

Collaboration, Negotiation, and Reflection: meaning-making established through grounded theory.

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Abstract

This paper investigates the use of integrated technology in order to support constructivist principles and cultivate life-long learning skills. Meaning-making and creativity in learning is best achieved when activities are structured to allow students the opportunity to interact with one another through collaboration. The investigation illustrates how technology can assist students to be engaged in collaboration – an interactional meaning-making process that supports social learning, specifically in an advanced English language course, at a tertiary educational institution. Two instructors were involved and they were responsible for 80 students who were divided into four different course sections. The participants were third year Computer Science students and had already attended two previous levels of English language training. A task-based learning approach was also applied in that students were able to achieve a number of the course objectives through this activity. It was revealed that when students are able to determine the content of their learning, to establish a collaborative working environment, and to reflect as well as assess what they have as a group and/or as an individual achieved, they are better equipped with learning skills that will accompany them throughout their entire lives. Student motivation is also high due to the autonomy given when groups are able to establish a process of negotiation and meaning-making. Particularly when students are able to determine the content, collaboration and , in this study, informal assessment criteria within their social learning environment, the students not only welcomed the task, but looked forward to working towards the final goal as well as helping others along the way. A grounded theory approach was applied in order to research the personal situated view of the learners using their own words through a reflective essay and semi-structured interviews. The reflective essays were a very strong indication that the task was collaborative and supported constructivism. Through the use of grounded theory, the shared perception of the student learning environment is brought forth and documented. It brought this meaningful experience to light. Grounded Theory is a powerful tool in fleshing out what the students think, experience and discover through the learning process.

Keywords: grounded theory, social constructivism, reflection, ICT in language learning

Introduction

For many years teachers and researchers in education have been challenged to find the most ideal methodology to enhance the acquisition of knowledge. John Dewey (1911, 1938) supported the idea that the school was the enriching element for students to acquire life-apprenticeships while Piaget (1952) found that education should provide a stimulating atmosphere for children since learning occurred through interactions with the pupils' environment. It is, however, Vygotsky (1978) and his followers who have brought about the major changes in education today by researchers and teachers discussing and implementing social constructivism, learning which takes place in a social learning environment as a social activity and not in isolation. This learner-centred approach is now gaining momentum and has convincingly shown that students acquire long-term knowledge by learning with and from each other. Through the advances of modern technology, there has also been an increase in the use of computers and different computer programmes in order to enhance the learner centred classroom.

This paper examines, through the application of grounded theory, how one task for an advanced English as a Foreign Language course can be enhanced through the use of technology outside of the classroom setting and how this integrated technology can afford constructivist principles: collaboration and social learning whilst unveiling the importance of motivation that students generate when working together. Students are given the opportunity to decide on the content of their project, to collaborate together using this content and achieving the goals set out for the task, and finally to undertake informal peer assessment.

Focus of Research

An independent study report was completed in the form of a questionnaire that was answered on a voluntary basis by the students attending foreign language courses offered by the University of Cyprus Language Centre in Fall semester 2007 (Language Centre, 2007). The questionnaire was answered by approximately 471 foreign language students, although there are approximately 2,000 students participating in foreign language (FL) coursework per semester at the Language Centre, indicating a representation of approximately one fourth of the total enrolments at the centre. These students indicated their greatest interest in improving the FL coursework offered at the university would be the inclusion of multi-media activities in the curriculum in order to create interest in the foreign language learning lesson.

Thus, two English language instructors developed a task in which constructivist pedagogy would be applied while still focusing on teaching key elements in the syllabus of the advanced English language course. Fall 2008 was considered to be the ideal opportunity to engage in the task since the Department of Computer Science had requested four sections of 20 students each to attend third semester advanced English language training assuring symmetry of action, knowledge and status (Dillenbourg & Baker, 1996; Ligorio, 1997).

The key element in the design of the task was to encourage students to work in groups and to negotiate the task set in such a way that collaborative learning would result, where collaborative learning is defined in this paper as "...joint problem solving, and learning is expected to occur as a side-effect of problem solving, measured by the elicitation of new knowledge or by the improvement of problem solving performance...collaboration is viewed as the mechanism which caused learning" (Dillenbourg, 1999 p.7).

But what kind of learning or meaning-making actually takes place here? Schoen (1983) sees learning as "reflection-in-action" as a dynamic process where action enlists thinking. Salomon & Perkins (1998) go into great detail discussing individual or social learning while concluding that both are necessary in a social learning environment. "...individuals' learning is facilitated by others, that meaning is often socially constructed, that tools serve as mediators, and that social systems as organic entities can engage in learning much as individuals do." (p.16) Therefore, learning or meaning-making is not an isolated event but one in which all members of a group offer into actively in order to negotiate/construct a joint view.

So, it is with this intention that the task was undertaken: students should work together to solve a problem and engage in a process of negotiation to achieve a set activity. Through this process, deep learning of course content would occur as well as the development of life-long learning skills such as personal communication and computer literacy.

The Task

The project had students create a two to three minute advertisement using the propaganda techniques and motivational appeals discussed and analysed through magazine advertisements in the classroom, provide the narrative of the advertisement in the English language and cite a bibliography of sources used throughout the development of the task (also a requirement of the syllabus at this level of English language training). In order to have an individual activity included in the assessment and to allow a look into the individual opinion of the collaborative development of the task, it was decided to include a reflective essay in the assessment of the

activity. The presentation of the final advertisement would take place during class time where students would have to facilitate the discussion of their advertisement with their fellow students concerning the identification of propaganda techniques applied. This permitted the instructor to play a secondary role in the discussion of the activity and also allowed class members to take a look at what other groups had produced within the same time

period. Students were allowed to comment on their own as well as classmates' projects, and an informal peer assessment activity was included at the end of the class discussion.

Key participants in the project were two English language instructors, where one instructor had much experience in teaching the third level of advanced English language training and the other instructor was a novice in teaching at this level, as well as 80 second year students registered in the third semester of advanced English language from the department of Computer Science. These particular students were chosen to be investigated since they were at the highest level of English language training offered at the university and as Computer Science students it was inferred - on the part of the instructors - that no great ICT learning curve would be required from the students to complete the task.

Methods

Sampling

According to qualitative research theoretical sampling was applied (Glaser, 1978; Glaser & Strauss, 1967). In order to collect data from all levels of participants in the project the following sampling was undertaken: (a) twenty essays of reflective writing were collected, (b) four students participated in semi-structured retrospective interviews, and (c) two instructors completed a questionnaire.

Data Collection

Twenty reflective writing essays were randomly selected by the instructors. It was decided to collect a sample of representation being one-fourth of the submitted papers – giving a true picture of students' thoughts and opinions, emphasising that the information from this sample was very indicative of the entire number of essays handed in. These essays were written in-class during a time period of 75 minutes, and all essays were written on the same day; they provided the strongest form of information in this investigation.

Four students volunteered to be interviewed which took place at the Language Centre library approximately three months after the completion of the advertisement. There was difficulty in finding volunteers for the interviewing process since students had already begun the Spring 2009 semester and were busy with their major course of study. The interviews that took place were semi-structured and retrospective in nature since students were required to recall the preparation for the project, the activities carried out during the project, and their evaluation of the project. However, students' comments were still able to confirm much of the themes gathered from the reflective writing.

The instructors were asked to complete a questionnaire in order to add insight into their justifications for offering the project, its design, and evaluation of validity of the task in the English as a Foreign Language (EFL) curriculum. A questionnaire was sent to the instructors per email and conducted retrospectively as well. The answers from the instructors also supported student themes established in the reflective writing and semi-structured interviews.

Data Analysis

Grounded Theory methodology (Strauss & Corbin, 1990; Glaser, 1978; Glaser & Strauss, 1967) was selected in order to derive new theoretical insights from the data gathered. This theory was chosen since it allowed for a retrospective analysis to be undertaken and offered the opportunity to study what had happened amongst the students from a non-biased perspective during the learning period. The data from all three different sources of sampling were analysed in order to establish opinions, behaviours, and learning outcomes drawn from the project under investigation. Grounded Theory methodology was considered as a more effective type of analysis than content analysis because the study was not interested in the frequency of themes or the frequency of participation of group members, but rather the recurrent themes and their connections to the task development and collaborative learning.

The transcripts of the interviews along with the essays were coded using constant comparative analysis according to the open coding scheme, where each source of information was analysed line by line for expressions of similarity and/or differences in order to establish any recurring themes. The initial themes in common were established and grouped/labelled together. They are evident under the “open coding” column in table 1. Recurring themes were found in all three sources of the investigation carried out whereas the reflective writing and the semi-structured interviews established very strong commonalities. These identified data/themes were then further categorized, according to “axial coding” (Strauss & Corbin, 1990), see table 1. Axial coding is the process in which initial themes can then be grouped into more definitive areas expressing the general intent of the original theme. Through this process it became evident that triangulation had occurred in that the sources of data share consistencies. These consistencies are identified as collaboration had occurred, social learning had occurred and motivation for the task had been high.

Although all sources of data provided useful for the cross-checking purposes, the reflective essays and interviews were the primary source of data for this investigation.

Table 1: Coding of data

OPEN CODING	SOURCE	AXIAL CODING
Choice of group members	Student reflective writing	Self-determination / Motivation
Choice of topic	Student reflective writing & interviews	
Motivation	Teacher questionnaire	
Disc. of Propaganda Tech. & Mot. Appeals	Student reflective writing	
Disc. of Propaganda Tech. & Mot. Appeals	Student reflective writing	Collaborative Meaning-Making /
Knowledge Acquisition	Student interviews	Social learning
A. Course Materials		
B. Computer Literacy Skills		
Knowledge Acquisition	Teacher questionnaire	
Opinions of Task	Student reflective writing	Task Interpretation - Meaningfulness
Opinion of Task	Student interviews	
Results of Task	Student interviews	
Opinion of Task	Teacher questionnaire	
Improvement	Teacher questionnaire	Sustainability
Improvement	Student reflective Writing	

Results

Grounded Theory was the ideal methodology to allow insight into the collaborative learning process. It allowed the establishment of important themes which emerged out of the students’ and teachers’ reflection. It also gave insight/voice into the thought processes of the students, thus enabling a view into the negotiation sequence that occurred in collaborative social learning. And these themes are supported by the following comments which were brought out through the use of this methodology.

Self-Determination/Motivation

The instructors had the students choose their own members, and each group had an open communication forum where students felt they were in a non-threatening environment to discuss ideas and learn together throughout the duration of the project. Boud, et.al (1999) states “Peer learning necessarily involves students working together and developing skills of collaboration. This gives them practice in planning and teamwork and involves them as part of a learning community in which they have a stake.” (p. 415)

- I chose my group members because I knew they were serious but also not serious in the bad meaning, that is they are interested in getting the job done but with no stress and some good humour. I knew I could rely on them. Student 18
- I wanted my group members to be people that are close to me in order to achieve team work since if you are in a group with friends it will be easier than being in a group with strangers. Student 13
- Mostly I enjoyed my time with the group members and the satisfaction of being able to achieve this project. Student 14
- At the beginning we were very excited because it was an interesting project...we had a lot of ideas from our experience, from television, from youtube so we were excited. Interview 3

Although some negativity was expressed at the beginning of the project, comments given retrospectively illustrate a very positive attitude to the outcome and the entire learning process.

- The beginning I wasn't excited because I had so many exercises and projects for other lessons and panicked. But when we started filming and thinking about the project I changed ideas. I was really excited and in the end had a great time. Student 5

Collaborative Meaning-Making/Social Learning

All of the groups went through a negotiation period in determining which propaganda techniques and/or motivational appeals they would use as well as setting up the story board and narration for the advertisement.

Through this negotiation process students had to suggest, explain and decide on how they would develop the project. They were put into the situation where they had to express what they had understood from the class discussions and be open to critique by peers (Boud et.al, 1999). Through this open-forum for discussion and critiquing process, students were then engaged in collaborative meaning-making (Stahl, 2003).

- Working in group difficult at first but then began mixing ideas and thoughts and it went well... Student 2
- We also learning how to better a team, that is how to convince, argue (in a good meaning), share the work with others and be coordinated. Student 18
- ...finishing our project and presenting it to the class me and the rest of my group, realized that we could do much better. I must say, some of the other projects were really amazing and that made us understand that if we working more, our advertisement would be fascinating... Student 10
- I also understand propaganda techniques because only when you use something you understand it and not when you read about it... Student 20

Students not only learned from members within their respective groups, but also from students from other course sections taking the same course. After one interview session it was commented that the students were all sitting together in the computer lab at the university campus being competitive by not showing their own advertisement, but more than willing to help others master a program or work out a glitch in the project.

- Technology was also very important, especially when filming and editing a video. Although a friend helped us in taking the scenes and creating the final project, I've learned a lot of how to use a program to edit the scenes, import sound and take care of final details that would lead to a better result... Student 11

Dewey (1916/1944) defined education as "...that reconstruction or reorganization of experience which adds to the meaning of experience, which increases ability to direct the course of subsequent experience" (p.74). Rodgers (2002) interprets Dewey by stating that "...it is the meaning that one perceives in and then constructs from an experience that gives that experience value...The function of reflection is to make meaning..." (p. 848). The inclusion of the reflective writing also allowed students to apply meaning-making to their learning process and their statements support this.

- I was a bit stressed because I wanted to remember from the beginning of the advertisement to the end of this project, what we have done, the techniques we used, the steps we had to follow so I would be able to write them in order to that writing assignment. It was interesting because you take from the beginning and you see all the progress from this project. I think it was an interesting conclusion to see from where and where we went. Interview Student 3
- The purpose was to get to know and see what was the process of making an advertisement- taking it from step one to when we handed in the assignment that we gave in the classroom. I think it was just to summarize that and come to a conclusion of what we actually learned from using some techniques, how we can use it, how we can make it and recognize them. I think it was just to get us into the mood to actually see what we have done. Interview Student 4

Task Interpretation / Meaningfulness

Students were happy to express what they had learned by participating in this project and although they are writing in the first person, this new knowledge could not have been achieved if it hadn't been for the social learning they had undertaken in their groups.

- I am first now aware of the impact that technology can have in our lives-good or bad. Also the manipulation of thoughts, feelings and actions is now harder to achieve since our critical thought is in higher levels than before. Furthermore, we are now able to detect propaganda techniques and motivational appeals whether these apply to an advertisement or speech or simple conversation. Student 13
- In this project I got a deeper idea about what I was taught in class about how propaganda works and how motivational appeals work and how easily one can be swayed by a clever display of propaganda... Student 18
- It was a good and especially different experience. Instead of presenting a subject which would probably be boring, we made something more interesting. Student 15
- Mostly I enjoyed my time with the group members and the satisfaction of being able to achieve this project. Student 14
- Finally, before the advertisement I didn't know anything about Moviemaker on the computers. And that was the opportunity to learn about them. I think that it will be very useful to me in the future. Student 20
- I learned the propaganda techniques and the other techniques not only theoretical but how to use them in our words, in our advertisement, in our project, in our life in general and that's what's interesting and we learned the program the way we tried to put the pictures together, to record our voice and a few new things that we didn't have the time or the opportunity to learn them. Interview 4

Conclusion

Collaboration, Reflection, and Exploration are key terms in the development of life-long learning skills, where students are given the opportunity to create motivation amongst themselves, develop collaborative meaning-making experiences and discover that the path they chose leads to a meaningful experience that will still play a role in their lives in the future (Boud, et.al, 1999).

It is this researcher's belief that meaning-making and creativity in learning is best achieved when tasks are structured to allow students the opportunity to interact with one another through collaboration. When students are able to determine the content of their learning, to establish a collaborative working environment, and to

reflect as well as assess what they have as a group and/or as an individual achieved, they are better equipped with learning skills that will accompany them throughout their entire lives. Furthermore, through the use of integrated technology, students were allowed to engage in a collaborative-social learning environment which highly motivated them in engaging in the meaning-making process.

The use of grounded theory brought this meaningful experience to light. It was a powerful tool in fleshing out what the students had thought, experienced and discovered through the learning process. It gives much insight from the students' point of view and their comments support the constructivist theory, as well as the idea of social learning. It allowed a unbiased look into the experience and provided much insight into student collaboration and motivation.

Above all, the most important indications resulting from the investigation are that collaborative learning leads to meaning-making and that the motivation that derives from interactive negotiation is so great that students flourish in their social learning environment. Their interest in learning increases and critical thinking skills are honed.

Bibliography

- Boud et.al (1999). Peer learning and assessment. *Assessment & Evaluation in Higher Education*, vol 24 (4), 413-426.
- Boud, D. (2000). Sustainable Assessment: rethinking assessment for the learning society. *Studies in continuing education*, vo.122 (2), 151-167.
- Dewey, J. (1933). *How we think*, Buffalo, New York: Prometheus Books (Original work published in 1910)
- Dewey, J. (1938). *Experience and education*, New York: Collier Books, Macmillan
- Dewey, J. (1944). *Democracy and education*, New York: Free Press. (Original work published 1916)
- Dillenbourg, P. & Baker (1996). Negotiation spaces in human-computer collaborative learning. Proceedings of the International Conference on Cooperative Systems (COOP'6), Juan-les-Pins (France), June 12-14
- Dillenbourg, P. (1999). What do you mean by collaborative learning? In P. Dillenbourg (ED) *Collaborative learning: Cognitive and Computational Approaches*. Oxford: Elsevier, 1-19
- Glaser BG, Strauss A. (1967). *Discovery of grounded theory. strategies for qualitative research*. New York: Aldine de Gruyter
- Glaser BG. (1978). *Theoretical sensitivity: advances in the methodology of grounded theory*. Sociology Press
- Hannafin, M. & Land, S. (1997). The foundations and assumptions of technology-enhanced student-centered learning environments. *Instructional Science* vol.25, 167-202
- Language Centre Independent Study Report 2007, University of Cyprus
- Ligorio, B. (1997). *Social influence in a text-based virtual reality*. Unpublished master thesis in social psychology. School of Education and Psychology, University of Geneva, Switzerland
- Piaget, J.-P. (1952). *The origins of intelligence in children*. New York: International Universities Press
- Rodgers, C. (2002). Defining reflection: another look at John Dewey and reflective thinking. *Teachers College Record* vol. 104 (4), 842-866
- Salomon, G. & Perkins. D. (1998). Individual and social aspects of learning. *Review of Research in Education*, vol. 23, 1-24
- Schoen, D.A. (1983). *The reflective practitioner: how professionals think in action*. New York: Basic Books
- Stahl, G. (2003). Meaning and interpretation in collaboration. Available from: <http://www.ischool.drexel.edu/faculty/gerry/cscl/papers/ch20.htm>
- Stahl et.al (2006). Computer-supported collaborative learning: An historical perspective. In R.K. Sawyer (Ed.) *Cambridge handbook of the learning sciences*. Cambridge, UK: Cambridge University Press, 409-426
- Strauss A, Corbin J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Technique*. Sage
- Vygotsky, L. (1930/1978). *Mind in society*. Cambridge, MA: Harvard University Press