A Facebook Group among Postgraduate Students: Evaluation Results towards Learning

Maria Tsitsekidou ¹, Kerstin Siakas²

¹,² Department of Informatics, Alexander Technological Educational Institute of Thessaloniki, P.O. Box 141, GR-57400 Thessaloniki, Greece

Email address: ¹maria.tsitsekidou@gmail.com, Email address: ²siaka@it.teithe.gr

Abstract

Facebook is a very popular social media platform used by a significant number worldwide. There is strong evidence that Facebook may also facilitate learning activities, however there is not much research about the implementation of Facebook as a learning tool in higher education. In this study the authors investigate the use of a Facebook group among postgraduate students at the department of Informatics of the Technological Educational Institute of Thessaloniki, Greece. In particular, the contribution of a Facebook group regarding four factors is measured: students’ engagement, students’ motivation, students’ collaborative learning and students’ satisfaction. Furthermore, any significant correlations between the variables are carefully examined. This study shows that a Facebook group is able to facilitate learning among students in a positive way and consequently work fairly as a collaborative learning tool.

Keywords: Social networking; Higher Education; Facebook group; Collaborative Learning

1.0 Introduction

Collaborative Learning (CL) is the process of learning which is not gained individually but includes discussion, argumentation and reflection. Collaborative Learning Environments are opposed to individual environments, since they lead to a better processing of the information upon a task having an important effect on learning [1]. Collaborative Learning may be a great way of structuring activities in a learning environment in a sophisticated manner. This environment may be formed desirably of specific elements, which are intended to bring a deep and
complete learning capability to the participants.

Human learning and development are strongly affected by social content. There is a view of [2] arguing that learning is an individual process in which a person can be benefited or not, according to the interaction with each other. Therefore, improvement can be obtained via communication of the problem among the participants, which can positively affect reflection and planning. Computer Assisted Collaborative Learning (CACL) provides an appropriate environment for enhancing students’ learning processes via collaboration with the use of Computer Mediated Communication (CMC). In a CACL environment, students can use the provided tools, in order to communicate, share information and expertise [3]. Additionally, there is a different amount of contribution among the students’ which is based in the type of their motivation.

The concept of motivation can explain the reason of different levels in a student’s contribution in CACL. Motivation is an important factor that influences one’s learning attitude and behaviour [4]. As motivation means to be moved to do something, it can be used as the degree of self-determination of learners [5]. A person can have little or a lot of motivation [6], also referred as a-motivation versus motivation, with a-motivation expressing the lack of intention to act. However, the effort of someone to pursue a goal cannot be expressed only by the amount of motivation, but also from the type of the motivation. The Self-Determination Theory (STD) describes the type of motivation according to its origin; the theory targets the types, rather than just amount, of motivation, focusing to autonomous motivation, controlled motivation, and a-motivation as predictors of performance, relational, and well-being outcomes [7]. Therefore, it can be a distinction of motivation in extrinsic and intrinsic [8].

Social networking sites are able to increase the engagement of the students in an online learning community as they offer a technology which is well-known among their generation [9]. Facebook is one of the most popular social platform worldwide [10] allowing users to interact and collaborate in a sophisticated manner. Even though Facebook has started as a great place for social networking activity, it soon reached the potential of facilitating students as an e-learning tool [11].

University education is fairly collaborative oriented and promotes group work in many circumstances, therefore, an online tool such as Facebook and Facebook group in particular, is of a great importance. The aim of this study was to evaluate the amount of Facebook group’s efficiency among postgraduate students. In addition, the authors also examined any significant correlations between the variables according to the hypothesis that a student with a greater degree of engagement would have bigger learning benefits.
2.0 Methodology

The students that participated in this study are members of a Facebook group which has been created to support them in their postgraduate studies in Computer Science. The title of their MSc is Web Intelligence, and the use of the group was for all modules in the 2 year MSc course. The Facebook group was created and managed by the students and was being used exclusively by them.

The study was conducted between two different Facebook groups from the same postgraduate program and for two different entry years; namely entry in autumn 2013, hereafter called group2014 and entry in autumn 2014, hereafter called group2015.

The number of the students that is considered for this study is 21 for each group. The group2014 consisted of students aged between 25-40 years, 6 females, with most of the students being experienced Facebook users. The group2015 had students aged from 20 to 45 years old, 3 females; and most of the students had medium Facebook experience.

Both of the Facebook groups (group2014 and group2015) were used to facilitate the students’ learning experience as well as to promote their communication and interaction in an online environment outside the classroom. The program of their studies includes compulsory attendance of ten modules in the first two semesters with each semester has five modules of 6 ECTS each module and a third semester include the completion of their diploma thesis. The student’s in order to succeed in each module they should have achieved a specific score in several essays and exams of each module; in most of the essays the teamwork was characterised essential by the tutors.

In this study the authors investigate the Facebook group as a tool for collaborative learning in the first two semesters of their studies, where the students were actively involved in group work and the use of Facebook through exchange of posts and messages, which was considered unquestionably helpful by the students.

Each student that participates in this survey had to contribute in a five scale questionnaire after the completion of his/her modules of compulsory attendance. The questions were conducted in groups in order to support and evaluate four different constructs: students’ engagement in the Facebook group, students’ motivation via the Facebook group, students’ collaborative learning via Facebook group and students’ satisfaction about their overall experience in the Facebook group. These constructs will be briefly referred as: students’ engagement, students’ motivation, students’ collaborative learning and students’ satisfaction.

To evaluate the study the authors define each of the constructs by three parameters (table 1 and table 2) which were being rated from the participants. Each answer for these parameters was having a value from 0 to 1 with step 0.25 or from 0.2 to 1.
with step 0.2 in respect to its scale. For example, if a participant answered a question which the answer was not contributing at all to support the question namely “not at all” would take the value 0 and all the other answers of this question would take from 0.25 to 1, having of course the most “agreeable” answer taking the value 1. However, there are some questions that do not consist of this kind of negative answers as their starting point, for example where the question was “How often would you visit the Facebook group?” there was not such a starting answer as “never” but “more than every other day” having the 0.2 value and the answer “more than five times a day” with 1 value.

Table 1. The parameters of students’ engagement and students’ motivation

<table>
<thead>
<tr>
<th>Students’ Engagement (Engagement)</th>
<th>Students’ Motivation (Motivation)</th>
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</thead>
<tbody>
<tr>
<td>(1) The number of hours spent weekly in the Facebook group.</td>
<td>(1) The degree of team spirit within the group.</td>
</tr>
<tr>
<td>(2) The rate of visiting frequency at the group.</td>
<td>(2) The degree of communication flexibility via the group.</td>
</tr>
<tr>
<td>(3) The type of the members’ activity within the group.</td>
<td>(3) The degree of knowledge exchange within the group.</td>
</tr>
</tbody>
</table>

Table 2. The parameters of students’ collaborative learning and satisfaction

<table>
<thead>
<tr>
<th>Students’ Collaborative Learning (Collaborative Learning)</th>
<th>Students’ Satisfaction (Satisfaction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) The degree of effective advising among the members of the group.</td>
<td>(1) The degree of the group’s importance for the students’ studies.</td>
</tr>
<tr>
<td>(2) The degree of timely responses from the members of the group.</td>
<td>(2) The degree of the students’ contribution to the students’ learning process.</td>
</tr>
<tr>
<td>(3) The degree of problem solving deriving from the group members.</td>
<td>(3) The type of the overall experience from the participation in the group.</td>
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</table>

For every participant a score has been calculated for each of the four constructs of this study according to his/her answers to the question that contributed to each parameter of the construct. For example, as far as students’ engagement is concerned, if a student’s answers to the questions that contribute to each parameter have the values 0.2, 0.4 and 1 respectively the score of this student would be 0.54 \[\frac{(0.2+0.4+1)}{3}\]; which score is defined as 54% support for the student’s engagement.
3.0 Results

For each group the authors calculated the average score of their students regarding to the four constructs as described above. The results are shown in the table 3 as well as in figure 1.

Table 3. The percentage of the students average score for each construct

<table>
<thead>
<tr>
<th>Construct</th>
<th>Group 2014</th>
<th>Group 2015</th>
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</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>54%</td>
<td>41%</td>
</tr>
<tr>
<td>Motivation</td>
<td>63%</td>
<td>67%</td>
</tr>
<tr>
<td>Collaborative learning</td>
<td>69%</td>
<td>61%</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>59%</td>
<td>58%</td>
</tr>
</tbody>
</table>

Figure 1. The average score of the students for each construct

For each member of the group the authors consider his/her scores for the four constructs of the study, in order to find any correlations between the constructs defined according to Pearson’s theory [12]. They chose to analyse the data using Pearson’s correlation since most of the examined variables are according to the required criteria of this method. Namely, the variables are continuous, have a linear
relationship between them and are normally distributed.

More specifically the authors investigated whether there is a correlation between: students’ engagement with students’ motivation, students’ engagement and collaborative learning and students’ engagement along with students’ satisfaction. The authors completed this investigation for the data of both of the groups respectively.

In order to succeed in these correlations the authors conducted the Bivariate Correlation Analysis (2-tailed) in SPSS to calculate coefficients (\(r\)) having measured the significant level of these correlations by \(p\)-value. The smaller the \(p\)-value is the more significant the relationship is described, and the bigger the (\(r\)) value is the more strong the relationship is found. For a larger scale studies attention is given more at the \(r\), and for small scale studies at the \(p\).

The results of the correlations for both groups as shown in table 4 indicate that a discussion should be made about the first and the last correlation pair, since the correlation between students’ engagement and students’ collaborative learning does not imply for making any conclusions since the value for group2014 is low.

<table>
<thead>
<tr>
<th></th>
<th>Correlation between Engagement and Motivation</th>
<th>Correlation between Engagement and Collaborative Learning</th>
<th>Correlation between Engagement and Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>(r)</td>
<td>(p)</td>
<td>(r)</td>
<td>(p)</td>
</tr>
<tr>
<td>Group2014</td>
<td>0.443</td>
<td>0.283</td>
<td>0.615</td>
</tr>
<tr>
<td></td>
<td>0.044</td>
<td>0.214</td>
<td>0.003</td>
</tr>
<tr>
<td>Group2015</td>
<td>0.494</td>
<td>0.507</td>
<td>0.605</td>
</tr>
<tr>
<td></td>
<td>0.023</td>
<td>0.019</td>
<td>0.004</td>
</tr>
</tbody>
</table>

The correlation between the students’ engagement and students’ motivation is of medium degree for both of the groups with (\(r 0.443, p <0.044\)) for group2014 and (\(r 0.494, p <0.023\)) for group2015; according to the (\(r\)) value the relationship of students’ engagement and students’ motivation is not weak, and therefore a change on the value (increase) in students’ engagement would probably affect the value of the students’ motivation. Moreover, \(p\)-value indicates that there is also a statistically significant correlation between these two variables, which means that increases or decreases in one variable are significantly related to increases or decreases in the other variable.

The correlation between the students’ engagement and students’ satisfaction is fairly high in both of the groups with group2014 to have (\(r 0.615, p <0.003\)) and group2015 having values (\(r 0.605, p <0.004\)). The results indicate that this is the most correlated pair of the study, since it has the highest (\(r\)) value in both of the
groups and this leads to a conclusion that this pair has the strongest relationship among the investigated variables. Subsequently, the p-value in this pair is the lowest among the observed p-values and this indicates that the relationship between these variables has the highest statistical significance among all observations.

4.0 Conclusion

This paper has described the benefits of using social networking tools, such as Facebook group, in an academic environment. This research indicates that a Facebook group is an important tool for enhancing students’ learning and can support fairly the collaboration between them. Furthermore, it is approved that there is a correlation between the students’ engagement to the group and their learning benefits and that someone can have better learning benefits when he/she is more engaged to the group. Even though the study was closely conducted among the students and the use the group was dominant during the students’ first study year, the authors recommend a similar research in a bigger number of participants for better evaluation.

5.0 Acknowledgements

The authors would like to thank all postgraduate students of the Web Intelligence MSc course at the department of Informatics of Alexander Technological Educational Institute of Thessaloniki, Greece who took part in this study.

6.0 References


