

Based on the Communal Constructivism Course Design – an Attempt to break up the Transmission Model of University Teaching

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Abstract: *Holmes et al. (2001) have suggested that a new paradigm rises out of the symbiosis between the new immersing technologies and learning practice – the one of the communal constructivism as a further step in the development of social constructivism. Based on this paradigm design of learning experience promises to make a brake in the transmission model of teaching at the Universities. This paper aims to critically evaluate the usefulness of Holmes et al's ideas of “communal constructivism” through a case study of the way in which a blended course design based on the key ideas of communal constructivism supports students learning in a “ICT in an Social work” course at Sofia University.*

Key words: *Communal constructivism, social constructivism, case study, design and pedagogy*

INTRODUCTION

During the last decade the information and communication technologies (ICT) have become a crucial element of the university educational environment, as underlined by all key research documents of the European Union (2008). At the same time, the EC last report on e-learning registers a delay of this sector regarding the exploitation of the full potential of the ICT in the process of transforming the teaching and learning process, and in the redesign of curricula and modules.

Other reputable investigations in the field note, that regardless of the potential of the technology for revolutionary transformation of the education, the dominating learning model worldwide has not yet sufficiently changed (Garrison D.R. and T. Anderson, 2003).

That is why experts' attention has shifted from the ICT accessibility towards the problem of their ability to transform the learning process. Considering the enormous amount of information at our disposal, and technologies for its storage, processing and transfer, one of the most important questions now is the one about the most efficient way of transforming information for individual's personal use. This process is not technological by nature, but rather pedagogical physiological and social.

1. CONSTRUCTIVIST IDEAS AS AN E-LEARNING METHODOLOGY

Contemporary research clearly shows that the dominating theoretical and methodological platform underpinning e-learning throughout the world is constructivism with the theoretical variations it possesses and their practical application.

One of these variations is the communal constructivism. It is focused on constructing the learning experience in a way to create an opportunity for distributed cognition forming and functioning. As defined by B. Holmes and J. Gardner (2006), „communal constructivism is an approach to learning in which students not only construct their own knowledge (constructivism) as a result of interacting with their environment (social constructivism), but are also actively engaged in the process of constructing knowledge **for** their learning community.” (Holmes and Gardner, 2006)

Salomon and Perkins note that the distributed cognition is characteristic for “learning to learn... **from** the others, to learn **with** them, and to learn to facilitate their learning not only because of them, but also because of the contribution you make to the collective knowledge... The contribution to the collective knowledge most probably will lead to enhancing the personal knowledge as well.” (Salomon and Perkins, 1998)

Communal constructivism is characterized by the integration and symbiosis of the tendencies in learning theories development and the development of technologies. In other words, the appearance of new technologies and the possibility to integrate them in education create new variants of the learning experience, respectively new approaches

to their theoretical description. Thus theoretical and practical premises for enriching the social constructivism contents are created, which lead to its transformation into communal constructivism. The latter exists thanks to the appearance of e-learning environments, facilitating the communication and collective work of many users, without which its practical application is impossible. It is virtually the only variant of the constructivist paradigm whose existence depends on certain level of technology development.

A learning environment designed by the communal constructivist model according to Holmes and Gardner (2006) has the following features in comparison with the traditional,:

- The ideas of the learners are subject to investigation, the artifacts they produce are publically available, and are used to produce other, more sophisticated artifacts;
- The collective knowledge is of importance. The goal of the community is the permanent improvement, which requires investigation on the knowledge of the individual, followed by further development of this knowledge.
- The responsibility for learning is transferred to the learner. Students receive part of the responsibility for planning, managing, asking questions, and systematizing knowledge for the commune. These activities are part of the teacher's functions in the traditional classroom. The teacher in this model has the role of a "learning expert" and guides the practice of enriching communal knowledge.

2. COURSE DESIGN FOR "ICT IN SOCIAL WORK"

The characteristics from above were used to support the design of a course in ICT in Social Work, whose impact on the student learning experience was investigated. This paper presents the analysis of the data collected.

ICT in Social Work is a compulsory discipline for the students of Social Work specialty at Sofia University, Faculty of Education. The number of students varies from year to year and is between 40 and 60. The classes are 45 lectures and 45 seminars.

An important characteristics of the indicative content is that it is dynamic, contextually determined, undergoing constant changes in regards with the development of the contemporary technology and the diversity of social work contexts, in which they are integrated. Therefore it is very suitable for a course based on communal constructivism, in which the students are co-authors of the content.

Macro-design Level (H. Beetham, 2005)

The course can be described as a blended-learning type as part of the activities are performed in a virtual learning environment (VLE) Moodle¹, and part are in a traditional classroom.

The aim is students to develop knowledge about ICT and skills to use them, which to effectively apply in diverse professional context.

Activity management: students work in small groups of 4 to 5 people on a topic chosen in advance from a list of topics, they are also given the choice to formulate additional topic whose relevance and volume must be confirmed by the tutor.

Envisioned results: students work on a group project. The process consists of several stages: 1) investigating information resources on a given topic using traditional and online sources, developing the project structure with a reliable and up-to-date bibliography; 2) designing tools for researching opinion and conducting a research; 3) developing the topic and the presentation, and presenting the latter before audience. The presentation includes the result of research.

The assignments with the resources, as well as the presentations, are to be

¹ <http://moodle.fp.uni-sofia.bg/course/index.php>

uploaded in the VLE and are used by all students as sources for the final essay.

Micro-design level

I block of activities – introductory and information. Dominated by the traditional methods of teaching and learning (the first 5 weeks of the semester)

II block of activities – development of group projects. Characterized by balance between traditional and online modes of learning and student support. Use of the VLE for some of the activities.

III block of activities – dominated by online communication during the last stage of the course, with discussions as a main learning activity. All resources developed by the students and tutors are available for all students in order to support their preparation for the final essay on the course content.

3. THE CASE-STUDY: INVESTIGATING STUDENT OPINIONS AND ATTITUDES TOWARDS THE COURSE KEY ELEMENTS AS WELL AS THE DESIGN AS A WHOLE

The investigation on student opinion and attitude towards e-learning activities, their advantages and disadvantages over the traditional ones, towards elements of the course design and the overall educational efficacy of the course was conducted via a questionnaire, based on open and closed questions. The opinion of all 57 students who took the course during the summer semester of the academic 2007/2008 was researched on. The following conclusions and summary were drawn on the basis of this data analysis:

Most of the students evaluate extremely positively the overall quality of the course: more than 80% define it as excellent and very good.

Student opinion and their grading of the different elements of the constructivist learning design reflect the high level of realization of the model. For example, 84% of the respondents are positive about the way the tutors' team motivates them to do their best. They agree that "*this course indeed tries to make them do as much as possible*" (75%) and "*encourages them to develop their personal academic interest*" (67%). The knowledge and skills gained through the course have a great value for the future professional realization for 77% of the respondents.

Student opinion and attitudes towards the key characteristics of the design featuring constructivism and communal constructivism in particular:

- Indicative content characteristics: flexibility and student choice

One of the key elements of the constructivist design is flexible indicative content and an opportunity for the students to choose content and tasks to be performed. Students evaluate this element of the course as follows: 57% of the students believe that "*the course gives the opportunity to choose contents in the given field of knowledge*", and 53% believe that they are given "*a lot of freedom to choose tasks to be done*". However, when analyzing these data should be taken into consideration that according to research on student learning styles a sufficient number of the students would prefer not to have such a choice and to receive strictly defined tasks with well structured content.

For example, the question "*Which of the statements best suit your preferred learning strategy?*" elicited 72% of responses under the well-structured content. 54% would use authentic sources. This fact could be explained by the dominating transmission teaching model in Bulgarian higher education, yet it is clearly a matter of a learning style as well. Therefore it is imperative to consider a balanced approach concerning the flexibility of the content and the choice of tasks in order to meet student needs.

- Students as co-designers of the course content

The question “*What do you think of a course design in which students create part of the content through project development and presentation before an audience?*” elicited ranking of the potential advantages. The answers could be seen in table 1.

Table 1. Student opinion on them being co-designers

	Yes	No
Helps me hear the lectures in a more comprehensive language	65%	35%
Overcomes the monotonous listening to tutor’s lectures	70%	30%
Supports active internalization	70%	30%
Gives a chance for self-expression and experience of speaking before an audience	65%	25%
Hinders my study as my colleagues’ lectures lack quality	15%	85%
I believe that it’s tutor’s job to deliver lectures and students have to study them	22%	68%

It can be concluded that the strongest sides of such a design are related to the active internalization, the opportunities for student self-expression, and the passive knowledge gaining. Notably, the students don’t think that tutor’s job is to deliver lectures and students have to study them.

These positive numbers lead to the conclusion that such a design has a positive impact on student learning.

- Stimulating the individualized approaches to learning and student creativity

Constructivist design ambitions to stimulate the individualized approaches to learning and student creativity were checked through statements such as “*Students have a substantial choice about how to study in this course*” and “*All I need in order to succeed in this course is good memory*”. The former statement elicited 58% of agreement, and the latter - 62% of disagreement. It can be concluded that the majority of the students believe that they have a choice about how to study, and that their performance does not depend on memorizing the contents.

As for the individualization of the learning, a most of the students (69%) think that “*The tutors put a lot of effort in identifying the difficulties, which the students may encounter during their study*” and “*offer individualized support*” (89%).

- Giving out varied and constant feedback on student progress

Giving out varied and constant feedback on student progress is another key element of the constructivist design. That is why it is interesting to see how do students evaluate their assessment during the course. 76% of the respondents share that the feedback is permanent and intensive, and 62% of them believe that the assessment procedures are diverse and thorough.

In order to dig deeper in the positive evaluation the students give, we asked several open questions. They were directed towards identifying the advantages and disadvantages of the public availability of the student materials as published in the VLE, which contribute to the individual and community knowledge.

The open answers of the students are categorized and are ranked in table 2. As seen from the table, the largest number of the students put on the first place the opportunity to develop their ICT skills as an advantage. Second important is the chance for these materials to become the basis for discussions on other students’ or tutors’ side. The availability of the materials everywhere at any time was also acknowledged as an advantage. The students also mention that what is achieved by publishing the materials is not only availability, but also transparency, opportunity for self-expression

and comparison with the others, acknowledgement and feedback, etc. it can be concluded that the advantages of this design have educational characteristics and are related to the substance of learning and its efficiency for each student.

Table 2. Student open question answers: advantages of publishing student materials

Development of ICT skills	51.79%
Discussions and comments	28.57%
Fast information retrieval (time-saving)	14.29%
Acknowledgement	7.14%
Compatibility, economy, comfort, opportunity to perform	5.36%
Competitiveness, well structured, gaining knowledge and skills	3.57%
Activity stimulation during the lectures, exchange of experiences, interest Being informed, choice, availability, no time restrictions, collaboration	1.79%

The analysis of the negative sides of publishing students' materials showed that their nature is rather technical, technological and ethical than pedagogical. As it can be observed in table 3 the most influential negative side is the opportunities for plagiarism and use of unreliable sources. Some of these disadvantages can be used by the tutors as a stimulating tool to encourage students to present better works: essays, reports, presentations. This can be done through the chance for all to comment (and criticize) a work once it has been published. The answers also show that the VLE makes students' incompetence and lack of information; a fact which can be used as a stimuli for better performance by itself.

Table 3. Student open question answers: disadvantages of publishing student materials

Plagiarism	32.14%
Unreliable topics / information	10.71%
Lack of Internet	5.36%
Competition	5.36%
Technical problems	5.36%
Differences in the software used	3.57%
Topics with incorrect content	1.79%
Unscrupulous colleagues can change the information	1.79%
Compulsory participation	1.79%
Illiteracy	1.79%
Limitation to publish on the topics only	1.79%
Dependence on third parties	1.79%
subjectivity	1.79%
Free upload	1.79%

CONCLUSIONS

It is evident that ICT cannot change the learning nature, as made clear by the research so far. Yet, in the good tutor designer's hands they are a reliable too for designing a flexible and adaptive environment, which to become a precondition for facilitating learning in all students, regardless of their background knowledge, skills and competences, learning styles, motivation, and needs. A design, based on the communal constructivist ideas is one of the possible approaches to promoting such environments.

It is also important to say that there is no universally good e-learning course at university level as the variables of the system, called education, are many and in complex interrelationships. Only the tutor can have an overview of them all the time, and to adapt the design according to their dynamics. What is important for the success

of every course is that it has to be carefully designed and thought over in advance, to be applied flexibly, i.e. to be open for re-design, and to maintain constant student feedback about the design elements on the efficiency of their study. Following these directions to a great extent guarantees design efficacy, directed to supporting students in a student-oriented learning. ICT can be a reliable tool for achieving this efficacy.

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