

Social Learning Theories as tools for learning in an ICT educational system

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ABSTRACT

The current study examines the effects of self-evaluation according to the nearest neighbour learning (NNL) method in the viewpoint of an undergraduate ICT subject in an Educational Department. The research questions addressed to students in order to evaluate whether they can identify their errors while working in small self-selected groups. This procedure indicates positive learning outcomes pointing that self-evaluation and NNL can contribute to an upward cycle of better learning with the potential of implementing them at all levels of the educational system.

Keywords: *learning methods in ICT, self-evaluation, nearest neighbour learning (NNL), collaboration*

INTRODUCTION

The broad use of digital technology during the last decades has changed the ways of learning (Toki and Pange, 2010). It is well established that Information Communication Technology (ICT) has a vast impact at all educational levels (Pange, 2008). Teaching and learning create a dynamic system, including teacher, student, environment and teaching method. New approaches on ICT use and educational reforms improve the ways that knowledge can be passed over to the today's active and communicational learners. Teaching in educational departments commonly use traditional methods that often do not use ICT.

Educators nowadays face a challenge to re-examine and give careful considerations on changes in pedagogy and accept new methods and techniques under the present conditions. Therefore, quality in teaching methods is identified as type of influence on high rank educational outcomes for students (Alton-Lee, 2003). Difficulties arise concerning the application of learning theories and the use of ICT. Moreover, investigators have to explore the time that teachers need to spend preparing online educational material for groups of student with different characteristics. For this reason many teachers include different learning strategies and evaluation procedures in order to prepare students for real life situations and to attempt for the best learning outcomes.

Socialization implies education (Banks, 1987; Muhlbauer, 1985) and vice versa. One of the most significant socialization mediators is school and education. In our days, the presence and the rapid expand of social media in most educational levels form a simple example of the new way of socialization and learning. Cooperative, collaborative procedures are required to connect the wide range of possibilities that the new media offer (Directorate General of Education and Culture, n.d.; Caspi et al, 2003.). Collaborative and cooperative learning demonstrate social learning which was well recognised by Vygotsky at the beginning of the 20th century. In these educational activities, learners are in touch with the tutor and other learners as they undertake tasks and projects learning through group activities, where cognition is located. Nowadays, the presence of ICT in most everyday activities, signifies the needs for collaboration and group involvement. Self-evaluation is a form of real assessment with positive adds to students' learning (Rolheiser, 1996). According to Rolheiser and Ross (1996) self-evaluation is a procedure where students judge the value of their efforts, based on evidence and clear criteria, in order to become better in their future work. They

also stated that supporting self-evaluation may encourage students to put superior ambitions.

The nearest neighbour learning (NNL) method is a form of collaborative learning method where ICT is present. This is a 'learning together' method, which additionally offers the freedom to participants to move in between formed groups and choose who they want to work with at a given time. So, the size and the members of a group of participants changes over time. This concept of NNL is applied to adult learning and requires students to work in groups formed according to their choices, (Toki and Pange, 2007).

The aim of this study was to investigate the application of the effects of self-evaluation together with the NNL method as learning tools, in the perspective of an undergraduate ICT introductory subject, in educational technology. In this study students were asked to identify errors in their own work and their group work using ICT. However, this study intends to present more broad-spectrum issues from the exact findings.

MATERIALS AND METHOD

A self-selected sample of students of an Educational Department (Early Childhood Education) of the University of Ioannina was considered in order to investigate whether they were able to improve their learning outcomes when using self-evaluation and NNL procedures. This study took place at the University of Ioannina, during 2011-2012.

A self-selected group of twenty five (N=25) students aged 18-23 years, participated in the study. The data from the students were collected and analyzed.

The procedure we followed in this study was to firstly introduce students to concepts of the subject. Then, they were asked to form groups of two or three and to write a project using educational technology for preschoolers. They were free to change partners and to move from one group to another in the first three weeks of the course.

Amongst their tasks for completing the course were included self-evaluation, their-own group evaluation and evaluation of the work of other groups. For this reason the students had to assist in three tests.

In the first test, students had to investigate (i) their own work (task1) and (ii) other members of their own group work (task2). So, in the first task, task1, students had to write a program for preschoolers using ICT and then to perform an evaluation of their own work (self-evaluation) in two months time. In the second task, task2, students were given the programs of other students in the group and were asked to evaluate them.

In the second test, the students as groups of two or three, had to evaluate together the work of other groups, (task3). The evaluation at all stages aimed to identify the errors according to recent evaluation criteria for educational material and online presentation, given from recent literature review and other online information presented during the course.

RESULTS

The data collected were processed and statistically analysed. The first test revealed that when students were evaluating others' work they could locate more errors than in their own work.

In detail, concerning online material (online books, educational sites, other online references) in educational programs, the percentage of the students who gave a correct judgment in task1 (self-evaluation) was twenty two percent (22%), in task2 (evaluation of others) was thirty four percent (34%), in task3 (small group evaluation of other group work) forty six percent (46%). In power point presentation of the project, the percentage of the students that gave a correct assessment in task1 was sixty two percent (62%), in task2 sixty six percent (66%), in task3 seventy two percent (72%). Concerning multiple educational material (videos, photos, blogs, discussion forum) in task1 twenty-two percent (22%), was complete, in task2 forty eight percent (48%) was complete, in task3 fifty two percent (42%).

DISCUSSION - CONCLUSIONS

In conclusion, we underline that students had better evaluating capacities when they worked in groups testing others' outcomes rather than their own. This is supported by the improving percentage in task2 comparing to task1. Task3 illustrates an overall average and improvement compared to task1. This implies that student while working into

self-selected groups, elaborate and learn in more productive ways. Task3 compared to task1 shows that student evaluate group work more accurately when working in collaboration. Therefore, all the above measures indicate the positive learning outcomes.

The results of this study showed that in an educational ICT subject students gain more when social learning techniques of evaluation are used. Moreover, better results are gained not only under the common educational way but also when NNL is applied. When students are asked to vigorously participate in the process by being highly involved in the learning procedure, then they learn in a systemic way following the rules of a learning system where the interaction between learners and subject taught is very strong. When students are working together they are in a better position to reflect on their learning with the group support. The group they finally decide to participate is helpful for their overall achievement of the course. This group is becoming a concrete group of students. Moreover, working and interacting within a group, the students exchange ideas and knowledge as they are trying to accomplish and complete the given task. It becomes obvious that working within a group, that allows each member to have the opportunity of sharing thoughts, discussing different perspectives, getting inspired during group processes and even teach and guide the rest on what others might not understand. Therefore, the results of this study show that students learn and absorb more information from those who know better than others and cooperate with their 'nearest neighbour' (NNL). Therefore, allocating students to work in self-selected groups chosen by themselves in order to evaluate their own work, appeared to be a good approach in a system of learning, which could not only help students to accomplish better learning outcomes but could also develop their overall course satisfaction. Overall, self-evaluation blend with NNL method can contribute to a growing series of improved learning within the potential at all levels of an ICT educational system.

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