

# The Role of the Communication Tools in the Development of the Learning Group in an Online Environment\*

MARIA PAVLIS-KORRES

Computer Science Department, University of Alcalá, Spain. E-mail: eumarcor@otenet.gr

The use of the appropriate communication tools throughout the development of the learning group can improve interaction between the members of the learning community. Interaction lies in the heart of online learning experience as it affects directly the engagement of learners in the educational process and the quality of learning. Most of the existing Learning Management Systems offer a variety of communication tools, as e-mail, chat, forum, drop box, calendar, working groups, wikis, blogs, dictionaries, discussion board etc. all of which can be used in order to enhance group development. Matching the strengths of each specific tool to the learning objectives of each course at the right time results to the engagement of learners in the learning process and motivates them towards successful learning.

**Keywords:** group development; e-learning; communication tools; interaction

## 1. Introduction

The nature and the importance of the group development in an online environment must be understood and taken into consideration in the design, development, implementation and evaluation of e-courses in order to move learners beyond posting isolated replies in response to threaded discussion board prompts, and into real interaction, critical thinking, collaboration and immediacy with and between the learners themselves, as well as with the educator. The use of the appropriate communication tools throughout the group development can enhance interaction between the members of the learning community, as interaction is a basic element of online learning experience, affecting directly the engagement of learners in the educational process and the quality of learning.

The first section of this paper deals with the phases of the development of a learning group in an online environment. In the second section the main online communication tools are examined as well as their contribution to the promotion of the learning group development.

## 2. The development of an online learning group

The study of group development dates back to 1965, when Bruce Tuckman [1] proposed his 4-phase model. What Mr Tuckman and the researchers that contributed to his model did not have to deal with was the challenges of an online environment, where the educators and learners have to fight against the different location and time of access of each group member and the isolation which may occur due to these factors.

Many researchers have analyzed the stages through which an online learning group is developed. Salmon [2] identified that students who are separated from one another by time and distance will progress through five stages of learning group development: the stage of access and motivation (characterized by welcoming and encouraging); online socialization (characterized by familiarizing and providing bridges between cultural, social and learning environments); information exchange (characterized by facilitating tasks and supporting use of learning materials); knowledge construction (characterized by facilitating process); and development (characterized by supporting and responding). The five-step model reflects a positive progression in the quality and intensity of interaction between students, as well as between students and their teachers. The online instructor's role is multidimensional and changes at different stages depending upon the student needs and circumstances within each class. Stage five is the highest level of learning and students are taught to use higher order thinking skills. Students are challenged to demonstrate reflective thinking by interpreting information at a deeper level. In fact, students will begin to acquire new cognitive skills and learn to monitor and evaluate their thinking. At this stage, instructors will need to devote time to create a learning environment that fosters reflective online dialog [3].

In the same direction Waltonen-Moore et al. [4] identify the five stages of the evolution of online learning group through which initially 'virtual' strangers participants become an interactive and cohesive learning community by the end of a five-week course. The five stages of online group development are: (a) Introduction (in which the participants introduce themselves to one another), (b)

Identification (in which learners and facilitators begin to identify with and relate to one another), (c) Interaction ('Sparks' of interaction occur; the first semblance of a conversation/dialogue begins), (d) Involvement (Learners are engaged with one another and are working collaboratively), and (e) Inquiry (Inquiry is guided by the desire to apply learning to real-life).

Another model based on synchronous and asynchronous discussions found three successive stages of development: (a) social bond formation, (b) information sharing, and (c) advanced stage [5]. Whereas the social bond formation stage centers on introductions and participants becoming more familiar with one another, the second stage involves the exchange of information and knowledge among participants. The advanced stage includes the application of metacognitive skills by group members.

Merlose and Bergeron [6] have integrated the Salmon [2], Johnson and Johnson [7] and Tuckman [1] predictive models of learning group development into three stages: beginning, middle and end. First, learners can be expected to progress through a beginning stage where engagement with content and process issues occurs; second, through a middle stage where encouragement towards task completion occurs; and third, through an ending stage where closure occurs.

According to the finding of Merlose and Bergeron descriptive research study [6], that explored online graduate students' perceptions of instructor's immediacy strategies, learners need to know that their instructor would remain attentive to their needs as individuals. 'Instructors who communicated: 'I'm here if you need me' were perceived as available to them, immediate and present'. The use of private emails between instructor and learners open the doors to learners for sharing their individual needs. Liking and feeling close to their teachers helped these graduate learners feel safe, encouraged them to risk participating in group projects and allowed them to achieve closure.

Based on the fact that the creation of a learners' network is a dynamic process and it does not end when the educational course is over but is continuously enriched with new data and experiences from the participants, [8] has added one more important stage, the maintenance of the learning group after the end of the course. The encouragement of learners to create new learners' networks after the end of the program corresponds to the learners' need for continuous upgrade, conforming to the principles of lifelong learning. As the communication online tools of the LMS may not be available, this stage relies mainly on the communication tools available through the social networks.

When online course designers, developers and

educators have a clear picture of the ways the group development is working in web-based instructional settings, they will be helped to support group dynamics, thus allowing for enhanced learning [4].

In all models and studies of the group development interaction between its members is essential in order for the group to connect, to grow, to face up to challenges, to tackle problems, to find solutions, to plan work and to deliver results.

The initial stages of the group development where the members of the group introduce themselves to one another and begin to identify with and relate to one another are very important in order to build a strong and functional learning group.

The first few hours and days of any course are often the most challenging for educators and learners alike. Early in the course the constructive norms of the group have to be established and interaction and immediacy between the members of the learning group have to be promoted. A variety of e-learning activities by using the appropriate communication tools must be used in order to engage learners in the educational process, establish norms and build relationships among the learners in online courses.

Most of the existing Learning Management Systems (LMS) offer a variety of communication tools, as e-mail, chat, forum, drop box, calendar, working groups, wikis, blogs, dictionaries, discussion board etc., which could be used in order to enhance group development. An effective matching of the strengths of each specific tool to the learning objectives of each course at the right time results to the engagement of learners in the learning process and motivates them towards successful learning.

The use of additional communication tools not usually included in LMS, such as Instant Messaging, social networks, wikis, blogs and live communication and conference services, can offer more opportunities for the educator and his/her learners to empower the bonds between them and promote the sense of community. These tools are even more important for the maintenance of the learning group after the end of the course.

### **3. The main communication tools in a LMS and their role in the development of the learning group**

By using the proper communication tool at the right time, the learner can be engaged to the educational process, interaction and immediacy between educator and learners as well as between learners themselves is promoted and, finally, the development of the learning group is effectively supported. As Pall-off & Pratt [9, pp. 129–130] relate, 'what the virtual student wants and needs is very clear: communica-

tion and feedback, interactivity and a sense of community, and adequate direction and empowerment to carry out the tasks required for the course'.

We shall examine the main communication tools which are offered in LMS and how they can be used to enhance the group development.

### 3.1 *E-mail*

The most commonly used tool in online learning is the e-mail. Through the use of e-mail the interaction between educator and learner is mainly promoted, as it is the main tool for one-on-one communication. 'E-mail offers a sense of privacy that might not be available on a larger class discussion board. If the online discussion board is equivalent to a student asking a question in a live class, then the ability to ask a question or talk via e-mail is equivalent to a student meeting in the instructor's office to talk privately' [10, p. 50]. E-mail can be a source of intense interaction between educator and learner that can lead to deeply engaged learning. As DeBard & Guidera [11] have shown in their research, an average e-mail response is 106 words, while the average in-class response is only 12 words.

By using the e-mail wisely and consistently, the educator promotes immediacy and a sense of connectedness to the members of the learning group. Furthermore, via e-mail the educator can provide convenient and quick transfer of information [12] as well as feedback on a personal basis to each learner or the entire class, which is an important construct for facilitating the learning process [13]. As e-mail is an asynchronous tool, another of its advantages is that it offers a communication between educator and learners that avoids scheduling conflicts [14]. On the other hand, while e-mail has the capability to increase a sense of connection for the learner, it can also work adversely, if the instructor is not timely with responses. According to Woods & Keeler [15], 'students report frustrated, depressed, or disconnected when e-mail answers are slow or nonexistent'.

The educator can use the e-mail in order to promote interactivity and connection with his/her learners from the beginning of the course e.g. he/she can begin each course with an introductory e-mail, match learners in pairs on the first week of the course or/and survey the learners for their interests, preferences and needs.

By using the e-mail effectively, educators interact with their learners, learners' involvement and motivation is increased and the individual connection is enhanced, as well as the sense of community. It is obvious that the e-mail can play an important role in all the phases of the group development.

### 3.2 *Discussion forums*

Discussion forums or threaded discussions, are the

most preferred whole-class asynchronous communication mechanisms as they provide the time flexibility and opportunity for in-depth reflection. In discussion forums a sense of community is created through peer interaction and feedback and through the educator's feedback, visible to all learners.

Discussions are especially important when working with the middle and higher level of the cognitive domain (application, analysis, synthesis and evaluation) as well as with all levels of the affective domain [16].

Brookfield [17] also says that discussion supports both cognitive and affective ends, such as problem solving, concept exploration, and attitude change, as well as the kind of active participatory learning that results in engaged learning within the classroom.

By using asynchronous communication tools, learners actively construct their own learning by engaging themselves and others in reflective explorations of ideas, drawing conclusions based on their explorations and synthesizing those conclusions with previous knowledge.

Therefore, forums/electronic discussion groups seem to have taken the lead among asynchronous communication tools [18], promoting collaborative learning and reflection and improving the quality and quantity of education in online learning environments [19–21].

Discussions help learners explore different perspectives, recognize their own values and assumptions, develop their ability to defend ideas and learn to respect others' opinions and viewpoints.

In forums and electronic discussion groups, people work together to form ideas, argue points, and solve problems. All learners have a voice and no one can dominate the conversation. The asynchronous nature of the discussion also makes it impossible for even an instructor to manipulate. Accordingly, many educators note that students perceive online discussion as more equitable and more democratic than traditional classroom discussions [22]. Whereas in face-to-face meetings learners must make their statements one after the other synchronously within a limited timeframe, in forums they can take their time and write their messages asynchronously when it suits them, or within a larger timeframe. Since learners can express their thoughts without interruption and in time convenient for them, they have the opportunity to reflect on their classmates' contributions while creating their own, and on their own writing before posting them [23, 24]. It is possible for learners to 'rewind' a conversation and thus they have time to carefully consider their own and other learners' responses leading to deeper discussion [19]. This tends to create a certain mindfulness among learners, encourages deeper level of thinking, dis-

course and a culture of reflection in an online course [22, 25, 26]. Many researchers suggest that asynchronous threaded discussion boards are a viable instructional method for sustained written interaction that promotes critical thinking [4].

Despite the fact that forums/electronic discussion groups are text-based and so lacking in visual and verbal cues, most participants find them strangely personal [27] and J. Walter has called them 'hyper-personal' [22].

MacNamara and Brown [19] support that discussion forums need to be carefully structured and managed to ensure that they result in the deep level of collaborative reflection that is desired. They propose three factors which should be considered in planning an online discussion: the organization of the forum, the motivation of students to participate and the ability of students to participate effectively.

At this point the role of the educator must be stressed. According to the literature the most appropriate role for the educator using threaded discussions is that of facilitator [4]. The educator's tasks with regard to the facilitation of discussion boards are: (a) setting the scene, (b) monitoring participation, (c) facilitating critical thinking and (d) promoting student collaboration [28].

Educators may lead or facilitate discussion by asking for clarification, summarizing major points, and focusing on the issue, or they may participate as a member of the group while learners take on the roles of keeping things on track and summarizing [16].

It is evident that discussion forums can play a vital role in all phases of the learning group development, promoting effectively interaction, critical thinking and collaboration between the members of the learning group.

### 3.3 *Small groups*

The ability to create small groups in online classes, with each small group using their own communication tools such as e-mail, drop box, chat and discussion board offer the opportunity to establish groups according to the personal, professional and educational interests and needs of the learners. As Lisa Dawley [10] stresses, properly structured small groups can experience a tighter bonding with individual classmates and a greater sense of connectedness to the course overall. The work in small groups in combination with the use of other communication tools between the members of the group, as e-mail, chat etc., can foster the feeling of connection and community among learners and promote interaction that supports socially constructed meaning and creation of knowledge. Students report feeling a connectedness to a course and program when provided opportunities for small group interaction and

this connection can help reduce dropout rates in online programs.

Furthermore, small group size and structure can be varied by the educator depending on the objectives of the assignment. Thus, the learner has a variety of learning experiences, from dyads, triads, and larger groups, throughout the duration of the course. This variety can help maintain interest and engagement with the course.

To make each small learning group successful, preparation and facilitation on the educator's part is required. According to Pallof and Pratt [29] it is important for the educator to explain and set guidelines, to provide a meeting place and the parameters for how to connect, guide and evaluate the process. Furthermore, the creation of an atmosphere of safety and trust is critical to the development of an effective online working group.

### 3.4 *Chat and instant messaging*

The synchronous communication tools, chat and instant messaging (IM) provide the benefits of creating a sense of community, the ability to interact more spontaneously and improve in-depth understanding on a given topic, to have live group discussions either with the entire class or in small groups and involve guest speakers in the online class. Heafner [30] supports that one of the greatest strengths of chat and instant messaging is the ability to create connectedness and overcome isolation via real-time communication.

Driscoll [31] notes that one of the strengths of chat is the immediate feedback, as opposed to the asynchronous methods where feedback may take days or weeks. The fact that chat or IM sessions can be held one-on-one, in small groups or with the entire class, makes them good for group work as they make the experience more meaningful and further concrete the concept of team learning. Chat rooms enhance the social presence of educators and learners in the course, creating a greater sense of belonging for learners. Lisa Dawley [10, p.127] notes that 'the use of chat and instant messaging, in the context of an online course, encourages a benign disinhibition for most students, removing boundaries to expression of ideas that might exist in a regular classroom, and creating an overlap of self and other. This capability allows the student to experience themselves in a new way, possibly for the first time. When this experience happens in a structured format with instructor support, students are cognitively, socially and emotionally stimulated. This positive experience can thus create a deeper connection with the course, the instructor, and other students in class'. Furthermore, chat can provide a vehicle for in-depth discussion on one idea over time, even more so than it

might be experienced in a regular class. The nature of chat requires users to type, post, wait, and read before responding. This 'lag time' in communication imposes a communication environment that can force students to stay focused longer on one topic than they might normally. This phenomenon according to Dawely [10] is usually more prevalent in groups that have chatted on several occasions.

In order to use effectively the chat we must take into consideration that learners new to chat are often overwhelmed with the style and quick pace of chats and that entire class chats, in order to be successful, need tight moderation and structuring. Another difficulty to be faced is that chat takes a great deal of flexibility to get groups coordinated to chat at a particular time, especially as adult learners have a heavy professional, social and family life.

An interesting issue for future work is the examination of the potential of the enhanced version of chat, the video conferencing, which offers a video and audio feed of the educator and learners, a text box for chatting and private messaging during chat, file sharing and polling capabilities and a white-board area that can serve multiple purposes.

#### 4. Conclusions

The use of the main communication tools, which are offered in most of the LMS, can enhance interaction between the members of the learning community in all stages of the development of the learning group and thus directly and positively affect the engagement of learners in the educational process as well as the quality of learning. The appropriate use at the right time of e-mail, discussion forums, small groups, chat and instant messaging can help to build a learning community and promote connection among participants as a means to support successful teaching and learning. As educational technology increases rapidly, the potential of the new communication tools (teleconferences, whiteboards, blogs and wikis) in group development must be evaluated and these tools should be integrated in the learning process. Finally, it must be stressed that neither interaction nor the group development itself are the primary goals. These should be considered means for helping learning groups achieve their educational goals.

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**Maria Pavlis-Korres** obtained a university degree in Political Sciences in Athens (1981). She has been working with adults' education since 1983 in the Greek Ministry of Education and is associate researcher at the IE group. She has published several books and articles concerning Roma and their education and has participated as an expert in important research projects in cooperation with the European Council (1985–1986), the University of Ioannina, Greece (1997–1999) and the University of Athens, Greece (2010–2012). In 2010 she obtained a PhD title at the University of Alcalá de Henares, Spain, working on the development of a framework for the e-education of educators of special groups. Her present research interests are focused on the development of group dynamics in an online environment and on using appropriately the communication tools in order to improve interaction online.