

Scaffolding learner autonomy in online university courses

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Abstract

This paper deals with the question in what ways teachers and course designers can support the development and exertion of learner autonomy among online university students. It advocates that a greater attention to learner autonomy could help more students to complete their course successfully and thus contribute the decrease of the high dropout rates in e-learning. To illustrate this position, the paper defines three principles of scaffolding learner autonomy and discusses them in relation to the specific challenges of e-learning settings. Drawing on relevant literature on course design, as result the paper presents exemplary design aspects that can serve the scaffolding of learner autonomy

Key words

Learner autonomy; Scaffolding; Online Course Design; Teacher Roles; Dropouts

El desarrollo de la autonomía del estudiante en los cursos online universitarios

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Resumen

Este artículo trata sobre el tema de cómo los profesores y los diseñadores de cursos online pueden contribuir al desarrollo de la autonomía del estudiante en el contexto de la enseñanza universitaria online. Defiende que prestar una mayor atención a la autonomía del estudiante en el diseño y desarrollo de cursos online puede contribuir a que más estudiantes finalicen sus estudios con éxito y por tanto al descenso de los elevados índices de abandono que se dan en la enseñanza online. Para ilustrar este posicionamiento, el artículo define tres principios para apoyar social y educativamente ("andamiaje") la autonomía del alumno y los relaciona con los retos propios de los contextos e-learning. Basándose en una importante revisión bibliográfica sobre diseño de cursos online, el presente estudio finaliza con ejemplos concretos de diseño que pueden servir para apoyar y reforzar la autonomía del estudiante. .

Palabras clave

Autonomía del estudiante; "Andamiaje"; Diseño de Cursos Online; Roles del docente; Tasas de abandono.

I. Introduction ¹

The literature on e-learning indicates that students in distance education settings face special challenges. For instance, Hagel and Shaw (2006, p. 285) argue that “[s]tudents studying off-campus need to take more responsibility for their own learning”. They further have to demonstrate a high level of motivation. Thus, Borges (2007, p. 5) states that good digital students “have a proactive attitude and are autonomous insofar as is possible, they display initiative in their learning and in their performance during the course”. To develop this capacity of learners to care for and respond to their learning needs is according to Paul (1990, p. 37) the ultimate challenge for successful distance education. From this arise the questions: How can learners be supported in developing this capacity? What is online-tutors’ function in this process and how does it differ from face-to-face settings? What implications do result for online course design?

This paper seeks to investigate in what ways online students can be assisted to become autonomous learners. A particular focus will be given to the role of the tutor. Therefore, a constructivist approach will be applied. Instead of assuming a pure acquisition of teacher provided knowledge through the students (*‘filling vessels’*), the learner is seen at the centre of the learning process, as he considers all new input in relation to what he already knows and constructs new meaning on this basis. To answer the posed questions, in a first step, chapter two discusses the concept of learner autonomy with the aim to put the key themes of *learner autonomy* and *the role of the tutor* in relation to each other. It will be shown that the work of Lev Vygotsky provides a theoretical basis to do so. The result of the chapter is the definition of three core principles for the support of learner autonomy. To apply these identified principles to the special case of distance education, in a second step, chapter three examines the particular challenges online-courses pose for students. Finally, through the lens of the resulting rationale, chapter four will look into existing research literature on online course design to identify ways of learner support that are particularly relevant for learner autonomy.

The relevance of the topic lies especially in its potential contribution to lowering dropout rates in online-courses through better support. In the paper the terms e-learning and online course are used to refer to fully online delivered university courses without an on-campus component. The terms learner autonomy, learning autonomy and autonomous learning are used synonymously.

II. Theoretical discussion: The relationship between learner autonomy and tutors’ roles

This chapter deals with the questions how learner autonomy is discussed in literature and how it will be used in the paper at hand. Moreover, the relationship between the support through tutors or teachers and student’s autonomy will be clarified. Finally, three core areas will be identified in which tutors efforts to support learner autonomy need to concentrate.

¹ This paper has been developed within the framework of the Erasmus Mundus Programme European Masters in Lifelong Learning: Policy and Management (www.lifelonglearningmasters.org) as part of the third semester held in Bilbao, Spain.

a. View 1: Learner autonomy as additional self-management skill

There has been a remarkable growth of interest in the concept of learning autonomy in general and in language teaching and learning in particular in recent years. Different views of autonomy and contexts of practice have been analysed in comprehensive reviews on the topic (Benson, 2007). The concept of learner autonomy or learning autonomy is discussed in English speaking literature above all in connection with foreign language education. This indicates at the same time the origins of its scientific conceptualization. One of the first and most influential writers who approached the topic is Henri Holec, author of the report *Autonomy and foreign language learning* (cited here as Holec, 1981) that was first published by the Council of Europe in 1979 (Summer, 2010). For Holec (1981, p. 3), “[t]o say of a learner that he is autonomous is [...] to say that he is capable of taking charge of his own learning”. He perceives learner autonomy as a radical form of self-directed learning in which the learner takes over the functions of the teacher in selecting objects, contents and methods and in monitoring and evaluating the learning process (Little, 2004 and 2012). These considerations originate above all from the engagement with the challenges of then emerging learning technologies such as language laboratories in which the students had access to computer based learning material, separate or additional to classical language classes.

In its’ focus on the learners’ independence from teachers Holec’s idea of learner autonomy shows parallels to the concept of self-regulated learning that was among others investigated by Barry Zimmerman. Thus, Zimmerman (1989, p. 329) similarly argues that self-regulated students “personally initiate and direct their own efforts to acquire knowledge and skill rather than relying on teachers, parents, or other agents of instruction”. However, a core difference is the meaning Holec allocates to the learning environment for this independence. Thus, while self-regulated learning is strongly directed towards the control of inner processes of the learner, learner autonomy also includes attempts to construct and control the surrounding reality (Lewis & Vialleton, 2011; Holec 1981). This distinct account is important for the problem at stake since, as will be shown later, the management of their learning environment is a particular challenge of e-learning students. To control external as well as internal features of the learning process is, in views following Holec, an individual skill of the learner that is seen as construct separate from the actual learning goal, e.g. the development of language competences (Little, 2004 and 2012). This skill can be developed through teacher support for instance by tutoring on learning how to learn. However, the separation of learner autonomy from other learning goals implies that, when a learner once has become autonomous in one discipline, no further support through tutors would be needed even when approaching a new learning subject (ibid.).

b. View 2: Learner autonomy as integral part of all development processes

David Little, emeritus Associate Professor of Applied Linguistics at the Trinity College, developed the concept of learning autonomy further by integrating it to learning theory. Basing his ideas on Lev Vygotsky’s work on child development Little argues that equally as other higher psychological functions such as thinking and speaking “our psychological autonomy derives from social interdependence” (Little, 2004, p. 20). Therefore, whereas in Holec’s account of learning autonomy, the teacher’s role for the development of learning autonomy is reduced to providing counselling on learning how to learn, Little emphasizes that social interactions with teachers and peers are essential for the development of learner autonomy. Moreover, following the constructivist view on learning he argues that learner autonomy is not only a desirable additional skill in the sense of self-management, but that it is an integral part of all meaningful learning as learners

become increasingly capable to fulfil tasks and social functions independently (Little, 2004 and 2012). In these terms, learner autonomy has to be developed in a continuous process through the learner himself and simultaneously is an important goal of educational processes. In this process the learners extend their autonomy by building on what they already are able to do. He illustrates this view using Vygotsky's *zone of proximal development*. This zone is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). If we thus imagine concentric circles, the distance between the circles can be interpreted as zone of proximal development, while the circles themselves are differing levels of learner autonomy that can be reached by the learner. "[I]n any extended process of learning, the autonomy that we achieve at one stage provides an essential springboard to the next" (Little, 2004, p. 21). This model can also help to understand tutor's role in the development of learner autonomy as they can facilitate this process by providing effective learner support to which is commonly referred as *scaffolding* (McLoughlin, 2002, p. 149). Hence, in contrast to Holec's understanding of learning autonomy Little's approach provides a basis for further discussion of tutors' tasks and roles in formal online courses for development of learner autonomy. Therefore, in the following Little's view will be adapted.

c. Three principles for scaffolding learner autonomy

Drawing inference from the above theoretical thoughts, Little adds a further principle to the concept of learner autonomy. While keeping Holec's ideas about learner's responsibility for defining targets, methods and contents (*learner involvement*) as well as the monitoring and evaluation of the learning (*learner reflection*) he defines this third dimension as *appropriate target language use* (Little, 2004, p. 22). In doing that, his considerations are apparently focused on foreign language learning. However, they have the potential to hold explanatory value also for other contexts. Little's principle expresses that a language learner from the very beginning should be surrounded by the target language in everyday class activities such as selecting goals, discussing tasks and evaluating results. He illustrates this point with the example of a language teacher, who by fostering the rigorous use of English language in the classroom provided the framework for the development of an English-speaking classroom community and at the same time provided individual support to the learners to become increasingly autonomous actors in this community. This matches with Herrington's (2006, p. 235) description of authentic tasks. According to him, in authentic tasks "students become immersed in problem solving within realistic situations resembling the contexts where the knowledge they are acquiring will eventually be applied". In addition to that, the example emphasizes the importance of building a community of practice. Thus, Little's third principle of learner autonomy can be generalized into *immersion into the target community of practice* or as *authentic learning environment*.

This allows us to derive following core areas for scaffolding the development of learner autonomy: 1) to facilitate *learner involvement* through including them in definition of learning goals, selection of contents and techniques, 2) to promote *learner reflection* through supporting self-monitoring and self-evaluation of the learners and 3) as far as possible, to scaffold the immersion of learners in an *authentic learning environment and community of practice*. In this way, learners can develop their autonomy and their main target skills in interaction with each other.

III. Learner autonomy in the case of university online courses

The discussion in the previous chapter has shown that social interaction is crucial for the development of learner autonomy and, as White (1995, p. 209) analyzes, that a “self-instruction context for learning does not automatically equate with learner autonomy”. To further investigate the online tutor’s roles in assisting learner autonomy it is necessary to be aware of the particularities of e-learning environments and the involved players in this respect. Thus, online courses have specific advantages and disadvantages that might attract a different student body than face-to-face classes. This chapter aims to discuss the special conditions that might influence possibilities of tutor support for learner autonomy and respective design decisions.

a. Who is the online student?

“[S]ince most distance learning universities employ an “open entry policy” (sometimes called “open admission” or “open enrollment”)—a type of unselective and non-competitive admissions process without entry requirements, the students enrolled in online courses tend to vary widely in their previous academic achievements, prior experiences, and relevant skills” (Lee & Choi, 2011, p. 616). However, the question ‘What benefits do students see in online education?’ can give important hints to successfully adjust online tutoring to the needs of students. Hagel and Shaw (2006) have investigated students’ perception of three different study modes: face-to-face courses, paper based courses and online courses. They found that students base their decision of studying on-campus or off-campus on a trade-off between two core variables. On the one hand, they consider the engagement of the studies, which comprises interaction and perceived success of learning. On the other hand, functionality, i.e. convenience, time-efficiency and flexibility, seems to be a decisive factor. Overall, Hagel and Shaw discovered that students estimate face-to-face classes higher in their engagement but online and paper-based courses higher in their functionality (Hagel & Shaw, 2006, p. 285). This might lead to the consequence that especially people in full- or part-time employment, with family responsibilities or people who cannot attend on-campus courses due to physical constrains, e.g. foreign students, prefer to enrol in online courses. Moreover, limited program options offered by conveniently located institutions can be a reason for choosing online courses (Ludwig-Hardman & Dunlap, 2003). However, when taking into account the study modes, students actually chose, it appears that off-campus students do not see as big differences in engagement of studies as on-campus students. The authors propose the explanation “that off-campus students attend this way because they experience sufficient engagement in their course regardless of the study mode” (Hagel & Shaw, 2006, p. 298). Further, an important influence on the perception of functionality seems to be the tenure of the student. “As on-campus students moved from the first to second year of their course they were more likely to find print and web more functional” (ibid.). Beside that, no significant differences of perception of study modes depending on demographic or situational factors such as gender, parental status or experience with ICT were found.

What does that tell us about scaffolding learner autonomy? Are online-students per se self-sufficient, experienced learners, who do not have a need for interacting with peers and tutors but value the flexibility of web-based courses? Although, that might be the case for some students who stay in and successfully complete online courses, it is certainly not the case for all students who start them. “Perhaps the most striking coincidence is that they enter into training in a VTLE [virtual teaching and learning environment] without knowing what being an online student consists of, what they have to do, what it entails and how to perform optimally, without having received

training in this respect" (Borges, 2007, p. 4). Therefore, a look at the reasons for dropout seems to be fruitful to gain a further refined understanding of students' needs for scaffolding their learning autonomy.

b. What are reasons for dropout?

The percentage of dropout from online courses is very difficult to estimate, as some universities do not keep record of students who drop out in the first period after the start of the course and most are not keen to publish respective data due to bad promotion (Willing & Johnson, 2009). Therefore, the numbers in literature differ regarding the actual level of online-dropouts as well as the definitions what exactly can be considered as dropout. Thus, some researchers take into account only voluntary dropouts while others also include involuntary dropouts through failing the final assessment (cf. Lee & Choi, 2011). However, the authors agree that withdrawals from online education can be estimated to be significantly more numerous than dropouts from face-to-face courses (Frankola, 2001; Willging & Johnson, 2009; Park & Choi, 2009; Lee & Choi, 2011). "Some studies roughly estimate that students enrolled in distance education are twice as likely to drop out than on-campus students" (Willging & Johnson, 2009, p. 115f.).

The reasons for dropping out of a university course can be manifold and are as individual as the students themselves are. Nevertheless, there can be identified reasons that are particular for quitting online courses. According to Willging and Johnson (ibid.) "demographic variables do not predict likelihood of dropping from a program". Instead, Lee and Choi (2011) identified in a wide-ranging literature review of recent studies on e-dropouts three core areas influencing students' dropout decision: 1) student characteristics, 2) course factors and 3) environment factors. For the *first group of factors* it appeared that students who can draw back on relevant previous professional experience or undertook academic studies before, were less likely to drop out than for instance first year students. Furthermore, lack of computer skills and management skills, such as the capability to estimate how much time and effort a specific tasks requires, managing time, balancing multiple jobs and dealing with crises seem significant for students' withdrawal from a course (ibid., p. 607). Additionally, students who see the responsibility for success or failure with themselves instead of with others or with environmental factors are more likely to complete their course. Lynch and Dembo (2004, p. 11) add that "learners with low self-efficacy perceptions will likely be less autonomous and will therefore have greater difficulty completing the course successfully than those learners with high self-efficacy perceptions". To Shea and Bidjerano (2010) both self-efficacy and effort regulation are indispensable for success in online contexts. Regarding the *course factors*, the literature review showed that students' perception of relevance of tasks, prompt feedback through tutors and students' involvement in team building activities contribute to persistence. Moreover, "students who actively participated in learning interactions, especially with teachers and contents, were more likely to complete and retain in online courses" (Lee and Choi, p. 609). In this respect, Park and Choi (2009) show that opportunities for applying newly acquired knowledge in real situations are important to give learners the feeling that the skills and knowledge obtained from the course are useful and satisfactory and motivate them to persist in the course. With respect to *environmental factors*, the studies analysed by Lee and Choi (2011) proved that students who did not enjoy the emotional and financial support of employers, family and friends were less likely to complete the course. Further, changes in work environment such as an increase in workload or changing responsibilities have negative effects on persistence.

Considering these observations in relation to the dynamic concept of learning autonomy provided by Little seems to be fruitful to attempt an understanding of e-dropouts. Thus, the fact that students' likeliness to dropout decreases when they estimate tasks to be relevant for them might be explained through the theoretical approach that students construct their own knowledge based on their previous experience and in relation to their environment. It hence also gives reason for the need for authentic tasks. Further, the higher dropouts of students with few previous course related professional or academic experience re-emphasizes the importance of the tenure of the student for successful e-learning and underlines the need to give special support to this group. The analysis of the dropout-factors supports also the need for interaction. It thus provides valuable information for defining guidelines for successful learner support through tutors. At the same time the discussion of the students' perceived benefits of e-learning has shown that keeping in mind the reasons for studying in online courses instead of in face-to-face modus is important to prevent exchanging the dropout factor of one student with factors that provoke others to leave or not to start the course at all. Thus, the need for flexibility of e-learning students might stand in critical tension with the need for interacting with teachers. This special interaction relation is subject of the following section.

c. Student-teacher interaction and tutors roles in online courses

The physical disconnection of learners and tutor might provoke the estimation that teachers' importance in online settings diminishes to a marginal component. Indeed, the level of student-teacher interaction in online courses in general can be estimated to be lower in comparison to classroom-based courses but higher than in paper-based courses (Hagel & Shaw, 2006, p. 285). However, it depends much on the actual implementation of the course. Also online settings provide a large variety of options for interaction. Examples are video-chats, emails or, more indirectly, the interaction through beforehand prepared question and answer sections. Depending on the use of these tools, an online course can be designed rather asynchronously or rather synchronously (ibid.). The importance of a good balance has become apparent in the previous section. While asynchronous interaction such as via email provides a higher flexibility that might be valued especially by experienced learners, inexperienced students can be better supported through more direct communication².

This draws attention to a special challenge online-tutors have to face in contrast to their colleagues working in a physical classroom. They need to develop an understanding for the learners and keep sensitive towards learners needs although most of the time they are remote from the students and their learning environments (White, 2005). Beside the mastery of their subject, they need to be forward-thinking to estimate the probable needs and questions of their students. In this way, while in conventional courses the teacher takes the role of the "[s]ubject-expert, classroom-facilitator and guide on the spot" (Hagel & Shaw, 2006, p. 285), in online settings he additionally takes the function of an instructional designer and indirect guide through pre-packing learning materials (ibid.). Although technology as interactive material can take over some tasks of the tutor, e-learning does not mean less work for the pedagogic staff as it involves much preparation that might entail long iterative design processes in an interdisciplinary team. Knowledge of the student profiles such as their motivation for participating in the course, their social and professional

² Regarding the use of different types of interaction, Woo, Herrington, Agostinho and Reeves (2007) provide examples where synchronous online chats were scheduled weekly as question-answer sessions and discussion boards were used for more in depth discussions.

background can significantly facilitate this preparation. Also during the implementation of the course, the tutor remains an important bridge between the virtual classroom and the learners needs on the one hand and the design team on the other hand.

A further factor to take into consideration is that "home, social and work environment remain important in distance education as study normally takes place in the home and most students have a full-time job to complement or conflict with their study" (Lee & Choi, 2011, p. 595). In contrast to face-to-face classes, the learner is not corporally surrounded by the developing community of practice and thus might have more difficulties to get immersed. Resulting from that is the instructor's task to facilitate the establishment of relationships and communication between the students through moderating discussions and selecting appropriate tasks and design elements. Through that, s/he also supports that other students can take the position of a tutor for less capable peers.

IV. Aspects of online course design for effective scaffolding of learner autonomy

This chapter will synthesize the above-examined special challenges for instruction in online settings and the three principles for supporting learner autonomy. Therefore design elements will be defined that can serve scaffolding learner autonomy. The listing does not claim to be exhaustive but only to provide examples how the different dimensions of learner autonomy can be approached. In fact, other studies have focused on the important elements for designing effective online courses (Boud and Prosser, 2002) and on the students' self-regulatory attributes that can predict success in online learning (Lynch and Dembo, 2004), but the emphasis of this paper is on the scaffolding of the students' autonomy, understood as the active involvement of students in planning, monitoring and evaluation purposes, that can be developed through interdependent and socially mediated learning processes (Little, cited in Benson, 2007).

a. Encouragement of learner involvement through including learners in determining learning goals, contents and techniques

Accepting the responsibility for the own learning is according to Little (1995) the basis for learner autonomy. The likeliness, that a learner recognizes this responsibility is greatest if he or she sees the relevance of the required learning task for the own development and as far as possible takes an active role in determining learning activities. In the following are presented four ways to facilitate the learners' identification with the learning content and, with that, to stimulate involvement. The examples are listed according to their restrictiveness in increasing order.

First, the employment of diagnostic procedures before starting the course can help to assist a biggest possible match between task and personal objectives. This can be done for instance through consulting an advisor or completing an online quiz or test prior to enrolling. However, the diversity of students regarding their background, as discussed above, may complicate a matching of the task to the students' interests, as it is not possible to prepare for the specific interests of each individual. That leads to the *second* strategy, to design the course as far as possible flexible and adaptable to learners' context. Meaningful learning starts from student experience. This entails the need for the student's "power and freedom to look past the schedule and plans of the course designer, to decide which parts of the course they will engage with and how" (White, 2005, p.

172). Although, the content and organization of a course in most cases cannot be completely left to the students' preferences, tutors and course designers should allow for a certain flexibility for instance through permitting a choice out of a variety of tasks or topics that lead to the development of similar competences. Allowing students to adapt tasks and problems to their contexts and to apply knowledge to particular aspects of their work or academic subjects can also be very helpful. If a course is structured into specific sections, designers and pedagogic staff could consider presenting the contents not in a linear form but portraying the material based on the idea of a network design similar to a concept map, that allows students to start at the point that seems most familiar and most interesting to them. Cultural aspects should be taken into consideration avoiding stereotypes and analysing the cultural assumptions built in to the activities (Boud and Prosser, 2002). *Third*, tutors can help students to develop a consciousness for their needs, articulate their goals and relate the course contents to these objectives as well as to their prior experience. "When students consider *why* they engage in learning activities they are reflecting on their motivation [...] for learning including the energy of activity and the direction of that energy towards a goal" (ibid., p. 88). This strategy can also be used if the course design does not allow for a higher level of flexibility due to organizational constraints. In addition, hearing or reading from other students and their experience can help students to build up a connection to the topic and see its relevance for their own development process. The teachers' task is to facilitate this process through moderating discussions and caring for the provision of appropriate tools. Furthermore, they can help through counselling students on how to engage with the material and what learning techniques to use. *Fourth*, a simple way to help students to understand the big picture of course design and content is providing tables of contents or "trail maps" (Dobrovolny, 2006, p. 165). Likewise contextualisation, e.g. through the presentation of case studies, simulations or real world videos, is important to help students see the importance and meaningfulness of what they are going to learn and encourage motivation.

Apart from that, the dropout factor analysis showed that beside a missing personalization of the learning process also external context factors can impede the involvement of the student in learning and with that the development of learner autonomy. Thus, tutors should also be sensitive towards problematic study context factors such as emotional problems or distractions at home and give students' advice to bring them into balance with the study aims.

b. Promotion of learner reflection through supporting self-monitoring and self-evaluation of the learners

The second principle identified through the discussion of Little's concept of learner autonomy refers to the managing of the learning process. The analysis of dropout factors and the benefits students perceive in online courses revealed the high importance of adjusting the level of support to the needs of the student, as inexperienced learners are likely to dropout due to lack of support whereas students who already possess sufficient autonomy see the specific benefits of e-learning in its convenience and flexibility. "Investigation of the experiences of distance learners—when they first enter distance education, and then as they progress—reveals that they devote considerable time and energy to dealing with their own learning processes and managing themselves in the new environment" (White, 2005, p. 169f.). Also in this case, diagnostic methods to estimate the need for support before starting the course could be helpful. Tutors can for instance ask for the number of years studied or if the student already completed online courses before to roughly guess the level of support needed by the student.

Then, tutors can provide two types of scaffolding: *external* and *internal*. What is meant by *external* scaffolding is building a formal orientation framework through individual learning agreements or interim deadlines, i.e. making the learning process explicit. A softer strategy is to ask about the learning progress in short personal correspondence and to send midterm reminders. Lee and Choi (2011, p. 116) point out the importance of short well-timed information instead of voluminous information packages in the beginning of the course as in the latter important information are more be overlooked and forgotten. However, making explicit from the very beginning the periods for activities and submission as well as leaving extra time at the end for the recovery of pending activities can help students manage their time with certain flexibility and autonomy. In addition, particular limitations with the use of technology should be taken into account and clear instructions how to use specific tools (forums, virtual tutoring etc.) should be provided. Furthermore, the insights gained through looking at the e-dropout reasons emphasize the need for prompt feedback through the tutor. This applies also to contacting technical support. Through checking their own performance against the external feedback, the learners might become more conscious about their own internal construction of the learning goals in comparison to external expectations and through that also develop an increased capacity to monitor, evaluate and manage their learning (Nicol and Macfarlane-Dick, 2006, p. 9).

However, tutors can also scaffold the building up of *internal* control more directly. Responsibility for the own learning goes hand in hand with the "capacity to reflect on the content and process of learning with a view to bringing them as far as possible under conscious control" (Lee and Choi, 2011, p. 175). As Abrami et al. (2011, p. 88) formulate it: "When students consider *how* they engage in learning they are addressing the strategies and techniques for knowledge acquisition." In distance education, one of the most important strategies to do so is metacognition. Metacognition is the process of self-monitoring that involves self-assessment and self-correction (Dobrovolny, 2006, p. 156ff.). It presupposes knowledge of ones' own strengths and weaknesses (ibid.), the own learning type, and strategies to facilitate the own learning.

A possibility to support metacognition through course design elements is building in self-assessment elements after each section, log-in-session or a particular exercise. The creative possibilities range from very simple assessment ("I understand"; "I am confused"; "The section is not relevant to me") to more elaborated questions that refer specifically to the content of the recently completed task. Further, students could be asked to assess their needs for proceeding further, such as "I need further reading on this"; "I need a helpful discussion"; "I need to practice" or "I want to finish this section and take the next step". Intervention and reaction possibilities through the tutor can be included in the design through making the self-assessment visible for the tutor and possibly also for the peers. The latter also have the potential to act as tutors, especially if they are at the same point in their own learning process. The use of rubrics for peer evaluation can also enhance students' reflection and self-regulation as in this way they train to make objective judgements against set standards of assessment (Fernández March, 2010; Nicol and Macfarlane-Dick, 2006, p. 9). However, it is equally important to allow in the course design for spaces that keep private and where students can take notes and do self-reports without being checked by tutors. Another important element for promoting self-regulatory cognitions and learner autonomy can be the facilitation of structured, asynchronous online discussions, as the engagement in online discussions requires students to rethink their understanding of the content before posting a response (Vonderwell, Liang & Alderman, 2007, p. 319).

c. Scaffolding the immersion of learners in an authentic learning environment

Little's third principle of learner autonomy emphasized the need for the immersion in authentic learning environments to develop autonomy. This includes authentic tasks as well as the need for social interaction in a community of practice. Both can be supported by sophisticated course design and tutor intervention. The "autonomous learner has the means to transcend the barriers between learning and living" (Little, 1995, p. 175) and as elaborated above can see the relevance of the learning task for own development. Authentic tasks have inherent characteristics that make it easier for learners to bridge the gap between the classroom and student's working and living reality. According to Herrington et al. (2006, p. 236f.) they have real world relevance, "[p]roblems inherent in the activities are ill-defined and open to multiple interpretations", involve multiple learning resources and complex activities on which students need to work on during a sustained period of time. Online courses can easily introduce such authentic activities since the web offers access to an enormous amount and variety of information, including the visualizations of complex phenomena, practical simulations and other forms of real-world and simulated data that students can transform, apply and reinterpret through meaningful interaction (Woo et al., 2007, p. 37-38). When the task is complex or demanding, it should be presented in sub-tasks, parts or elements, incrementally challenging, so that inexperienced students gain confidence on a positive outcome and do not return the responsibility for learning to the tutor. Ensuring that students get regular feedback is important. Another possibility for scaffolding the immersion of learners in an authentic learning environment, is to model best practices or provide examples, e.g. through real experts' work or the analysis of the characteristics of a particular authentic task (ibid., p. 41; Bezanilla, 2008). Also, working in groups in different projects, for example researching on different countries using real data (Hui & Koplin, 2011), and sharing their results and experiences through videoconference or forums can encourage the connection of what students are learning to wider work and the development of multiple perspectives, which are inherent elements of an authentic learning task.

Beside the complexity and relevance of the task, equally as for the development of learner autonomy based on Vygotsky's theory, Herrington et al. (2006) argue that the opportunity to collaborate is crucial for authentic tasks. However, the physical distance of learners, their peers and their tutors in online settings as well as the strong presence of home and work while studying make it more difficult to establish this collaboration and the development of a vivid learning community. Research on how to do so was conducted by Gunawardena et al. (2006). They base their approach on the theory of distributed cognition. This theory states that knowledge and expertise is not the property of an individual but is distributed among persons, tools, artefacts (e.g. books), symbols, etc. and can unfold in interaction between them (ibid., 2006, p. 218). In a community of wisdom, as the authors call it, knowledge is the glue that holds together the members of the community. It "shares a common mission, engages in reflection and dialogue, believes in mutual trust, respect, and commitment, cares for the common good, and empowers its members" (ibid., p. 219). What is the tutors and designers role in building this community? First, they can *support the common creation of knowledge* through initiating, moderating and summarizing discussions or constructing tasks in a way that requires interaction. "In a wisdom community, assessment must reward collaboration and products developed within the community, rather than individual achievement" (ibid., 2006, p. 220). The authentic task serves as common challenge in this collaboration. However, the successful engagement in interaction activities may

include some training on how to participate (Koszalka & Ganesan, 2004). Limiting the number of students in the class to a manageable size might facilitate trust building among the members and lead to deeper exchange of ideas. For the same purpose, virtual space for pre-public dialogues in small groups should be provided (Gunawardena et al., p. 226). Moreover, designers and tutors shall *provide means to record* but also *to access knowledge at a later point of time* (ibid., 2006, p. 221). Technology in distance education makes it easy to do so but also particularly relevant especially if communication is organized asynchronously. Possible means are for instance chats, videos, concept maps or files with the product of work. In this way, supported by technology, mentoring can be distributed among the peers and help individuals to reach increasing levels of autonomy. Choosing the best technologies for specific purposes is an important challenge, though. A study by Parker, Maor & Herrington (2013) on the design of an authentic online professional development course for instance showed that the blog was not an efficient tool for enhancing reflection among participants (blogging purpose was not clear and was time consuming) so that it was replaced with a forum, an easy tool.

In summary, the given examples illustrate that for fostering autonomous learning it is not sufficient to focus pedagogic efforts on the individual and its independent solution of tasks. Instead, it was shown how interaction in a community of practice when working on authentic tasks could support the steady development of individual learner autonomy.

V. Conclusion

The concern of this paper was to throw light on the paradigm of learner autonomy that is frequently named as crucial factor in literature on online distance education but is rarely examined deeply. The work does not conceptualize genuinely new learning approaches but argues for systematically including reflections on learner autonomy as important goal of all learning processes into the design and tutoring of online courses. For that, literature was reviewed regarding appropriate strategies to scaffold the development of learner autonomy. It became apparent that tutors hold multiple important roles in this process, as learner autonomy is not equivalent with leaving learning to the exclusive responsibility of the student and in no way occurs inevitably in distance education. It rather evolves in a process of social interaction where also more capable can take the role of the tutor. A high responsiveness of instructor and course design to the level of autonomy a student already has is crucial for not infantilizing some while leaving behind others. Tutors and designers thus set the framework for how far and in what areas learners can unfold their autonomy.

Three principles for effective scaffolding of students' autonomy in online courses have been defined in the paper: encouragement of learner involvement through including learners in determining learning goals, contents, activities and techniques; promotion of learner reflection through supporting self-monitoring and self-evaluation of the learners; and scaffolding the immersion of learners in an authentic learning environment. Moreover, concrete examples of how to approach them when designing university online courses have been presented. It is acknowledged that the above-formulated approaches are ideal examples and that the limitations of time, funds and personnel for online courses make cuts and compromises necessary. In these compromises, feedback from students and tutors on success and failures on autonomy development should be taken into consideration for design decisions and improvement. Further research could focus on

testing empirically these design aspects and see which of them are most crucial for developing autonomy in online learning.

What has remained unaddressed in this paper, but is crucial for the implementation of the above-elaborated strategies to support learner autonomy, is that tutors need to possess a high level of autonomy as well and that they need to be trained to be able to design and incorporate scaffolds for learner autonomy in online courses. Since working in authentic learning environments is important for the development of autonomy, attention should be paid to finding ways to support and encourage educators to design authentic online learning environments. Also, additional research on the relation between autonomy, engagement, self-regulation, authentic tasks, sociocultural theory and teacher development in online education settings is needed. This paper advocates that more attention to learner autonomy could help more students to successfully complete their course and thus contribute to decrease the high dropout rates in e-learning.

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