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Students-Enthusiasts in Online Classes: Their Contribution To the Educational Process

Anna Toom

Abstract

In this work, the phenomenon of student enthusiasm was explored in a population of 47 students of Touro Graduate School of Education who took the author's online psychology course. The purpose of the study was to find how students-enthusiasts differ from classmates in their communication style(s) reflected in group discussions on the Discussion Board (DB). The research methodology included graphical and statistical analysis of students' discussions. It was found that, although the enthusiasts constituted a small part (6%) of the investigated population, their contribution to the virtual learning environment was the greatest – they were catalyzers of the educational process. Students-enthusiasts a) consolidated their group, transforming it from a disorganized mass without common interests to a team capable of collaboration; b) stimulated discussions by helping their classmates to develop "a sense of community"; c) unlike others, also competent as learners and computer users, the enthusiasts shared information with their less knowledgeable classmates concerning various aspects of the online study. Students-enthusiasts served as a model and support for their fellow learners and the instructor. The author concludes that such a contribution must be appreciated and maximally used in the virtual classroom (VC) with its specifics and communicational limitations.

Keywords:teaching/learning psychology online; virtual classroom; student enthusiasm; learning motivation; teaching motivation; communication styles.

Introduction

Students specializing in education today are the workers of tomorrow. What kind of teachers will the society receive? The question is not rhetorical. That professionalism and enthusiasm, which some instructors bring to school settings, may be observed already in their students' years. That's why the study of enthusiasm in students who are current or prospective school teachers is an important task for educational psychology.

This line of research received a new incentive in the present epoch of intensive development of information technologies and the web-based distance education programs. The investigations of enthusiasm in a classroom expanded to a virtual learning environment. In this work an attempt is made to study student enthusiasm in online asynchronous classes.

Literature review: Enthusiasm in the Classroom

The word *enthusiasm* comes from Greek *entousiasmos*, Late Latin *enthusiasmus,* and Middle Age French *enthusiasms* (Online Etymology Dictionary). It "originally referred to inspiration or possession by the presence of God"; in modern time, however, the word actually lost its original meaning, and is now understood rather as intense enjoyment and interest (Wikipedia).

In psychology, there is no unanimous understanding of enthusiasm. Some researchers consider it in the framework of motivational paradigm and define it as a strong motivation for achievement (Toom, 2013). Some others interpret it as an emotional condition (Frenzel, 2009). Still others see it also as expressive behavior (Rosenshine, 1970; Kunter et al., 2008). It is likely that we are dealing with a complicated phenomenon in which all major components of psychological functioning interact: motivational, emotional, cognitive, and behavioral. The physiological component is also involved – it is not by chance that the term "energy" appears in the descriptions of enthusiasm (Metcalfe & Game, 2006). In pedagogical practice, enthusiasm is typically associated with "a motivating, energetic, passionate, and dynamic teaching style" that "engages students to participate and stimulates them to explore" (Zhang, 2014). Enthusiasm is seen as a key ingredient of effective teaching.

Exploration of enthusiasm in the classroom began in the middle of the last century, if not earlier. By today, it has been validated that teacher enthusiasm promotes students' development and learning (Sanders & Gosenpud, 1986; Patrick at al., 2000; Wood, 2013, Zhang, 2014; Orosz et al., 2015). Students, who learned from enthusiastic teachers, had elevated cognitive functioning such as attention, memory, thinking, imagination, problem solving, a better comprehension of knowledge, and higher intrinsic learning motivation and vitality. Students of enthusiastic teachers get a chance to also become enthusiasts, so that, if they eventually pursue their careers in education, they will become highly desirable and valuable specialists in any school setting.

In the last two decades, the following research findings have been made about enthusiasm in the classroom. Two aspects of enthusiasm were found: enthusiasm for the subject/topic and enthusiasm for activity/teaching (Kunter et al., 2011). Enthusiasm as a mechanism for mediating relationships with students and stimulating positive learning outcomes was explored (Frenzel et al., 2009). An influence of student enthusiasm on teacher enthusiasm was detected: as in many other interactions, effects are reciprocal (Stenlund, 1995). Nonverbal expressiveness as the manifestation of an underlying teacher enthusiasm was explored (Kunter et al., 2008).Furthermore, programs were developed to train teachers to purposely express enthusiasm to attract the students' attention and facilitate their learning (Tauber et al., 2007). In the studies of instructional methodology, it was found that one of the important abilities of enthusiastic teachers

is their "descriptive and prescriptive feedback" to students' work in online classes (Parson, 2001). These are only some of representative and substantial findings.

Web-based distance education programs provided advanced and objective instruments for collecting empirical data and thus created great opportunities for various studies of the virtual learning environment. Asynchronous discussion forums in online classes became the special focus of attention. A series of experiments for investigating the role that the online professors might play in their students' learning was conducted by Australian scientists.

On large statistical samples, they showed how the quantity, timing, and nature of instructor's posts influenced students' participation in online discussions; the correlates of teacher enthusiasm in students' perceptions were identified (Mazzolini, 2002; Mazzolini & Madison, 2003; 2005). Other researchers found that the perceived presence of an instructor is even more important than the perceived presence of peers in students' satisfaction of online courses (Swan & Shih, 2005). The critical role of an online teacher as cheerleader or motivator as well as important issues of assessing a variety of teachers' and students' activities online has been discussed in the review of the literature regarding asynchronous discussion forums (Andersen, 2009).

Research Methodology

In this work, the student enthusiasm was explored in online psychology classes. The research was based on the assumption that enthusiasm is a stable characteristic of an individual which manifests itself in various social roles and activities that one has to perform. In an online classroom, the student enthusiasm can be identified in all aspects of the course work: in individual as well as collective studies done collaboratively with classmates. Our purpose was to explore how students-enthusiasts differed from the classmates in their manner of leading discussions on the DB. The author hypothesized that enthusiasm may influence students' communication style(s).

The Blackboard, a software platform for our virtual classroom, was used as an instrument of collecting data about discussions and discussants: all the students' posts submitted to the DB with their arrival time were recorded and archived in the system. The research methodology included a) statistical analysis of the students' posts on the discussion forums, b) topological (graphical) representation of the students' conversations on the topics of the course subject, c) analysis of the structure of group communications, and d) analysis of "Help me!" messages and responses.

Group discussions: content and requirements

Participation in the group discussions was one of the major activities required for the course. Five forums for asynchronous discussions were created on the DB. Each of them was devoted to a psychological or educational issue related to the course topic. The students were expected to respond to a question posted by the professor and exchange opinions about it with classmates. This activity was mandatory.

A typical question for the group discussion consisted of the following. The students were offered the game "Name me!" and asked to identify "*Which psychological functions this game can be helpful in developing?*" In this game, which is usually played at home, players sit in a circle and roll a ball to each other. Two-three year old kids, if necessary, may sit between an adult's legs. Before rolling the ball, each player looks at and says the name of the person to whom the ball is being rolled. If the name is said incorrectly, the player to whom the ball is being rolled should roll it back to one who made a mistake. If the name is said correctly, the game continues.

Requirements for each out of five course discussions included: 1. Timely submission: responses should be posted by a due date; 2. Sufficient quality: responses were expected to be substantial, supported by the student's personal educational experiences and/or the references found in e-libraries or e-data bases; 3. Sufficient quantity: at least two responses ought to be posted for each discussion by every student – one response to the professor and the other to any classmate; at least two references should be provided for each discussion forum by every student.

Participants and context

Participants were students of Touro Graduate School of Education (GSE) enrolled in the Education and Special Education degree and certificate program. Some of them had not previously taught, and some were already teaching and wished to increase their expertise. The students were assigned by the college registrar's office at random to groups of 20-25 people in which they learned together throughout the semester.

The study involved *47 graduate students*. All of them took the author's online psychology course *EdPs620-Child Development and Learning in Cultural Context*: 20 students – in the fall semester of 2012, and 30 students – in the fall semester of 2013. The author was the only course designer, developer, and instructor for her groups. 36 students from the investigated population had already taken online courses before at Touro College or other educational institutions and were well familiar with the Black Board platform. 11 online beginners went through a preliminary training to receive some technology skills necessary to study online. All students of the EdPs620 online course had the skills to use basic functions of a word processor such as Word.

Prior to this research, all participants' data were used for the author's other study – of learning motivation – in which highly motivated individuals or enthusiasts were identified and their distinguishing characteristics were found. According to the results, there were three enthusiasts in the A-group and no enthusiasts in the B-group (Toom, 2013). The students-enthusiasts differed from others in their *learning style*: they were usually ahead of the due dates for their course work and exceed all requirements of the course. Specifically, their homework was always complete, correct, and supported by references; the discussions led by them were the most informative and interesting in the group; their final research paper and bibliography were very rich in content, so that, no revision was needed. The students-enthusiasts differed from classmates in quantity (intensity) of their *learning motivation*. In addition, they performed optional activities as well as mandatory, that is, they differed from classmates in quality of their *learning motivation* as well. The students-enthusiasts had the highest motivation in the group and, unlike others, tended to give a higher priority to knowledge and curiosity than to grades.

Data Representation and Analysis

Since the Discussion Board was the only place in our online course where students could communicate, the analysis of group discussions appeared to be especially important for identification and understanding the distinguishing features of students-enthusiasts. Statistical analysis was done for quantitative evaluation of discussions, and the graphical representation of data was devised as the most meaningful visualized form of students' communication styles.

Statistical analysis of group discussions

In Table 1, main data covering discussions in both groups is provided, which allows for an easier comparison.

From the information offered in the Table 1 follows that, firstly, in the A-group, on average, each student submitted twice as many posts (4.7) than in the B-group (2.6). Secondly, in the A group the number of participants remained constant within the semester, which means that nobody dropped the course. While in the B-group three students stopped attending before the course completion. This data indicates that the A-group that had enthusiasts among participants, functioned differently; it had peculiar dynamics. (At least, it is one of the most natural explanations.)

Table 1. Post Statistics per Student and per Group Basis

Forum # (f)	The A-group			The B-group		
	Number of posts	Number of students	(x_f)	Number of posts	Number of students	(y_f)
1	94	20	4.7	71	25	2.8
2	102	20	5.1	62	25	2.5
3	87	20	4.4	63	24	2.6
4	91	20	4.6	54	22	2.5.
5	93	20	4.7	55	22	2.5
Average			$\bar{x}= 4.7$			$\bar{y} = 2.6$

Note: x_f= average number of posts per student in the A-group; y_f= such value in the B-group; $\bar{x}$= average number of posts per student per forum in the A-group; $\bar{y}$ = such value in the B-group; x_f= average number of posts per student; y_f = average number of posts per student per forum; f = ID of the forum.

In order to better understand how the A-group was different, we analyzed its discussion forums in more detail. Discussions on the branches[1] of the forums with enthusiasts were analyzed in comparison with discussions on the branches where students-enthusiasts did not participate. This data is provided in the Table 2.

Table 2. A-group: Comparative Analysis of Discussions on the Branches of the Forums, with and without Enthusiasts

Forum # (f)	The average number of posts in the branches of the forum		The average number of participants in the branches of the forum	
	With enthusiasts (a_f)	Without enthusiasts (b_f)	With enthusiasts (c_f)	Without enthusiasts (d_f)
1	11.3	3.1	4.5	2.3
2	12.2	3.3	5.6	2.7
3	9.0	1.9	3.3	1.9
4	10.4	2.4	4.2	2.6
5	11.1	2.2	4.2	2.0
Average	$\bar{a}$=10.8	$\bar{b}$=2.6	$\bar{c}$=4.4	$\bar{d}$=2.3

Note: a_f= average number of posts per branch where enthusiasts participated; b_f = such value for branches where enthusiasts did not participate; c_f = average number of students per branch where enthusiasts participated; d_f = such value for branches where enthusiasts did not participate; $\bar{a}$ = average number of posts per branch per forum with enthusiasts; $\bar{b}$= such value per branch per

[1] In this work, a discussion forum is present as a tree; it is natural to call its parts *branches*. Officially, in the Blackboard system, they are called *threads*.

forum without enthusiasts; $\overline{c}$ = average number of students per branch per forum with enthusiasts; $\overline{d}$ = such value per branch per forum without enthusiasts; f = ID of the forum.

It is shown that, firstly, on average, the number of posts submitted in the branches in which students-enthusiasts participated, was 4.2 times higher than in other branches of the same forum. Secondly, on average, the number of participants involved in discussions on branches with classmates-enthusiasts was almost twice higher than number of participants in other branches of the forum. This data indicates that students-enthusiasts definitely played a significant role in all discussions with their classmates.

Graphical representation of group discussions

The statistical analysis showed in general terms how differently the students of the A- and B-groups participated in discussions. In addition, for the A-group, a difference was shown between discussions in which students-enthusiasts were involved, as well as those where they were not involved. The graphical analysis allowed discovering the group dynamics, specifically, to find a distinction between group communications where enthusiasts did or did not participate. If the first approach gives quantitative insight, the second approach yields some qualitative insight.

Each discussion started with the question offered by the professor (the author). According to the requirements, each student of the group responded to the question by posting his message on the forum, that is initiated a branch of the discussion for the classmates and also participated in discussions initiated by others.

The Figure 1 shows the discussion on the forum 1 that is very typical for the A-group. It includes twenty branches corresponding to the number of students in the class. The branches are numbered; the numbering reflects a sequence of students' appearance on the branch. Each branch is represented as a chain of disks connected by the lines. The disks are students' posts. They are light if posts belong to students-enthusiasts; other students' posts are represented by filled dark disks.

Length of the branches corresponds to the duration of the discussion which is measured in the number of posts. The longer the branch, the lengthier the discussion, and the more probable that it contains a conversation that is for some reason attractive for the participants. Remarkably, the branches where enthusiasts participate are usually the longest on the forum; exceptions are rare (branch 4).
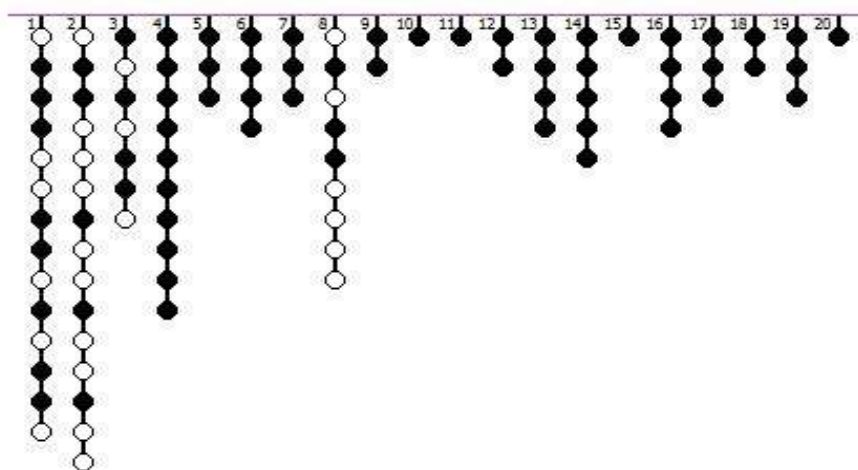

Figure 1. A representation of the group discussion on the forum 1 in the A-group

Then, a structure of communication was drawn for every branch of the forum. One of them, #16, is represented below in Figure 2. On the top, in a horizontal line, the sequence of the disks (that should be read from left to right) reflects the order in which the students' posts appeared. Letters in the disks mean students' encoded names. The graph represents how students who visited this branch interacted and exchanged their opinions.
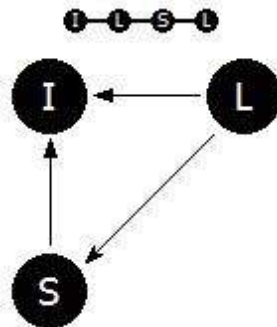

Figure 2. A representation of the discussion on the forum 1, the branch 16

The vertices of the graph shown as disks represent the students who participated in this discussion. The lines connecting the vertices are the edges of the graph and represent students' communication. The edge may have arrows on one or both sides which mean that communication between students was uni- or bidirectional. The number of edges between any two vertices indicates the number of instances of the opinion exchange. One edge shows the single opinion exchange, while two and more edges show the multiple opinion exchange which may point to the intensity of communication between the students.

Results and Discussion

Structure of group communications with and without enthusiasts

Figure 3 represents the discussion on the branch 1 initiated by a student-enthusiast code-named *A*. It is a typical course discussion in which enthusiast(s) is/are involved. Here, the structure of communication has two distinctive properties. Firstly, it is centered on the student-enthusiast *A*. This student attracted all the attention to her ideas as if she was a magnet. Everyone on the branch decided to exchange messages with her. In addition, she had an even lengthier conversation with the student code-named *D*. Secondly, communication on this branch was mostly bidirectional, again due to the student *A*, who responded to five posts out of six that she received.
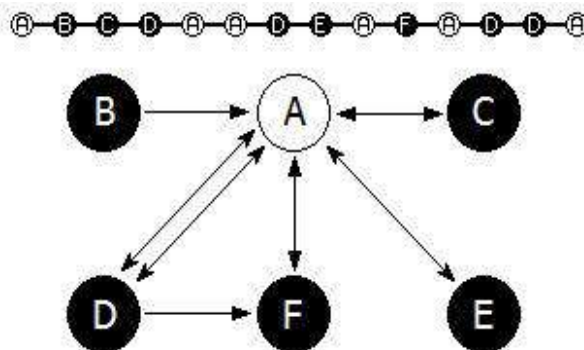

Figure 3. A representation of the discussion with an enthusiast on forum 1, branch 1

Figure 4 represents the discussion on the branch 4 which was not visited by enthusiasts. It is a typical discussion in which students-enthusiasts did not participate. There is no individual

capable and/or desiring to lead a conversation here, so communication is not centered. The fraction of the cases of unidirectional communication is relatively high here: half of the participants received responses from classmates other than those to whom they were writing. It appears that sometimes students declared their opinions and did not care much about what other classmates had thought.

Comparing these different structures of group communications, we conclude that at least in the first case students discussed the issue with great interest. It seems that they did not feel isolated, although some authors point to possible feelings of isolation in online classes (Rovai, 2002; Liu et al., 2007). In our study, students rather experienced a feeling of belonging. The author of the course (and the current study) did not make it a goal to facilitate community building in the online environment. No team interactions for community building purposes were intentionally arranged; it happened naturally. When working on the DB, students developed a sense of community due to the presence of enthusiasts in their virtual classroom. Influence of enthusiasm in the virtual classroom on development of students' sense of community was also discovered by Korean researchers (Koh& Kim, 2003). The phenomenon appears to be culture-independent.
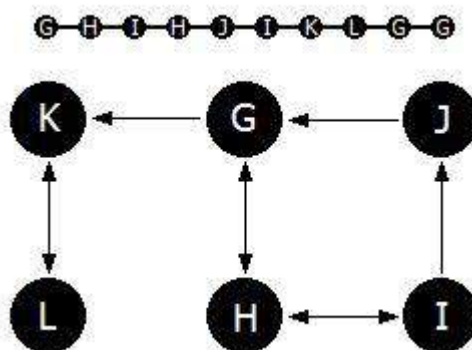

Figure 4. A representation of the discussion without enthusiasts on forum 1, branch 4

Characteristics of group discussions with and without enthusiasts

A-group

The branches where students-enthusiasts were present (regardless of whether they initiated the discussion or just participated in it) were the most attended. On average, the branches where at least one enthusiast was present attracted twice as many students than other branches: $\overline{c} \approx 2\overline{d}$ (see Table 2). The *number of participants* on the branch of the forum is an important criterion of students' involvement into the discussion. However, the number of participants does not necessarily determine the quality of the discussion.

The other important criterion of the productivity of the discussion is *the intensity of message exchange*. In the branches 1 and 4 (see Figures 3 and 4) – one included and the other did not include enthusiasts – the number of participants was the same. However, the number of posts in branches is different. In this case, the difference is not so large because the branch 4 is fairly atypical for the discussions without enthusiasts; usually the branches without enthusiasts have significantly fewer posts (see Figure 2). As we showed above, the intensity of the message exchange was, on average, more than 4 times higher on the branches with enthusiasts because their participants were more eager to converse:$\overline{a} \approx 4\overline{b}$ (see Table 2).

The structure of group communication is yet another important formal criterion of the productivity of the discussion, and it may explain why discussions in which enthusiasts participate are so attractive for their classmates. In the communication on the branch 1 (see

Figure 3), an enthusiast united the other discussants and set a productive style of conversation – almost all messages were responded to. It was a centered, organized, and mostly bidirectional communication. Let's compare it with the structure of communication on the branches 4 and 16 in which enthusiasts did not participate. Although different in the number of participants, they were very similar in their essence. They did not have a leading figure and were guided by a formal course requirement ("one response should go to the professor and at least one to any classmate") rather than the actual interest in discussing the subject. This communication was not centered, mostly unidirectional, and spontaneous.

B-group

This group lacked enthusiasts. Here discussions were identical in their characteristics to those of the A-group discussions in which enthusiasts did not participate. That is, they were not centered, less organized, more spontaneous, and mainly unidirectional. They were also less intensive in the average number of posts and the average number of students involved than discussions led by enthusiasts (See Table 1).

"Help me!" messages and helping responses

In the virtual classroom, where there is no face-to-face contact, the difficulties that arise during the educational process may be perceived more acutely than in the traditional classroom. We analyzed the content of "Help me!" messages and helping responses submitted by other students to those who were in need in the A-group. It was determined that 3 students-enthusiasts had sent three times more helping responses to their classmates than all the remaining 17 students of the A-group did. In the B-group "Help Me!" messages did not appear on the DB. Students in need sent their questions via e-mail to the instructor.

It was determined that "Help me" messages related to the following three aspects of the online study: a) the subject under the study; b) the Blackboard, the instrument by means of which the subject is taught/learned; c) the online course's organization, that is, the framework within which the education process takes place. These three aspects – academic, technological, and administrative – are major aspects of students' orientation in the virtual learning environment. Such function as orientation is usually provided by the teacher in the traditional classroom. In the online classes, it may be voluntarily assumed by the students-enthusiasts who have willingness to provide guidance to their less knowledgeable online classmates.

A psychological portrait of the student-enthusiast

Although the students-enthusiasts constituted the small part (6%) of investigated population, their contribution to the learning environment was the greatest. They had an inclination to lead group discussions and skillfully stimulated them even online. They demonstrated helping behavior, which is quite unusual in today's competitive society. They oriented the classmates in their virtual classroom clarifying various aspects of the online study, although not even all instructors, especially those belonging to older generations, so-called digital immigrants[2], fully understand what a virtual classroom is. Each of these three qualities listed above occurs infrequently. Their combination is truly unique. Maybe, this is precisely what identifies a pedagogical talent?

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[2] The term *digital immigrant* was originated by Mark Prensky in his article "Digital Natives, Digital Immigrants" published in 2001. The term may apply to generations that were born before the spread of and/or were not exposed in their young years to digital technology, such as computers, videogames, video cams, tablets, I-phones, Internet, and other toys and tools of the digital age. College students of today, according to this point of view, are "digital natives"; many of them easily adjust to new virtual learning environments.

In their book *The Virtual Student: A Profile and Guide to Working with Online Learners,* R. Palloff and K. Pratt call an ability "to share personal details about their life, work, and other educational experiences" a necessary characteristics of successful online learner (2003, p. 6). According to academic achievement, most of our students appeared to be successful online learners. However, a tendency to trust and share information with the class was contributed primarily by students-enthusiasts. Their style to lead conversations was accepted by other discussants. To a large degree, online discussions became attractive and productive for the group due to enthusiasts' special style of communication.

Lack of both computer skills and face-to-face communication might "expose online learners to a risk of feeling isolated and disconnected" (Liu et al., 2007). Many researchers believe that active and dynamic discussions between students may serve as significant support for building an online community (Swan et al., 2000; Blanchard & Markus, 2002; Zhao et. al., 2012). Students-enthusiasts actually acted as the support network. When enthusiasts were stimulating online group discussions as well as orienting classmates in the virtual classroom, they helped others to develop a sense of belonging, emotional connection, and wellbeing in the VC.

Learning motivation of students-enthusiasts quantitatively and qualitatively differed from other students' learning motivation (see Participants and Context). Their interest and desire to achieve learning goals was the highest in the group. What is even more important is that, unlike others, they gave a higher priority to knowledge and curiosity than to grades.

A current study showed one more distinguishing feature of their motivation. It turned out that they could not learn productively without teaching at the same time. Teaching was their distinct method of learning. The less knowledgeable and less experienced classmates became the object of their pedagogical intentions. It seemed that learning motivation and teaching motivation were unbreakably connected in their activity. Notably, their teaching was not a formal instructing. They initiated an active exchange of opinions and stimulated dialogues with other students. Discussions led by enthusiasts usually turned into a collaborative search for answers to the questions stated by their professor on the DB.

From the point of view of the motivational paradigm, students-enthusiasts are over-motivated individuals exceeding all the course requirements and desiring to perform more and better, even if, according to the course policy, this "more and better" is not rewarded. Enthusiasm as a motivational phenomenon is a selfless love for knowledge and chosen profession. From the point of view of the communicational paradigm, a student-enthusiast is an informal leader uniting, consolidating classmates, and transforming the group from a disorganized mass without common interests to a team capable of collaboration. Enthusiasm as a communicational phenomenon is a selfless tendency to share one's expertise and help less experienced learners to explore knowledge and chosen profession.

Reliability and Validity of the Results

It was shown that the average number of participants and posts in the branches of the B-group discussion forums not having enthusiasts were as low as in those branches of the A-group forums in which enthusiasts did not participate. Similarity of the results confirms their reliability.

Upon completion of the course, the students of the A-group were invited to help their professor (the author) with the creation of a video orientation session for the future students of the same online course. The goal of this project was to help learners, especially online beginners, orient themselves in the course site more quickly and effectively. For all of us it was a form of volunteer work. Eight out of 20 students of the A-group responded to professor's e-mail message. However, only three of them really helped – they were the same individuals who showed great enthusiasm during the semester. It confirms the validity of the results.

Since the data was collected on the relatively small population, the general applicability of the findings is still limited. Similar studies in the author's courses in consecutive semesters as well as other disciplines are needed. The research is continuing.

Conclusions

The number of participants in a branch of the discussion forum, the intensity of their message exchange, and the structure of group communication can be used as formal criteria for identifying productivity of discussions on the DB in asynchronous online courses. Presence of students-enthusiasts improved these indicators.

The hypothesis of a difference in communication styles between students-enthusiasts and their classmates has been confirmed. Students-enthusiasts became the center of each discussion where they participated, and they involved other students in dialogues not leaving without a response any incoming posts. They tended to orient less knowledgeable classmates in the VC, that is, responded to every "Help me!" message and clarified various aspects of the online study. Students-enthusiasts created a positive psychological atmosphere on the discussion forums in which their classmates developed a "sense of community" and avoided feeling of isolation. Thus the students-enthusiasts may be called catalyzers of the educational process.

Students-enthusiasts served as models for others. They provided support for their classmates and the professor. In fact, they voluntarily became the professor's informal assistants in instructing the class. Formally being students, they actually performed some of the teacher's functions. However, in spite of their competence, they still looked at the learning environment through the students' eyes and might understand other students' difficulties better than instructors. So, we conclude that such a contribution can and must be appreciated and maximally used in a virtual classroom with its specifics and communicational limitations.

Thus, we see reasons to expect that the features of students-enthusiasts, which were discovered in our study, manifest themselves in their own classrooms where they officially work as instructors. It gives us a better insight into how they influence their pupils' development, learning, and lives. It helps to recognize teachers-enthusiasts' exceptional role in the society.

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