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Role of E-Learning Based Higher Education in Sustainable Development

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Abstract

E-learning in higher education can be of great importance in effective life-long learning education for sustainable development in a population of students who are all together full time employees. The aim of this research was to assess the Education of Sustainable Development effectiveness through e-learning in higher education in a case study.
The six scope analysed were:

- *General outlook;*
- *Learning Quality;*
- *Teaching Resources,*
- *Educational tools and Evaluation;*
- *Acquire competences in education for sustainable development.*
- *Data was collected using semi-structured qualitative interview.*

The results show that the survey students feel that they attained a high level of inspiration and fulfillment, and had reached an efficient learning outcome of knowledge, competences, values, attitudes and behavior in environment and/or sustainability sciences. In this way, Education for Sustainable Development in an e-learning regime can contribute to, and have a role in, the transition to sustainable societal patterns

Keywords: *ESD, SD, ICT, VLE, E-learning.*

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INTRODUCTION

The new electronic media were introduced into the academic as a rapid thunderstorm without having enough time to define the exact functions that they are supposed to complete or substitute. The impact of the technologies on learning and teaching, in general, and in higher education is still uncertain and open to much debate and research. E-teaching is an essential requirement for E-learning, particularly for learner students in any educational structure [1].

Education for Sustainable Development (ESD) seeks to promote and improve the quality of life-long education which is directed to the acquirement of knowledge, skills and values for sustainability, and reorienting the academic curricula (rethinking, integrating, reforming, and greening education towards sustainability), thereby raising public awareness through a better understanding of the concept of Sustainable Development (SD) Sustainability science with capacities, scientific and technical skills, methodologies and competences of its own, links knowledge to action for sustainability, embracing the principles of ESD, which is an emerging field within educational science with strong ties to sustainability science [2].

E-learning is a process that facilitates teaching and learning through flexible means using various information and communication technology.

The ICT (Information and communications technology) allows e-learning to take place in virtual learning environments (VLE) also known as learning platforms, where multidirectional communication is possible (Teacher - Student and Student - Student) [3].

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An e-learning system, which is independent of time and place, a self regulated learning process. Flexibility, interaction, teaching presence, collaborative learning and a great sense of community are very important categories in online students' discourses stated this sense of online community as a significant predictor of online learning outcomes. Online learning pedagogy allows students to have a more accurate perception of the effectiveness of their own learning [4], increasing student-to-teacher interaction, as well as critical thinking .Interaction among peers, and with teachers, is privileged by online students promoting the existence of a learning community also emphasized the teacher's expertise and role as a counselor and facilitator in learning. Students experience the teacher's support and expertise as being particularly important for the acquisition of knowledge, skills, and competences, as well as for course satisfaction. Online programmes seem to produce the same level of student performance as face-to-face courses, with comparable learning outcomes, and important levels of satisfaction, namely, in the environmental and sustainability science fields [5].

Sustainability in higher education and E-learning: motivation, competences, and attitudes

By educating decision-makers, leaders, entrepreneurs and academics. However, education and study on sustainability in universities is at an early stage in various institutions. In addition, we need to consider that organizations such Institutions tend to change at relatively slow pace [6].

The evolvement of ESD in HE could be seen in several dimensions:

- Sustainability in Policy, Planning, and Administration,
- Education (Courses and Curricula),
- Research,
- University's campus Operation,
- Outreach and Services,
- Assessment and reporting

The community aspects of a sustainable campus should be addressed, such as involvement and cohesion, diversity among student culture and gender, university/campus services and educational programmes about SD [7].

Curricular development should also be complemented with research on pedagogical approaches and their efficiency for delivering sustainability education, and educating the educator's programmes. Many institutions/universities are already actively motivated to integrate ESD into their educational activities [8].

These initiatives are focused on:

- Appropriate student learning outcomes;
- Course, curriculum and assessment methods;
- Displacing barriers;
- Changing teaching paradigms;
- Developing social competencies;
- Communication skills, and community relations, and
- Deepening their involvement in local and regional.

According to UNESCO, education system including universities should involve in the activity of spreading awareness and knowledge about ESD.

COMPETENCES

A set of competences is required to enable active, reflective and co-operative participation toward sustainable development. The integration of competences for SD in higher education programmes can be seen as an important step in achieving sustainability in higher education [9].

For higher education to address the issue of sustainability it requires a focus on the development of the following:

- A learning process to attain the relevant, but yet key, competences;
- Learning for sustainable development that requires social learning; and
- Individual learning within a social context.

These items will require a change in the teaching processes from teacher-centred to

learner-centred. Experiential learning, by reconnecting to real-life situations and focusing on real and practical life issues and actual experiences as learning situations, and holistic thinking are also determinant in achieving sustainability through ESD.

For SD, competences should pertain to gather required skill and knowledge for the same. Moreover, education should channel those skills and knowledge towards, practical and critical problem solving abilities in real life scenarios [10].

ATTITUDES

Attitude is also important. It is often necessary to change social structures. As key competences for ESD, and identify

- Competences in foresighted view
- Competence in interdisciplinary work
- Competence in cosmopolitan perception, cross cultural understanding and support.
- Participatory skills
- Competence in planning and implementation
- Capacity for empathy, compassion and solidarity
- Competence in self-motivation and in motivating others
- Competence in distance reflection on individual and educational models

CONCLUSIONS

A considerable level of motivation was reflected in the surveyed students to take up further learning of ESD. It was also seen in the results that E-learning based higher education can provide quite and a base for practices related to SD. Technology can moderate the remarkable effort given by students to gather number of printed book and journals for obtaining information and increase students' attention on more important knowledge gathering process. Equally important, technology can represent education in ways that help students understand latest concepts and ideas. Technology also enables teachers to integrate project based learning. With guidance from effective teachers, students at different levels can use these tools to construct knowledge and develop skills required in modern society such as presentation skills and analytical skills.

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