Although all elements are assessed throughout the different phases in the cycles, the inclusion in the project comes from a particular approach in the project. So, for example, the Learning Hub and MOOC are about the digital environment whose design can facilitate the metacognitive skills for autonomous and self-driven learning at the forethought phase as an overview of all elements included. The OER are the didactic resources that will mediate the performance by students. And, the Open Badges and the e-assessment are closely related to the self-reflection phase of the SRL cycle by Zimmerman (2002). Finally, the skills directory is another element to give an overview of the OpenVM skills, and the matching tool is closely related to the social context in which Zimmerman (2002) described the transformation of cognitive skills into academic skills.

The study

Methodology and instruments

To explore the extent to which the inclusion of particular design elements promotes the development of self-regulated learning skills, a descriptive approach based on the quantitative data collected through a survey was carried out. The survey included eitgh questions about each element or didactic strategy conceived in the Learning Hub or MOOC.

For each of the eight elements, a total of six sub-phases of the SRL cycle by Zimmerman (2002) have been added. Participants are seven internal reviewers, who answered the survey based on the knowledge of the work carried out so far in the design of the elements and strategies for the OpenVM Learning Hub including the OpenVM MOOC. Following the QAF mandate (Buchem, Tur & Urbina, 2018), rooted in the Design Based Research model (Reeves, 2006; McKenney & Reeves, 2012), innovations in the OpenVM project are assessed in three rounds, firstly by internal reviewers, then by external reviewers and finally by target users. Therefore, this is a first review half-way through the design in order to assess the extent to which the SRL cycle is addressed and enabling changes to be made at an early stage.

Results

The following figures (figures from 1 to 7) present data collected on each question of the survey. In general, at first glance, it can be observed that answers are irregular and unbalanced, ranging from some disagreement in a few elements to a greater or total agreement in other elements. The Learning Hub (figure 1) achieves some answers in total agreement in five of the six sub-phases of the SRL: only self-reaction does not achieve a total agreement although there are a balanced number of answers (3 reviewers) at levels 3 and 4 of agreement. Also, the task analysis phase is the only phase for the Learning Hub in which a total disagreement appears.

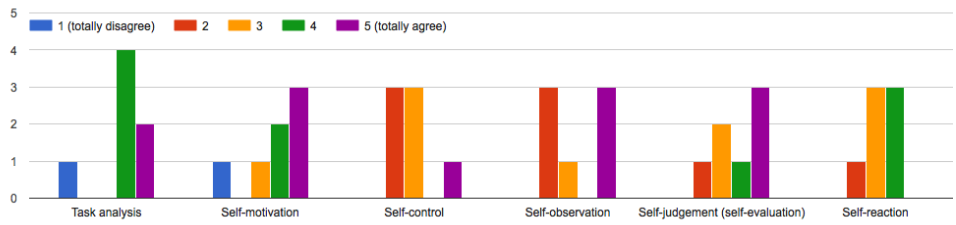

Figure 1. Agreement on the statement: "The OpenVM Learning Hub can help develop the following SRL skills …"

The MOOC (figure 2) seems to be valued for the planning of learning, as a first step in the SRL learning, since it is the only phase in which there are no answers in disagreement, and most reviewers give marks between levels 4 and 5. Some issues seem to emerge in the self-control (performance phase) and self-judgement (self-reflection) sub-phases.

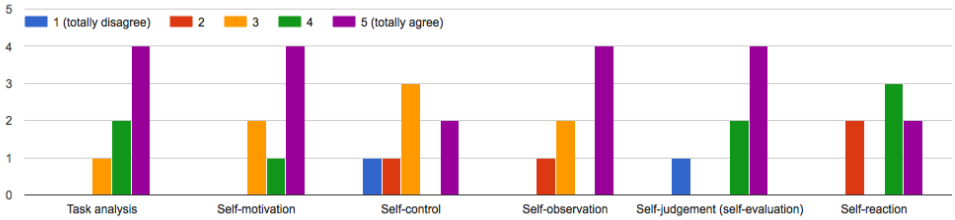

Figure 2. Agreement on the statement: "The MOOC can help develop the following SRL skills …"

OER (figure 3) only received total disagreement for the task analysis sub-phase, although in all the other areas, except for self-judgement, there is also some disagreement. However, at the same time, all the sub-phases, except for self-reaction, receive answers in total agreement. Surprisingly, the one with more answers in total agreement is also the one which receives the answer in total disagreement (task analysis).

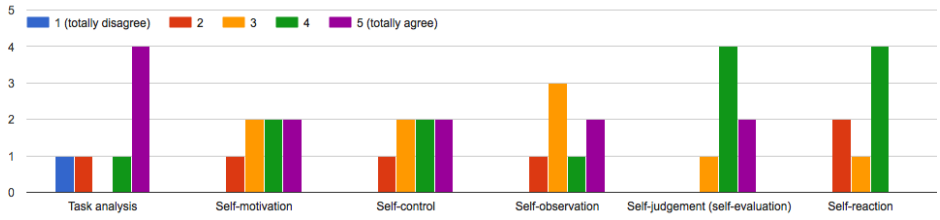

Figure 3. Agreement on the statement: "OER can help develop the following SRL skills …"

As for Open Badges (figure 4), self-motivation and self-observation are the sub-phases which achieve the highest levels of agreement, in all the elements, with all reviewers' answers ranging from agreement (level 4) to total agreement (level 5). Very similar is the case of the self-judgement phase which only differs from the previous in that it achieves some answers at level 3 in detriment to level 5. However, it is also remarkable that all phases may present some issues for SRL as there is some disagreement in one sub-phase (task analysis in the forethought phase; self-control in the performance phase; and, self-reaction in the self-reflection phase).

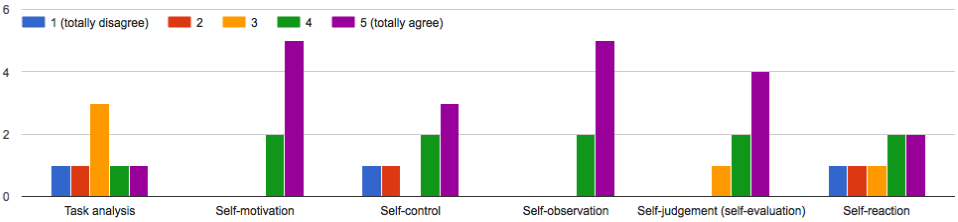

Figure 4. Agreement on the statement: "Open Badges can help develop the following SRL skills …"

The e-assessment strategy (figure 5) in the Learning Hub/MOOC seems to be totally aligned with the metacognitive skills in the self-judgement sub-phase (self-reflection phase), with all answers in total agreement. Very similar is the case of the self-observation and self-control sub-phases ranging from levels 3 to 5 of agreement. Disagreement emerges in both sub-phases in the forethought stage and in the final one (self-reaction) with some answers at levels 1 and 2.

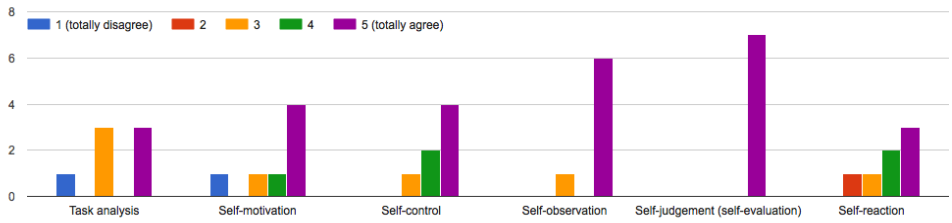

Figure 5. Agreement on the statement: “E-assessment can help develop the following SRL skills …"

The gamification approach (figure 6) is only considered totally aligned with SRL for the self-motivation phase (at the forethought phase) and all the others present a wide variety of answers showing differing perceptions among reviewers as there is one negative answer alongside totally positive perceptions by the great majority.

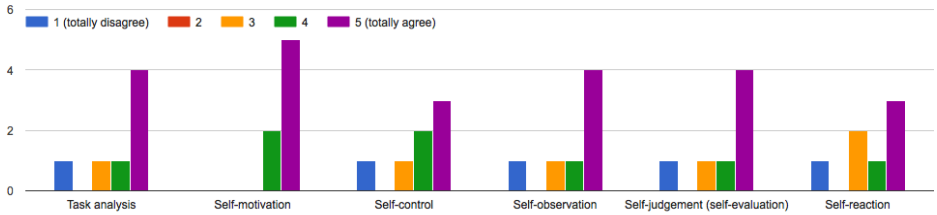

Figure 6. Agreement on the statement: “Gamification can help develop the following SRL skills …”

The last two tools, skills directory (figure 7) and the matching tool (figure 8) present the most unbalanced results with one or two reviewers at all levels of agreement in most sub-phases of the SRL cycle, with the former receiving more answers at level 5 than the latter. So, for the skills directory, in the self-judgment sub-phase, there are 5 reviewers at levels 4 and 5, followed by the self-judgement with 4 reviewers; and, 3 in the self-motivation and self-observation.

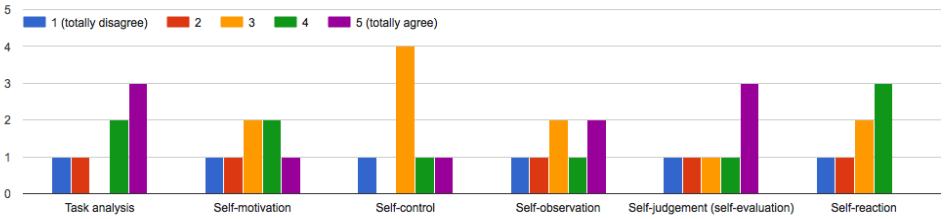

Figure 7. Agreement on the statement: “The skills directory can help develop the following SRL skills …”

Although for the matching tool there are contradictory perspectives (figure 8), it can be highlighted that there are 3 reviewers answering at level 4 in the all the sub-phases (except for the self-control that achieves 4 answers), which suggests a relevant alignment for the SRL approach.

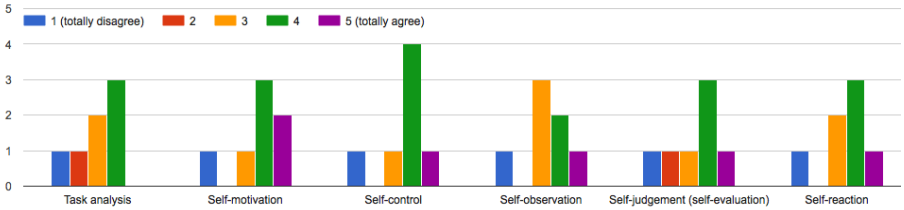

Figure 8. Agreement on the statement: "The matching tool can help develop the following SRL skills …"

Discussion and conclusions

The results of the survey point to potentials and challenges in the alignment of the OpenVM project with the SRL cycle. The somehow unbalanced results suggest that some design elements should be modified to enhance SRL. There are elements that are closely related to particular phases of the SRL, as suggested above. However, reviewers seem to feel that although these elements can be theoretically related to SRL, this fact cannot be taken for granted. Thus, the results suggests that the learning design will be the key element to successfully achieve the SRL as one of he key aims of the project. The assessment of the pilot implementation by external reviewers and target audiences and the following iterations of improvement will show the extent to which the SRL can be achieved as an aim in the OpenVM Erasmus+ project.

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