MAKING IT HAPPEN: THE ONLINE COLLABORATIVE LEARNING COMMUNITY, FROM THEORY TO PRACTICE

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Abstract

As with every decade, the 2010-2020’s are not without their buzzwords and the one making the most noise at this time is the “Fourth Industrial Revolution” [1]. So much noise in fact, that it has come to the attention of those involved in higher education. Already under pressure to embrace a paradigm change which sees education going from a more content-centred to a learner-centred position [2], educators are now being asked to take into account their other major stakeholder – industry and develop competencies on top of core subject knowledge in their students. The research presented here examines how a virtual community and can be used for collaborative learning, with a specific focus on how educators can make the leap from theory to practice successfully [3]. The methodology used was action research which, as per Dick [4], is a three-step process that can go through several iterations. These steps: intention, action, and review, were acted upon, in three iterations, over a three-year period. The sample comprised adult further education students (n=95) enrolled in a certificate course in management also doubling as a prerequisite to entry into an Executive MBA programme. The results, based on the analysis of the ensuing communities and that of a self-report questionnaire, provide insight into the student use of a virtual space for the development of a collaborative learning community and their perception of such a tool for collaboration. The changes made from one iteration to the next allow for a better understanding of what is needed to encourage students to embrace what, for them too, are changes in the learning experience. The paper closes with a discussion of the development of such a community and practical suggestions of how to make it work.

Keywords: Higher education, collaborative learning, action research.

1 INTRODUCTION

According to a recent World Economic Forum (WEF) Report, up to 35% of the jobs that we are preparing today’s higher education graduates for do not yet exist [5]. If indeed this is the case, and some reports put the percentage even higher, then it is imperative that education look, more than ever before, at skills building and the development of transferable competencies. Soft skills and the ability to work with others are high on that list. Yet another report [6], suggests that amongst the competencies that will be most needed in 2020 are: coordinating with others, critical thinking and creativity. This, is in line with what other research has found in terms of the management competencies that higher education needs to be encouraging and developing in students [7]. For the higher education classroom this implies going past the transmission of content knowledge and onto the inclusion of selected competencies in the learning outcomes. This project focuses specifically on the development of the competency of collaboration and collaborative learning.

2 LITERATURE REVIEW

The theoretical framework for this research draws on two bodies of research. In the first instance, the work of Zimmerman [8] based on that of Bandura [9, 10] on self-regulation provided the basis for the project. Self-regulation implies “actions and processes directed at acquiring information or skill that involves agency, purpose or instrumentality”[8]. Although not couched in the terms of competencies, the three phases put forth by Zimmerman are in line with the type of competencies that higher education is looking to develop in its students. Competencies which in turn, include those that industry today expects from 21st century graduates. The three phases that it is suggested a student goes through as he/she becomes increasingly autonomous in his/her learning were reviewed by Dabbagh and Kitsantas [11] who added a social media related dimension which, in turn, has been further reviewed to align with recent advances in technology[12]. Table 1.0 provides a comparison of these frameworks.
Table 1. A comparison of Frameworks for Self-Regulation [12].

<table>
<thead>
<tr>
<th>Phase</th>
<th>Dabbagh &amp; Kitsantas</th>
<th>Charlesworth &amp; Sarrasin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Forethought</td>
<td>Organization and searching</td>
</tr>
<tr>
<td></td>
<td>Personal information management</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Performance or volitional control</td>
<td>Information exchange</td>
</tr>
<tr>
<td></td>
<td>Social interaction and collaboration</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Self-reflection</td>
<td>Co-creation and co-construction of knowledge</td>
</tr>
<tr>
<td></td>
<td>Information aggregation and management</td>
<td></td>
</tr>
</tbody>
</table>

The above not only provides a structure within which one can see the higher education student developing but also clearly suggests areas where scaffolding, to encourage the acquisition of skills and competencies, might be put into place. Whereas students are generally quite capable of organizing their learning, when it comes to information-seeking and exchange the educator, more often than not, needs to provide support. As one moves onto collaboration, that goes past the simple sharing of materials and the writing of a section of a report or project, but extends to the co-construction of knowledge, the educator has a very definite role to play.

In order to give additional focus to the project, the second body of literature referred to was that related to collaborative learning, particularly research looking at both self-regulation and collaboration [13-15]. The relationship between the two can be seen through the implementation of structured collaboration designed to support students as they move towards the co-creation and co-construction of knowledge.

The central question this research set out to answer was how to increase student collaboration through the use of technology and in such a manner so as to add value to the course delivery. Sub-questions that were addressed included:

a) How to encourage students to use a virtual space for collaboration?

b) To what extent can technology enhanced learning (TEL) contribute to developing competencies in the area of collaboration and co-creation?

c) What measures are necessary to make such a space work in practice?

d) What is student the student perception of collaboration in a traditional classroom versus a web-linked classroom?

3 METHODOLOGY

The field for this research was the University of Applied Sciences and Arts of Western Switzerland, and the sample post-graduate students (n=95) having an average age of 34 and for the most part in full-time employment and all studying in a Business School either towards an Executive MBA or the initial certificate course. The students, comprised five classes in which this research was carried out over a three-year period.

To best understand student acceptance and usage of a virtual community for collaboration this research was carried out as an action research project. Action research [4, 16] is made up of three quite clearly defined stages: intention, action, and review. Details are provided for each stage below:

3.1 Intention

In this case the intent was to redesign an existing course in order that the classroom “becomes the place to work through problems, advance concepts, and engage in collaborative learning” [17] through the addition of a virtual collaborative space for exchange and peer feedback prior to in-class presentations. The objective being to encourage the development of collaboration leading to co-creation skills amongst the students.
3.2 Action

The research was carried out over the 12 periods of each course (n=5) and included class observation, the monitoring of the virtual platform and the administration of a self-report instrument. The students were told what changes had been made in the course and introduced to the virtual community. Their use of this space was monitored, with minimal input from the educator, throughout the course.

3.3 Review

Three iterations have now been conducted with a review at the end of each in order to revise and re-iterate. The reviews took the form of open-discussion, a synthesis of course-long observation, and, analysis of the use of the virtual community.

In addition, the distribution of Lee and Tsai’s [18] Participant Perception Inventory-Internet versus Traditional Learning (PPI-IvT) self-report questionnaire, was done at the end of each course. This instrument is divided into three sections relating to self-regulation, information-seeking and collaboration and aimed at measuring student perception relative to both the traditional and web-inclusive classroom.

4 RESULTS

The results are for presented for the first iteration of the course followed by the grouping of the second and third iterations. To understand the student use of the virtual community for collaboration the key elements related to the introduction of this virtual space are listed below. Table 2.0 provides a summary for selected results from the content analysis.

4.1 Iteration 1

- A 1-hour introduction to the course and the creation of a private virtual community that was to be used during the semester was carried out. Students were asked to complete the sign-in process to ensure access to the community.
- Students were told that one of the course requirements was to use the virtual community for exchange, discussion and collaboration including the posting of an infographic prior to an in-class presentation in order to get peer feedback.
- The grading of activity in the virtual community was on an individual basis accounting for 10% of the overall grade. Criteria for participation was not further specified.

The results were not as expected with little real use of the collaborative space. Discussions with the students suggested that there was both reluctance to provide feedback to their peers and a lack of understanding as to how this would add value to the overall learning experience. Changes made are following this first iteration are detailed below.

4.2 Iteration 2 & 3

- The introduction to the use of the virtual community was extended from 1 to 2 hours. Students were asked to not only complete the sign-in but to enter into the community and test it out whilst still in class.
- The requirement of posting of an infographic prior to in-class presentation for peer feedback remained, however, this was presented in a different manner. Students were asked to give feedback that would enable their colleagues to improve their infographic with the aim to get a top grade for the in-class presentation that followed. Students were reminded that only the final in-class presentation would be graded.
- The grading of the virtual space was changed from an individual grade to a collective grade for the entire class. A specific rubric for the grading of the community was designed going from a pass grade for a “non-collaborative” community where the required documents were posted but with few or no comments and little member activity to a top grade for a “lively” community with a lot of discussion and exchange as well as collaborative practice on the part of all the members.

The results from iteration 1 to iteration 2 were overwhelmingly different. Iteration 3 has continued in somewhat the same vein as iteration 2 with some class specific differences that are discussed below.
Table 2 presents a comparative summary of selected results for the three iterations. As one requirement across all classes was the posting of a group prepared infographic for comment prior to in-class presentation and as this exercise was particularly well-suited to collaboration and the co-construction of knowledge, only comments related to this are presented here.

### Table 2. Selected Virtual Community Content Analysis Results.

<table>
<thead>
<tr>
<th>Iteration</th>
<th># of classes</th>
<th># of students</th>
<th># of infographics</th>
<th># of comments</th>
<th># of likes</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>2</td>
<td>15</td>
<td>6</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23</td>
<td>6</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Two</td>
<td>1</td>
<td>24</td>
<td>6</td>
<td>36</td>
<td>21</td>
</tr>
<tr>
<td>Three</td>
<td>2</td>
<td>18</td>
<td>6</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>5</td>
<td>13</td>
<td>6</td>
</tr>
</tbody>
</table>

Clearly the first iteration was not successful in having students provide feedback to their peers with a total of five comments for the two classes concerned. The comments, further broken down by type in Table 3, were not even of a nature to provide feedback. Three types of comment that became clear through the content analysis were: “well-done”: a good job type comment that did not provide any indication of what was good; positive feedback: a comment that was 100% positive but which provided clear feedback about what was good about the infographic, and, finally suggestion for change: a comment that asked for further clarification or made suggestions to the authors for improvement.

The second and subsequent third iterations were very different from the first with zero to few well-done type comments, a lot of positive feedback comments and a considerable amount of suggestions for change comments. It is interesting to note that the final group in the third iteration was not that active as a community and that only suggestions for change comments aimed at improving the infographic were made. Following discussion with the class it became clear that there was a certain resistance to using the virtual community any more than necessary and that positive feedback comments were not seen as having that much value which might explain why there are fewer comments and exclusively ones that suggest improvement.

### Table 3. Virtual Space Feedback Breakdown by Comment Type.

<table>
<thead>
<tr>
<th>Iteration</th>
<th>#of comments</th>
<th>&quot;Well-done&quot;</th>
<th>Positive feedback</th>
<th>Suggestions for change</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two</td>
<td>36</td>
<td>4</td>
<td>6</td>
<td>26</td>
</tr>
<tr>
<td>Three</td>
<td>18</td>
<td>1</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

It was also very interesting to note that of the 52 suggestions for change comments all but two started out on a positive note before going on to making any suggestions. Without realizing it the students were indeed developing feedback skills.

Finally, results from the PPI-IvT questionnaire were disappointing with few statistically significant results which, as a result, are not reported here. It is likely that the instrument, being rather long and complex in addition to being multi-dimensional was not appropriate for this project.

### 5 DISCUSSION

Clearly the creation of a virtual space or a closed community is not a guarantee for collaboration [19]. The three iterations that this project went through confirm the need for more than just scaffolding to encourage student participation but a value-adding argument as to why they should allocate their time to what is often seen as simply another exercise. To encourage students to enter into such a virtual community it is important to take the time to explain the how and why of it all. From the first to the
second iteration the time spent on the introduction to the community and the trying it out was doubled from one to two hours and this measure certainly made a difference in the outcome.

With the post-graduate students, two ideas that resonated well were the hands-on development of selected digital competencies as they became more familiar with navigating in a digital world, as well as the added value of peer-feedback. Surprisingly, in several instances, both in the virtual community as well as in class, students thanked their peers for the feedback as they recognized how it had allowed them to improve both their presentations as well as their understanding. This was an encouraging move past just collaboration but into the sphere of co-creation. Clearly the asynchronous nature of the virtual community allowed for a different type of feedback that suggests a positive use of technology as an aid in developing selected competencies. Competences that, as pointed out earlier, are exactly what industry is looking for.

In response to the third research question presented earlier, measures necessary to make such a community work include the taking time but also having very clear guidelines of what is expected and, in this case, the use of a community-specific grading rubric had a positive impact on student reaction.

Finally, the question of student perception, as it remains largely unanswered, provides an area for future research.

For educators interested in the introduction of a collaborative learning community in their courses it is important to be prepared to try and try again until it works as, when it does the results are nothing short of magic.

REFERENCES


