The Reciprocity between Learning-Content Management System (LCMS) and the Assessment of Learners in E-Learning Courses / Liat Eyal

Abstract

Assessment constitutes an integral part of the teaching and learning processes, contributes to teaching, and promotes learning. This research was motivated by dissatisfaction with the assessment methods prevalent in online courses, which reflect a lack of connection between learning processes and assessment processes. Online learning creates new challenges in the field of assessment, and technological tools such as learning content management systems may provide an adequate response to organizational, managerial, and pedagogical difficulties in this field. The primary goal of this research is to clarify the challenges faced by online course tutors in the field of assessment; this while locating, planning, and experimenting with technological solutions and the didactic considerations accompanying them, as well as constant evaluation of their suitability to diverse needs.

The report presents four action cycles, each of them having a core challenge and the corresponding research question at its center. The intervention plan in the researched online courses, its execution, and the subsequent data collection are described in this context. Each action cycle produced insights and conclusions leading to the next challenge.

The **first action cycle** centered on the research question: How can teaching-learning processes be better integrated with assessment processes? On this basis, an intervention was planned that focused on developing short-term performance tasks and assessment indicators, integrating them into the online courses, and accompanying the learners in their implementation. Analysis of learner products and feedback suggest that breaking the learning process into short-term performance tasks and indicators benefits learning in an online environment and strengthens the affinity between the course's goals and the learner products. The products optimally reflected the learner's learning process and contributed to the development of his abilities to locate and organize information, to make decisions, and to perform independent

research. Nonetheless, orientation and information management difficulties came up in the discussion group.

The **second action cycle** centered on the research question: How can the formative - assessment processes be improved by using a Content Management System (CMS)? After setting didactic considerations for integrating the system in teaching-learning processes, its components were intelligently integrated into the online courses. This trial suggested that a CMS is not just an infrastructure for managing and publishing content and learning material in an online course, but also a didactic-pedagogical infrastructure for all teaching, learning, and assessment processes. The system created opportunities to vary and improve learner assessment processes in the online course: carrying out research projects, working through complex assignments, assessing peer learners, and learning collaboratively. During the trial, new learner assessment criteria evolved. In addition, the system provided a partial response to the organization and familiarity difficulties that arose from the previous action cycle. This feedback led to a decrease in the significance of the discussion group as a central instrument in the online course, and the use of more efficient alternative tools was expanded. Working with online course tutors proved that integrating pedagogical-didactic support with technological support was indispensable. The diversity of learning actions and the multiplicity of the products provided by the CMS necessitated efficient organization of time. Present research data suggest that online course tutors have difficulty with managing and organizing assessment information, as well as with coping with the volume of data and products.

The **third action cycle** centered on the research question: How can a Learning Management System (LMS) aid the tutor in coping with the managerial-organizational load in the online course, effectively improving assessment processes? For this purpose, an LMS was specified and a system operation pilot was implemented. In addition, peer tutors received guidance on the intelligent integration of the LMS into online courses. Information gathering included documentation of the implementation processes, a feedback questionnaire for the teachers, a focus group, analysis of online course sites, analysis of documents, a reflective journal, and peer interviews. Research findings suggest that in addition to the tasks that a tutor can develop in the online course using a CMS, the LMS enables managing assessment

processes as a whole. In the researched courses, efficient use of the LMS resulted in a decrease in the tutors' workload; leaving them more time for planning, developing, and updating adjusted assessment items, monitoring learners' performance at different stages, giving personal feedback to each learner, referring to additional information resources, and, at any given time, getting a personal and group profile for planning the rest of the course. The organized and up-to-date database facilitated informed and unintuitive decision making. In addition to the advantages to the tutor, it became clear that the system also provides advantages to the learners by catering to a variety of learning styles and strengthening the personal relationship between the learners and the tutors. Alongside its advantages, the LMS presented limitations such as overuse of closed assessment items and overlooking of self-direction in learning, including collaborative learning.

The **fourth action cycle** centered on the research question: How can the skills of self-direction in learning and reflective ability be developed in online course learners? For this purpose, a consideration system was formed that focused on unique applications of the system tools for content and learning management. Unique assessment activities, such as self-assessment, personal practice, and reflection were integrated. Technological tools that aided in building these activities included interactive questions with instant feedback, anonymous open feedback, polls, self tests, blogs, and a wiki. These findings suggested that the unique technological tools may make self-directed learning processes more efficient. However, to achieve efficient use of tools such as blogs and wikis, it is important to implement three prerequisites in the learning process: 1) To pragmatically base principles of freedom and choice, and create a community of learners that are not afraid of inter-exposure; 2) To develop awareness, deepen self-assessment ability, and ensure internalization of the subject matter; and 3) To develop reflective ability. These unique assessment methods develop the learner and encourage him to empirical, personal, and open learning. The assessment is made by the learner himself, who develops autonomy and internal authority in relation to learning and assessment. The teacher assists and supports in a way that makes it possible for each learner to choose or create standards according to his needs.

The anonymity allowed in feedback or poll response affords the learners full freedom of expression and the ability to assess their position relative to others at any given time. The absence of face-to-face encounters at these stages is an advantage – learners work by themselves, enabling introspection and reflection, without the need to report to a group and with no time limitation. It seems that distance learning may aid in implementing stages 1 and 2 of the development of personal introspection and awareness. The transition to stage 3, however, is not trivial. The tools and experience accumulated in online courses still do not provide an answer to the question, how can distance learning tasks be structured so as to afford emotional and social activity of an experiential-empirical character.

This work presents a model, the purpose of which is to aid online course tutors in intelligently planning the assessment processes in accordance with advanced assessment approaches: the action cycles reflect the development of online course learner assessment methods. At first the assessment methods are of a traditional character: the teacher is the one setting criteria for assessment, planning student assignments, collecting information about the learning, and using it to improve the results of learning and plan the rest of the teaching. In this stage, centralized assessment technologies, such as interactive questions and computerized tests, individual knowledge tests, knowledge mapping tests, and comparative tests are used. The important principle of providing assessment as close in time as possible to the time of learning is addressed by the instant computerized feedback afforded by these tools. This automatic assessment allows the tutor to dedicate his time to analyzing the results of the learners' tests and seeking possibilities for improvement with each learner. In this approach, the use of an LMS system is essential for monitoring learners, analyzing their personal and group progress, and getting information about the teaching's effectiveness.

The more learning processes progress, the more involved learners are in the assessment activities, and the less involved the tutor is in them. The tutor shares information about criteria and how they are set with the learners, and composes, fits, and gives tasks to learners. Together, they collect information about the learning. After the tutor documents and summarizes the information, he discusses the results with the learners, and together they interpret them. The conclusions are used to

planning future teaching and aid improving the definition of tasks and the development of the learner. It is recommended that this assessment include the response tools, which encourage discussion between the learners, and peer assessment, for example, talkbacks, discussion groups, and feedback questionnaires. These can be used for information collection, its concentration, and presentation anonymous way to learners, as well as for planning the rest of the learning. Inter questions and computerized tests will be used only for the personal training learners in specific subjects. The use of an LMS is recommended for tracking project submissions and performance tasks, especially for feedback and dialogue between the tutor and the learners.

Towards the last third of the learning process, personal assessment is a big part of assessment processes, and most of it is transferred to learners. The role of reflection is expanded, and the feedback is mostly given by the learner to himself. The tutor intervenes only if he has to assist in removing obstacles to the learner's progress. This intervention is done by feedback that promotes self assessment and self-feedback of the learner. In this way, teaching and learning are concomitant with assessment processes. The assessment focuses on the learner's ability to use knowledge previously gained to cope with new situations, as well as his ability to apply this knowledge to direct his didactic activities. It is recommended to use an assessment technology, such as feedback questionnaires and polls, for assessing the learner's stances in relation to others and personal conclusion-making.

At the same time, it is recommended to severely limit the use of technologies such as interactive questions and computerized tests, using them mainly to encourage reflective thinking or for learner self-assessment. As the need for an LMS as an instrument of managing tasks, products, and feedbacks decreases, the use of "open" tools such as blogs, reflective digital journal, self-assessment reflection, and wiki systems for building collaborative knowledge and peer learning expands.
From this work of research, it is clear that the use of technology contributes to and enlarges the tutor's teaching capabilities, enabling the tutor to perform holistic assessment, which is an inseparable part of the teaching and learning processes.

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