Group Dynamics in Flipped and Social Learning Situations in Higher Education

Imran Riaz Chohan[1]

Abstract

Higher education has always been a firm supporter of traditional teacher oriented pedagogical approaches. However, reform of the pedagogical approaches is necessary in order to promote learning outcomes. In this research, the possibility of enhancing learning experiences by group dynamic methods in flipped learning situations was investigated.

Reflection is a key component in learning and group dynamics. Thence, reflection's essentiality with group dynamics in flipped learning is explained. Furthermore, to support the above argument, meaningful learning theory is discussed.

To undertake this research, mixed methods were used to analyse data retrieved with a questionnaire, reflections and observations, giving a diverse and comprehensive view of the subject. Data was collected from Lapland University students during flipped learning course in which group dynamics exercises had been integrated.

Two core changes are proposed; using facilitation methodologies (group dynamics) to make a new pedagogical framework to reform teaching in higher education, and introducing group dynamics to educators and students using flipped learning in order to improve learning outcomes and promote meaningful learning.

1. Introduction

Teaching is of two common types: traditional teacher oriented and student oriented teaching. This study deals with student oriented teaching in higher education. With the advent of Internet and knowledge at people's finger tips, it is necessary for teachers to give more control to the students of their learning. Some researchers argue that giving such control to the students might reduce efficiency, immediacy and control over content [4]. Due to the global village we live in and the knowledge that we have access to, some researchers argue that students do want to communicate their knowledge and be able to voice their concerns [8]. There are many pedagogical models present today that are focusing on student oriented teaching. Flipped learning is one such model that makes students take control of their learning in and away from class. In flipped classroom, teachers create their own videos, written material, or use already available videos and other materials from the Internet to flip their classes [2]. Therefore, in flipped environment students collaborate to get the task done by working in and away from class most of the time in groups or pairs. Research has also proven that social interactions make learning experiences more memorable [1, 5, 7].

Researchers are always thinking of new ways to improve existing theories, models and texts. Therefore, in this study flipped leaning model is amended with group dynamic methods. Flipped learning model was chosen due to its student oriented approach encouraging communication between students, as well as between teacher and students. The integration of group dynamics, in turn, enabled not only to work with the content of the course but also with the learning process from the first day to the last day. Group dynamics characteristics, such as reflection, feedback and experiential learning are most focused in this study, and amended into flipped learning model.

Figure 1 demonstrates the length of a course from start till end. During a course student work on content and parallel to the content is the process of how the content is being dealt with by students and teacher. Group dynamics deals with this process part which goes parallel to the content. Furthermore, red dots in the figure 1 show that during this study we focused on process every time the class met. This study, therefore, proposes the implementation of group dynamics in Flipped Learning model in order to enhance student's learning conceptions and experiences and to do so we not only look at the end results but also to look at the process throughout the course.

[1] University of Lapland, Finland

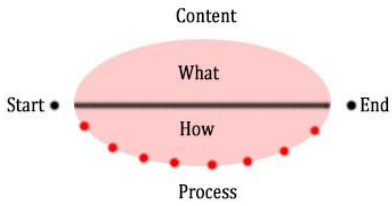


Figure 1 content and process model

To understand the outcomes of this study the common characteristics of flipped learning and group dynamics were compared and further analysed in the light of meaningful learning theory (fig.2). Meaningful learning is a process in which learners actively relate new information to their own previous knowledge and experiences [9, 3]. In figure 2, Facilitation is mentioned instead of group dynamics. In group dynamics, the process is called facilitation, and the person organising this is called facilitator. Thus, the figure 2 shows common characteristics that were considered when analysing the results of this study.

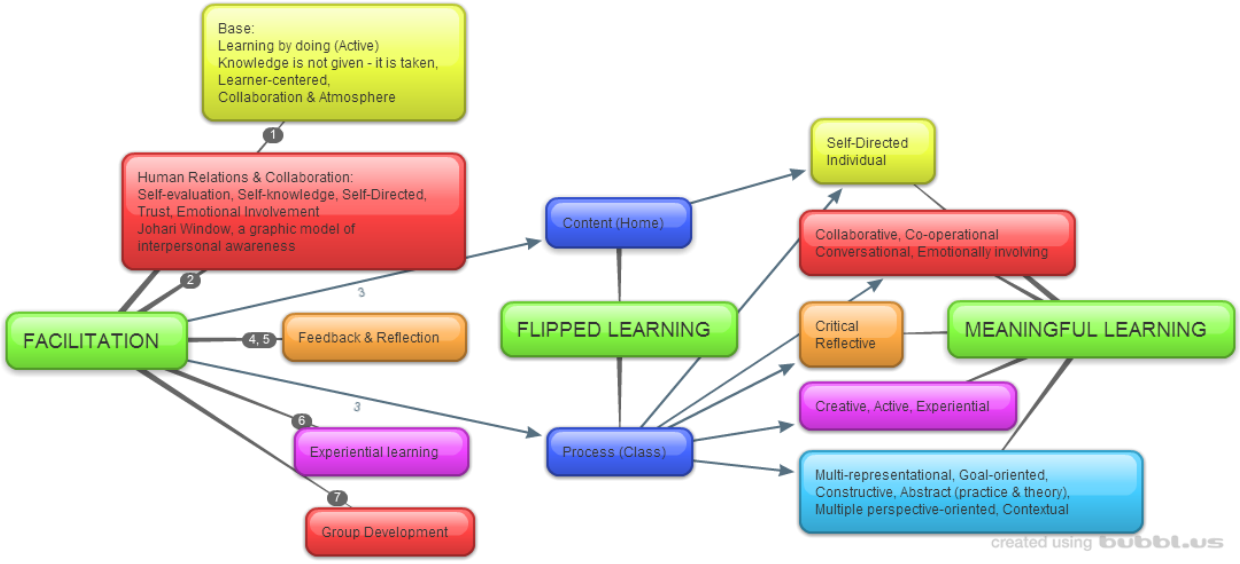


Figure 2 Facilitating Flipped and Meaningful Learning, FFML MODEL

2. Methods

The study took place at University of Lapland Finland in 2016, and students (N14) from one course participated in this study. The course tutor applied flipped learning approach to the course and I integrated group dynamics into it.

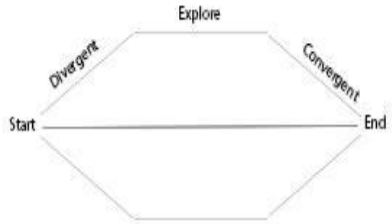
Due to the small sample size, the study consisted of mixed methods: survey questionnaires, reflections and observations. Two survey questionnaires were filled in by students, one at the beginning and one at the end. During 8 classes three reflections were written by the students. Lastly, observations were made during every class session, and written at the end of each class. Survey questionnaires were analysed both qualitatively and quantitatively as the questionnaires contained open and close ended questions. SPSS program was used to analyse quantitative data. In reflections, students were asked to think of the questions that came in their minds. Keeping those questions in their mind the students wrote their concerns, or answers to their own questions. That process became their reflection reports. In refection reports the tutor also participated as I was also looking for tutor's perceptions of group dynamics when integrated into flipped learning pedagogy. The mixed methods made it an action research where a research acts to examine a problem, gather data about the related problems, take actions on those problems and deduce the results based on experiential learning [6].

3. Results

3.1 Observations & Reflections

In the table 1 are the key observations from each day of the class sessions.

Table 1 Key observations, reflections and tasks that student did in all the classes

Days	Tasks	Observations & Reflections
1	a. Introduction b. Rules	During the two tasks the atmosphere was nice, cheerful and positive. All but one student participated freely. One student was timid at the beginning but became confident later.
2	a. Check-in b. Divergent/convergent model for making groups 	One student was hesitant during check-in but peer encouragement helped the student. The main task was to come up with a case study concept. Groups were formed according to the concept. During this task the atmosphere remained positive and ideas were shared, discussed and finalized. Students gave feedback at the end of the day. The feedback was positive and showed the level of student thinking to be more focused: shared knowledge with each other, got to know different points of view, and heard about new theories.
3	a. Analyse one previous case study (homework) b. Check-in c. Creating presentation criteria d. Feedback e. Reflection	Few students did not study the previous case study. Check-in brought focus and energy to the students. Next task was to make presentation criteria for the final presentations. Students used the divergent/convergent model. Students sat in groups and listened to each other and came up with criteria. They focused on putting reflection into their criteria. Everybody was satisfied with each other's participation and positive feedback made them seem closer. Students concerns in reflections were mostly about time constraints, and more activities related to group dynamics.
4	a. Check-in b. Check-out c. Reflections	One group out of three groups worked during the week. Students agreed that ideas were built upon listening to others. Many talked about reflections, feedback and learning from experiences and they wanted to practice these skills. One group realized that by not working and sharing in the past week they were behind their schedule, and that together they worked more effectively. The reflections this time were about feeling motivation from each other, working and sharing together to improve ideas, while feedback helped in understanding concepts and mistakes. Some students were happy because other students were performing better. Students were worried if they were doing their best. Overall atmosphere was good for learning. Again, time was an issue because students wanted more time to discuss with each other.
5&6	Day 5: There was no class, only group	On the presentation day, students initiated check-in by

	work Day 6: First day of presentations a. Check-in b. Introduction: Group member introduced other members of the group. c. Check-out	themselves. During introduction some common themes were: working in groups was benefiting the students, students acknowledged importance of feedback, reflection, and learning from each other. One group gave a presentation, after which feedback was given. At first the presentation was discussed in groups, and feedback was given using presentation criteria made in day 3 to the presenters.
7	a. Check-in b. Check-out	Two presentations were followed by quick group discussions, followed by feedback from groups and tutor using the presentation criteria made on day 3. Both presentations were interactive and involved audience. During check-out most of the comments were about learning from each other and developing on each other's ideas.
8	a. Reflection b. Evaluation	The final presentation was also interactive. Students collaborated in their presentation very well, and feedback was given afterwards. The group commented working together as amazing, fun and affective. It will take time for the students to realize that all the tasks and activities during and after class were group dynamic tasks integrated into flipped learning. Some students reflected that group dynamics, such as feedback and reflection, were separate activities from the tasks that they had in their classes (check-ins and models that they used for their case work). Other reflections were about importance of atmosphere, feedback, reflection, and sharing of ideas. Students evaluated flipped learning as effective model when integrated with group dynamics.

3.2 Quantitative data

Students filled in two questionnaires during this study. 14 respondents filled in first questionnaire and 12 the second questionnaire. 10 Likert scale questions were asked. First five questions were:

1. About subject of group dynamics (class atmosphere); How much can group dynamics motivate a student?
2. How much does reflection in class affect your learning?
3. How much can your behaviour affect the class atmosphere?
4. How much can your behaviour help the group to achieve effective learning?
5. How much can the behaviour of others help the group to achieve effective learning?

The scale in these questions was "1: to very high degree" to "5: not at all". Students in the first questionnaire replied with the mean values between 1.64 and 2.43. For the same questions in the second questionnaire the mean values were between 2.10 and 2.50. It can be seen that mean values had reduced on average but still were between Likert scale 2 and 2.50.

The other five Likert scale questions aimed to investigate if the students prefer to work alone or in groups and if the atmosphere affects their input towards their studies or other's studies:

6. I like working alone.
7. I like working in pairs or groups.
8. The general atmosphere of the class affects my attitude towards that class.
9. Feedback about my work and assignments is important for me.
10. The atmosphere in the class affects my work input of the assignments.

The scale values were from “1: strongly agree” to “5: strongly disagree”. Students in the first questionnaire replied with the mean values between 1.50 and 2.36. For the same questions in the second questionnaire the mean values are between 1.75 and 2.67. It can be seen that mean values have reduced on average but still are between Likert scale 2 and 3. According to the Likert scale, overall results are positive and in favor of a need towards group dynamics in the classes and better learning environment.

4. Discussions

This study was conducted to find out student’s conceptions and experiences in learning. We used flipped learning model and embedded group dynamics into it. The results show that students at first had high expectations. However, students’ expectations reformed after going through each class and activity, gaining better overall understanding, which resulted in much more realistic expectations. The results on the one hand show the need of group dynamics by looking at the reflections and observations but on the other hand the results are not so significant. This study is conducted with a small sample size and due to this it had limitations. More students would be needed to make a better sample size. Additionally, an option to have a control group and compare the results could bring more results. This shows that we have a long way ahead of us to be able to fully use the potentials of flipped learning approaches. Students need motivation and group dynamics. As I have observed, group dynamic activities were starting to have an impact on the students in motivating them to work with each other.

References

[1] Dubinsky, J.M., Roehrig, G. & Varma, S. 2013. Infusing Neuroscience Into Teacher Professional Development. Educational Researcher 42(6) 317-329.
[2] Hamdan N., McKnight P., McKnight K. & Arfstrom K.M. 2013. A review of Flipped learning. Flipped learning Network. George Mason University
[3] Howland, J. L., Jonassen, D. H., & Marra, R. M. 2012. Meaningful learning with technology (4th ed.). Boston (Mass.): Pearson.
[4] Huggins Christopher M. & Stamatel Janet P. 2015. An exploratory study comparing the effectiveness of lecturing versus team-based learning. Published by American Sociological Association. Teaching sociology 43(3) 227-235.
[5] Lipina, T.V. & Roder J.C. 2013. Co-learning facilitates memory in mice: A new avenue in social neuroscience. Neuropharmacology 64, 283-293.
[6] Martin, A. 2001. Large-group Process as Action Research. In Reason, P. & Bradbury, H. (eds.). Handbook of Action Research. Los Angeles, London, New Delhi, Singapore. Sage Publications.
[7] Meltzoff, A.N., Kuhl, P.K., Movellan, J. & Sejnowski, T.J. 2009. Foundation for a New Science of Learning. Science 325, 284-288.
[8] Novak, J.D. 2011. A Theory of Education: Meaningful Learning Underlies the Constructive Integration of Thinking, Feeling, and Acting Leading to Empowerment for Commitment and Responsibility. Meaningful Learning Review 1(2) 1-14
[9] Tsai, Chia-Wen, Shen, Pei-Di & Chiang, Yi-Chun 2013. Research trends in Meaningful Learning research one-learning and online education environments: A review of studies