We are IntechOpen,
the world's leading publisher of
Open Access books
Built by scientists, for scientists

4,800

Open access books available

122,000

International authors and editors

135M

Downloads

154

Countries delivered to

Our authors are among the

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities

CLARIVATE ANALYTICS

BOOK
CITATION
INDEX

INDEXED

WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com

Promoting Social Capital, Empowerment and Counter-Stereotypical Behavior in Male and Female Students in Online CSCL Communuties

Donata Francescato, Minou E. Mebane, Manuela Tomai,
Maura Benedetti and Veronica Rosa

Additional information is available at the end of the chapter

1. Introduction

The process of globalization, the spread and connectedness of production, communication and technologies across the world, has produced both positive and negative effects on the economic, social, cultural and health domains. Stiglitz (2002) maintains that globalization has brought medicine to the developing nations, attention to human right violation and has made people worldwide more aware of our interdependence. One field in which globalization has produced mostly positive effect has been in the educational domain, where far reaching changes have been implemented by the adoption worldwide of distance education. Globalised e-learning has overcome limits of space and time, reduced the sense of isolation felt in many nations of the developing world and has given to many people access to knowledge in unprecedented scale. As we will document it has deeply changed the way people can teach and learn, providing new and still unexplored opportunities. However not all distance education projects have the same potential to promote problem solving efficacy, cooperation, empowerment, social capital and sense of belonging to an online community. In this chapter we will discuss various research projects which have explored which kind of elearning is most effective in promoting these positive changes.

Up until the late 1980 most experiments on computer-supported education of the first and second generation were based mostly on a solo-learner model, and the opportunities to individualize learning processes were supposed to be the most important aspect of computer-aided instruction. During the last twenty years of the third generation of computer supported education, the use of information and communication technology and education has more or less explicitly considered technology's possibilities to facilitate social interaction between teacher and students, and among students. Computer Supported

Collaborative Learning (CSCL) has attracted the attention of different disciplines because it enables both independent as well as group learning. CSCL is based on cooperative and constructivist learning theories which focus on social interdependence and learning also by teaching one another. The new technologies offered by software platforms which include multiple communication modalities have facilitated the application of cooperative and constructive models online. Supporters of CSCL maintain that the social interaction available online can produce interpersonal effects even superior to those found in F2F groups (Biuk-Aghai & Simoff, 2004) and that it has the potential to provide new first class educational opportunities to teach even professional skills, normally taught only in F2F graduate programs. For instance, Rudestam (2004) underlines that certain key features of CSCL such asynchronous small group discussions, collaborative problems solving, reflective inquiry, competency based outcomes and the facilitator role of the instructor could be very helpful in the training of clinical psychologists. Several authors underline that learning professional skills in asynchronous small group discussions online, through the new internet platforms that make available all course materials and record all exchanges among participants could offer to online students additional advantages, by creating "a permanent written record of the entire classroom experience as an ongoing source of reflection, evaluation and learning" (Rudestam, 2004, p. 428). Opponents instead think that the quality of education in online courses can be compromised because teaching and learning are dynamic processes that benefit from non verbal cues present only in F2F settings (Walther, Loh, & Granka, 2005). Many agree with Barbera (2004) that the promise of distance education through virtual environment being able to provide high quality education has yet to be realized. Zhao and colleagues (2004) contend that the advantage of distance education in delivering learning content in college level courses may not work as well for graduate courses where more complex ideas are explored.

To which of these contrasting theoretical positions do empirical data provide more support? The question is not easy to answer for several reasons. Most published efficacy reviews lump together studies that use first, second and third generation methods of learning, which differ widely in the kinds of social interaction they allow or promote and show contrasting results (Bernard, Lou, Abrami, Wozney, Borokhovski, Wallett et al., 2004; Jahng, Kugh, & Zhang, 2007). Moreover, studies on the efficacy of collaborative learning online vs. F2F are even fewer than those focusing on types of distance learning of first and second generation. According to Russell (1999) and Phipps and Merisotis (1999), who have reviewed empirical research, many studies have also serious methodological limits, as not using randomly selected subjects, or not including a theoretical framework. Benbunan-Fich and colleagues (2002) also highlight that most studies have compared synchronous online vs. F2F and only very few have examined asynchronous learning settings. Even reviews focused solely on CSCL emphasize the lack of control F2F groups, or underline that most studies do not distinguish between synchronous or asynchronous modes of communication or do not do not consider key variables like degree of cooperation required, pedagogical models, teachers' and students' characteristics, subject matter taught, or use different outcome measures which make comparison difficult (Lehtinen, Hakkarainen, Lipponen, Rahikainen, & Muukkonen, 1999). Most research did not differentiate among the theoretical pedagogical

models on which the teaching was based, did not distinguish between types of platforms used, synchronous and asynchronous communication, did not assign students randomly, did not hold assessment procedures constant, or employed small samples (Fahy, 2006; Meyer, 2006). Moreover, most studies varied in the type of collaborative learning that was promoted. This is a major limit, since there are different degrees of collaborative learning. On the low end of the continuum, a group might be brought together involuntarily, might have members who do not value collaboration, and might be given tasks and assessment that discourage collective behavior. At the high end of the continuum, a group might be created voluntarily, might be trained in specific collaborative techniques, might be asked to complete tasks that require cooperation and might have their individual assessment tied to those of other group members (Sipusic, Pannoni, Smith, Dutra, Gibbons, & Sutherland, 1999). Several studies also revealed that distance education was more effective for undergraduate than graduate students (Bernard et al., 2004; Jahng et al., 2007). Furthermore there are few authors who have compared the efficacy of F2F and online courses in transmitting professional competencies, increasing self-efficacy and empowerment, promoting social networking and social capital (Harris, 2003; Maggio, Cheneail, & Todd, 2001; Susskind, 2005). Still fewer have investigated whether groups' dynamics in CSCL lower conflict level or favor the emergence of counter-stereotypical behaviors in both male and female differences, since most studies have focused on women's overcoming the gender gap in participation.

In this chapter we will first discuss four studies which aimed A) to compare the efficacy of F2F and online courses in transmitting professional competencies, increasing self-efficacy and empowerment and social capital; B) to explore how some teachers characteristics (having Master or PhD, shorter or longer experiences in teaching on line and F2F) influence students' learning; and C), to ascertain if learning strategies, personality traits differentiate students who do better in online or F2F collaborative learning contexts. These first studies we are all done on Yahoo Groups platforms. Then we performed two more studies using a Moodle Platform which aimed to ascertain which characteristics of only online learning contexts: A) produce less conflictive group dynamics; B) favor the emergence of gender counter-stereotypical behaviors.

2. Can professional skills, social and problem solving efficacy and empowerment be promoted online?

Proponents of collaborative approaches to learning have recently gained more attention for a number of factors. First, there has been an increase in the popularity of learning theories underlying the benefits of collaborative learning such as cultural-historical theory, constructivism and situated cognition. Vygotsky (1978) maintains that each internal cognitive change is due to the effect of a social interaction. Therefore, interaction between children and adults and between peers is crucial in promoting learning. Constructivism based on Piaget's theories, emphasizes the importance of context during the construction of knowledge and the role of social interaction in promoting learning (Doise & Mugny, 1984). Situation-cognition theory considers learning as a process of entry in a community of

practice and links together the specific context and the knowledge to be learnt (Brown, Collins, & Duguid, 1989). Second, in work in organizations collaborative activities in groups are becoming more crucial (Johnson, Surya, Won Yon, Barrett, & La Fleur, 2002; Lehtinen et al., 1999; Marshall, 1995). Most educational systems, however, have in the past focused mostly in promoting competition more than cooperation, individualism more then team work, self-actualization more than community spirit; and therefore often did not prepare students to work together in teams. Moreover, the distributed expertise point of view underlines that cognitive demands of modern work make the collaboration and networking of different competencies necessary for successful problem-solving (Schrage, 1990). Also Gros (2001) sustains that collaborative learning responds well to the needs of the "information society", in which cooperative relationships, shared decisions, diversity and communication are becoming the dominant values.

Collaborative learning should encourage the development of various forms of self-efficacy such as problem solving efficacy, social efficacy, and study efficacy. Research involving university students has shown self-efficacy can be promoted in traditional educational settings and favor enactive mastery, as theorized by Bandura (1997). For instance, in some studies (Goker, 2006) peer coaching increased self-efficacy of student instructors teaching English as foreign language. Others proved that self-efficacy in pre-service teachers can be promoted, when they are able to benefit of feedback from experiences, colleagues and supervisors (Clifford & Green, 1996; Watters & Ginns, 1995). Other experiments have revealed that business majors increased their self-efficacy after taking part in an academic self-management training course (Gerhardt & Brown, 2006) or that nursing students could improved their self-efficacy in caring for elders through a reminiscence education program. Unrau and Beck (2004) enhanced more student research self-efficacy with social work students enrolled in both research and practice courses with respect to those who took only practice courses. Not all training programs do succeed in increasing students' self-efficacy. A recent study by Fletcher (2005) who tried to build undergraduates' technological literacy for higher education failed to find significant differences in self-efficacy scores between control and treatment students. While most F2F studies show that one can improve various forms of self-efficacy in university students, we know very little on how to increase socio-political empowerment, since relatively few studies have evaluated the efficacy of deliberate attempts to promote perceived or actual socio-political empowerment among students (Angelique, Reischl, & Davidson II, 2002; Francescato, Solimeno, Tomai, & Paulesu, 2005).

Community psychologists (Amerio, 2000; Prittellesnky, 2005), who unite clinical psychology's traditional concern for the welfare of the individual with an interest in the legislative and political processes that contribute to create the conditions in which individuals live, have underlined there is a growing need to promote social political empowerment for all students in our university settings, and to promote active citizenship. Political empowerment has been found to be linked to involvement in one's community (Heller, Price, Reinhartz, Riger, & Wasserman, 1984; Perkins, Brown, & Taylor, 1996; Zimmerman, 1990), political actions (Stewart, Settles, & Winter, 1998; Zimmerman, 1989), and feelings of efficacy (Cole, Zucker, & Ostrove, 1998; Florin & Wandersman, 1984; Hinkle,

Fox-Cardamone, Haseleu, Brown, & Irwin, 1996; Zimmerman & Rappaport, 1988). In studies with college students and community residents, Zimmerman and Rappaport (1988) found that participants with the highest community involvement had the highest empowerment scores. Political empowerment has been found linked to a commitment to act for social change (Donnely & Majka, 1998; Foster-Fishman & Keys, 1997; Foster-Fishman, Salem, Chibnall, Legler, & Yapchai, 1998; Fyson, 1999; Zimmerman, Israel, Schultz, & Checkoway, 1992). Also political efficacy offers an antidote to alienation and can be understood as a form of political powerfulness (Zimmerman, 1989). As such, political efficacy may be a predictor of activism (Wittig, 1996).

The process of political empowerment begins when one is able to recognize the social opportunities and the obstacles present in the settings where one lives; and above all, understands the unequal power dynamics among individuals, groups, organizations, local communities and macro-social contexts. Bruscaglioni and Gheno (2000) underline that a first level of empowerment is reached, through the elaboration of new narratives, which makes choices that were "unthinkable", become "imaginable" for a person, a small group, an organization, a local community or a nation. However, narratives are not sufficient. Changes can become feasible only by creating the socio-cultural and economic conditions that promote individual and collective empowerment. These environmental conditions have been changed historically through collective struggles and not only through individual efforts, as the "self-made man mythology" sustains. To become empowered, a person needs first of all to be able to hope and to imagine a better future (hopefulness component). One also has to have objectives and take a variety of actions to reach them (efficacy component). To become socio-politically empowered requires a further process: to become aware of how socio-political events, taking place even in more distant contexts, can influence negatively or positively one's life.

Therefore, an individual should be interested and willing to understand local, national and international political news, and to recognize the importance of uniting with others to participate in initiatives that can have an impact in social and political processes. To become politically aware, one needs to develop the capacity to read power and social dynamics in wider contexts and to feel an affective bond not only with family and friends but with unfamiliar persons who have common aims and responsibilities as co-citizens. One has to develop the belief that she may increase her power to influence social settings by joining others in collective struggles. So in the last twelve years we have been engaged in a series of studies to explore which types of online experiences could promote the development of professional skills, social and problem solving self-efficacies and empowerment and to compare the efficacy of F2F and on line courses. We conducted preliminary studies in the academic years 1999-2002, which helped us to define the evaluation research design, train online teachers, develop appropriate teaching modules that required a high degree of students' cooperation and could be taught sequentially both in regular F2F and online community psychology seminars, and develop and test individual assessment procedures of acquired knowledge and small group professional competences assessment procedures. We performed a pilot study in 2002 (Francescato, Porcelli, Mebane, Cudetta, Klobas, & Renzi,

2006). In this research fifty psychology majors, homogenous for gender, age and grade average, were assigned randomly to two seminars taught over a two-month period by the same teacher online and F2F, to learn the same professional skill, a community evaluation methodology called community profiling which allows the users to detect problems and strengths of a local community. All students, divided in ten small groups carried out similar evaluation activities in a local community of their choice. The teacher, expert in both F2F and online teaching, designed small group collaborative learning activities into a seminar series consisting of weekly modules that could be completed both in F2F and online settings. The same teacher acted as content expert and process facilitator for both groups. In both seminars students learnt the same professional skill, by actually participating in a community evaluation. They all learnt the same community evaluation methodology: community profiling. This allows the users to find out what particular problems and strengths characterize a local community. Eight profiles (territorial, demographic, economic, service, institutional, anthropological, psychological, and future) are drawn through a variety of data gathering techniques. Profiles are examined by a core research group made up of residents and community psychologists. This core group, helped by key experts, identifies the strong points and the problems areas, using "hard data" such as rates of unemployment, demographic changes, measured levels of air pollution, and number and types of services. Instead, to explore the affective components of community belonging (i.e. shared values, feelings about living in certain neighborhoods, fears and hopes for the future), the analysis of the psychological, anthropological, and perception of future profiles is performed. For instance, to take emotional snapshots of how residents feel, Italian community researchers use story telling and a group movie script technique. Different groups of residents, who during the examination of the first five profiles have been shown to be important for that specific community, are asked to develop a plot for a movie script about their community. They have to pick a genre of movie (e.g. historical, science fiction, comedy, or detective story) and come up with a title, a plot, and main characters. The movie may be dramatized if they wish, in particular relevant scenes. Most groups choose to dramatize their movie in front of members of other groups, which are then encouraged to say what emotions they felt watching the performance. It seems that emotional sharing in a protected environment promotes a climate of trust in which even conflicts can be openly expressed and handled. During a final meeting, in which all the people who participated in the research are urged to attend, main positive aspects and negative emerging in all eight profiles are discussed as well as priorities that need to be implemented to promote desired changes and specific goals and activities.

The modules of the course were planned with precise learning objectives for each community profile with tasks that could be completed either in a weekly three hour face-to-face meeting or online during the same week. The timing and sequence of tasks and exercises were therefore held constant for both experimental conditions. The seminars lasted two months. All students during this period carried out, in a small group, a profile analysis in a local community of their choice. Results of the pilot study showed that online and F2F participants achieved a similar growth in acquired knowledge and in the level of professional competence (measured through the evaluation of the 10 final group community

assessments) Moreover the two best community profiles were done by online-trained students, and online groups were more efficient (four of the five online groups submitted their final analysis before all of the F2F groups). We then undertook a second study (Francescato, Porcelli, Mebane, Attanasio, Pulino, 2007b) involving 166 psychology master level students. They were randomly assigned to four online and four F2F seminars held by the same teacher, two of which focused on developing psychological professional skills (organizational and community analysis) and two aimed to develop more clinical skills (understanding group dynamics and facilitating team work). The following measures were administered before and after the seminars to all participants. An empowerment scale (Francescato, Mebane, Sorace, Vecchione, & Tomai, 2007a), validated with a large sample of Italian adults, composed of three subscales: 1) perceived capacity to define and reach objectives; 2) lack of perceived resilience in difficult situations and hopelessness; 3) socio-political interest. Then we gave a Scale of Accademic Self Efficacy (Pastorelli & Picconi, 2001) and a scale of Perceived Self Efficacy for Problem Solving scale (PSEPS) (Pastorelli, Vecchio, & Boda, 2001); and finally a Scale of Perceived Social Efficacy (SPSE) (Caprara, Gerbino, & Delle Fratte, 2001). To evaluate competence acquisition students were divided in small groups (four to five students), which had to produce a final paper showing they had used the appropriate techniques learnt in the seminars in am environmental context of their choice (neighborhood, volunteer groups, community organizations, etc.). The 33 final papers were evaluated by two judges on the basis of seven criteria, found to be valid on a pilot research (Francescato et al., 2006). For each criterion evaluator could give a score from 0 (inadequate) to 5 (very good). Results in this study showed that both online and F2F seminars were effective in increasing professional competence, social and problem solving efficacy, and in promoting empowerment.We observed statistically significant increases, in social self-efficacy and self-efficacy for problem solving but not in perceived academic efficacy. There was a significant increase in two of the three empowerment subscales, dealing with perceived capacity to purse aims and sociopolitical interest, in both online and F2F groups, with no significant differences between the two kinds of learning settings. Online groups increased their competences in understanding group processes significantly more than their F2F counterparts and did a slightly better job in facilitating group processes. We in part confirmed these effects in another study (Mebane, Francescato, Porcelli, Iannone, & Attanasio, 2008) which compared the efficacy of F2F and online collaborative learning seminars in helping clinical and community psychology master students acquire the professional skills of affective education, such as being able to facilitate circle times and observing and understanding group processes. Training in affective education had been up to then carried out exclusively in F2F groups (Menezes, Coimbra, & Campos, 2005; Karpinnen, Katz, & Neil, 2005), so we wanted to ascertain whether it could be effectively done in online contexts. Secondly, we aimed to verify if social capital could be built both during the online and F2F seminars and whether these new social ties lasted after an interval of several months. Forty-four students completed the seminars, (21online and 23 F2F), 7 were males and 37 females, reflecting the gender composition of psychology students in Italy (about 85% female) the mean age was 24. They all were in the fifth year of a five year Master Degree Program in Clinical and Community Psychology. The same teacher, expert in both F2F and online teaching, planned affective education learning activities that could be done both online and in F2F seminars. Two trained observers expert in online and F2F

group teaching, recorded both the online groups and F2F group processes and evaluated students' performances. Students in both seminars had access to the same theoretical materials on affective education and the same practice exercises. We used the Yahoo Groups platform because it was cost free. A mailing list was activated that was open exclusively to students enrolled in the online socioaffective seminar. Also students were divided into small teams of four to five members and each team had its own private mailing list to facilitate small group task completion. Yahoo Groups has several functions that we used. The area Messages allows messages to be seen contemporarily by all and also can record, the order in which the messages are sent. So even people who cannot be online for several days can click a special command and view all previous messages and catch up with all the exchanges that have been going on among group members. All circle times were done in this area messages. The Data base area allows you to create tables to which all members have access. For instance, we inserted all names and phone numbers of participants. Also we did a form of brainstorming, called brain writing, using it as a virtual blackboard. The area Documents is where one can insert and save and download files made up by participants and by the teacher. It functions as an archive. Here we saved all theoretical materials, articles, and bibliographies about affective education. In the Area called Polls one can vote on different issues and the platform does all the counting and reports results. For instance, when students had to decide whom among them would facilitate certain circle times or whose turn it was to observe the area Polls was used.

We planned micro modules with precise learning objectives and group tasks that could be done in the F2F three hours meetings and online the same week, so that sequences of groups tasks and exercises were held constant, as well as the pedagogical methodology based on collaborative learning. The students in both groups received the same theoretical materials, made the same practice exercises, and received feedback from the same teacher. In both groups they experienced first circle times facilitated by the teacher and then students conducted the other circle times with some students acting as silent observers outside the circle time. They also practiced analyzing group processes, and detecting strong and weak points of their group activities. The difference between the two groups was that in the F2F one they saw and heard their teacher and fellow students and so could use all nonverbal cues, which supporters of traditional graduate training consider indispensable to transmit professional competencies based on interpersonal communication such as those involved in clinical and educational psychology. To give a clearer idea of how the work was organized we will here describe the activities of one specific week in the third month of seminar. The F2F students met for three hours and held two sessions of circle time . In the first part of the meeting, they selected who was going to practice facilitating and which students were to practice being observers, using two observation schema on group processes, described in previous meetings: Bales's IPA, Interaction Process Analysis (Bales, 1951), and the Group Development Observation systems (GDOS) of Wheelan, Verdi and Mckeage, (1994), adapted to the Italian context by Francescato and Ghirelli (1988). The theme to be discussed had been chosen by the students the previous week "Pleasant and unpleasant experiences in school". After a 45 minutes discussion the circle time ended, and afterward a feedback session was held on how participants had felt during the circle time, and what kind of group processes had been recorded by the students who had been silent observers outside the

circle. The teacher also gave feedback on how well the facilitator encouraged the group discussion, and how accurate were the students observation of group dynamics. In the second part of the three hours meeting participants had to simulate that they were freshmen in high school who were holding their third circle time to discuss conflicts which had emerged about the destination of a proposed school trip. One student was selected to be facilitator and took the role of high school teacher. Some students again had to observe silently and did not participate to the circle time. At the end of the circle time all students participated in a feedback session about strong and weak points of the experience. Afterwards the teacher commented on how the aims of the meeting had been achieved and what could be done at next week meeting. Online students' work was organized on a weekly schedule as can be seen from the following worksheet, prepared and posted by the same teacher:

Work sheet example

Weekly objectives:

1. To practice facilitating circle times in an asynchronous modality.

2. To practice observing group processes during circle times.

Activities Plan

By 12 PM on May 16th you are asked to select two among you who will facilitate the two circle times that will be held this week. The persons who will decide to facilitate the circle times have to be able to go online several times during the 24 hours in which the circle time will be held. The facilitator should try to exercise those functions that promote group task completion and group development as described in the reading material posted last week in the area Documents.

Between 9 AM May 17th and 9 AM May 18th you are invited to participate in a circle time on "Pleasant and unpleasant experiences in school" which will be facilitated by one of you. In these 24 hours each of you may send one or more emails on the circle time topic, that is you may describe your negative or positive experiences, or comment on others people's memories. Some of you will act as silent observers using the observation schema on group processes, provided in the area Documents.

By 8 AN May 19th each participant can send a message to the group commenting how she or he felt during the circle time. Observers will also by the same date mail in their observation on group processes.

Between 9 AM May 20th and 9 AM May 21st you can participate in a second circle time. In this circle time you'll pretend to be freshmen in high school holding your third circle time to try to resolve conflicts which arose in your class in attempting to decide the destination of the next school trip. You may in the future hold a circle time with high school students, it is important to remember how it was for you at their age. Those of you who have not yet been observers are invited to act as silent observers, choosing also what kind of group process variables you will observe.

By 12 PM May 21st each participant will send a message on his/her impressions on this circle time, and also observers should mail in their observation. If you have any questions or doubts, feel free to ask (Mebane et al., 2008).

Performance in facilitating circle times was gauged during meetings taking place during the second half of the seminar when students were supposed to have developed this skill. Competence in understanding and observing group processes was measured at the end of the seminar though a final paper. To have a more objective and detailed description on how facilitators reached their goals, the experts used a common schema frequently used in evaluating the role of discussion groups facilitators first proposed by Johnson and Johnson (1975) and readapted by Francescato and Ghirelli (1988). The two experts, were asked to evaluate how well students had carried out seven functions which facilitate task completion: to clarify the aims, to give procedures, to give or ask for information, to summarize, to keep the group focused on the task, to integrate, and to evaluate how the group is proceeding. Also the experts considered how well the students performed on seven functions which favor group process such as introducing people, controlling the level of comprehension, sustaining and giving help, participating and observing, helping to verify hypothesis, mediating, and paying attention to the emotional wellbeing of participants. Each student was given a score from one to ten by each expert on his performance on each of the 14 functions. There was a 98% agreement among the two trained observers.

To evaluate acquired competence in observing group processes the same two trained observers first described autonomously how the two groups, F2F and online had evolved according to the following specific group schema, which includes four main group variables to be observed: 1) structural variables relating to the number of people attending, the way they were recruited, the degree of formality or informality, the high or low hierarchy present, etc.; 2) task variables such as productivity, participation, decision making procedures and norms; 3) group processes variables such as collaboration and conflict, risk propensity, emotional climate, phases of group development etc. and finally 4) individually centered variables such manifest emotional states, leadership style etc.

This schema has been used for years in our graduate program to evaluate how well students are able to understand the evolution of F2F group processes It is more comprehensive than any of the single measure listed above and has been used for years in our graduate program to evaluate how well students are able to understand the evolution of F2F group processes (Francescato & Ghirelli 1988). Students divided into groups of five used this same schema to describe the group processes (online or F2F) in their final reports. The two trained group observers examined how closely the students' descriptions of the group variable under study matched their observations, and each of the ten final term papers (five by online teams and five by F2F teams) was graded on how each variable was correctly assessed. There was a 96% agreement among the two trained observers. We chose a group measure because collaborative learning involves work in small teams, and we wanted a small group performance measure as well as individual indicators. Results indicated that as far as competence in facilitating circle times, in both groups all students who facilitated a circle time were evaluated by the two trained observers as having done sufficiently well in the their job, with no differences between the two settings. So our data seem to show that one can learn a clinical professional skill such as facilitating affective education small groups also online. Furthermore, comparing how well certain functions were performed, we found

that online students did a significantly better job in defining aims, establishing procedures, keeping focus on task at hand, while F2F students did better on only one function: introducing people and helping them to express themselves.

While all ten small group final papers received a passing grade, showing that both online and F2F students had acquired some professional skill in group dynamics observation, significant higher levels of capacity of reading group dynamics were shown by online students for all the four types of variables used to understand group's processes. Generally these students showed more competence at observing finer processes, nuances and details. For instance for the structural variables both online and F2F students agreed with trained observers in describing a low hierarchical structure, however online students produced more examples of indicators of this democratic and participatory style. The same was true for task variables such as productivity, participation, decision making procedures and norms, both groups identify main trends correctly, online students significantly more often gave detailed examples, pointed to exceptions to the general trends, they were much more precise in assessing each individual's level and type of participation and contribution. For example while the F2F could remember only four explicit or implicit norms which had guided the behavior of memebers of the group; online students pointed to many more norms, both formal and informal. Also for group processes variables such as, collaboration, conflict, risk propensity, and the phases of group development, online students were more accurate in describing how these variables had evolved.

3. Can social capital be built online?

Several social scientists have documented how our western society has widely increased its financial and intellectual forms of capital, while it still urgently needs to increment its social capital (Putnam, 2000). Bourdieu and Wacquant (1992) define social capital as ''the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition'' (p. 14). Putnam (2000) maintains that social capital is built in social networks and their associated norms of reciprocity. He makes a distinction between bridging and bonding social capital. Bridging social capital arises when people from various backgrounds make connections entering social networks that are "inclusive" and therefore favor participation of individuals who differ on many crucial variables such as income, political orientation, ethnic origin, religious affiliation etc. These kinds of networks literally create "bridges" that is they allow people who might not have had the possibility to encounter one another in their daily lives the opportunity to become acquainted. The relationships that develop may lack depth but they offer breadth, they offer the chance to get to know people of various backgrounds. Instead, bonding social capital can be exclusive. It is built between individuals engaged in tightly-knit, emotionally close relationships, such as family and close friends. The individuals with bonding social capital have little diversity in their backgrounds but have stronger personal connections. The continued reciprocity found in bonding social capital provides strong emotional and substantive support and enables mobilization. According to Putnam (2000), these two types of social capital are related but not equivalent and moreover they are not mutually exclusive.

Social capital is considered a resource that can influence outcomes at both the individual and collective levels (Beaudoin, 2007; Lin, 2001; Putnam, 2000; Williams, 2006). Numerous studies on social capital have shown that it's linked to a variety of positive social outcomes, such as lower crime rates, more efficient financial markets (Adler & Kwon, 2002) and, also, a better public health: people and communities with higher levels of social capital are healthier than those with lower levels (Beaudoin, 2007; Kawachi & Berkman, 2000; Kennedy, Kawachi, Prothrow-Stith, Lochner, & Gibbs, 1998; Wallack, 2000). Different researches have investigated how social capital influence the life of young people: their wellbeing, their educational achievement and their school engagement. Various forms of social capital, including ties with friends and neighbors, correlated positively with indices of psychological youth well-being, such as self esteem and satisfaction with life (Bargh & McKenna, 2004; Steinfield, Ellison, & Lampe, 2008) and negatively with risk behaviors (Beaudoin, 2007; Curran, 2007). Other research show that students with higher levels of social capital (school capital and family capital), obtained better outcomes on reading and math test and were more engaged in school activities (Israel, Beaulieu, & Hartless, 2001). School involvement was positively associated with the support of teachers, friends and parents support and perceived absence of neighborhood dangerousness (Garcia-Reid, 2007).

Our educational system which encourages competition more than cooperation, individualism more then team work, self-actualization more than community spirit, often fails to prepare students able to work well in teams, and be active citizens. Educational institutions are being forced to find better pedagogical methods to cope with these new challenges. Some authors maintain that computer mediated communication liberates interpersonal relationships from the limits of physical locality and thus creates novel opportunities for the development of genuine relationships and a sense of community. On the other hand, opponents of distance education think that physical presence allows for non verbal communication which creates a level of group cohesion, and promotes affective relations not attainable in online settings. Empirical evidence is mixed and hard to compare since many authors have studied social presence using different measures and only a few have explored social capital formation online. Most have not compared F2F and online learning contexts. Therefore we performed a study to evaluate if social ties formed by students lasted after the students no longer shared the common setting of a university seminar, that is, if "social capital" in the form of long lasting relations had been accumulated during the collaborative learning experience and how it was independently utilized by each student. Moreover, we wanted to compare how online seminars and F2F seminars fared in promoting social ties and widening students' social networks. One hundred and sixty-six psychology majors who had participated in the research previously described (Francescato et al., 2007a, 2007b), were contacted by phone or online for a brief interview, nine months after the end of the seminars. About 139 were reached, all the 82 online students and only 57 out of 78 F2F students. We inquired whether they had made new friends among their fellow seminar members, if they met F2F and how often, if they heard or kept in touch by phone or email, if they still studied or worked together. The overwhelming majority of students made some new friends during the seminar: (95% in the F2F groups and 79% in the online groups), with a significant difference in favor of F2F students, however nine months later

more friendships made online lasted longer. The intriguing finding of our study that online friendships not only lasted more, but had also a more intimate character than F2F ones, needs to be further explored. Some online students commented that meeting people online, forces one to go beyond immediate impressions conveyed by physical appearance, dress style, tone of voice, to get to know people more on their character and behaviors as one student stated: "Being deprived of the usual cues, by which we evaluate people rather quickly when we meet F2F, online you are more prone to pay attention to how people react to the different situations, to what they think and how they expressed themselves - You see the "interior" person more than the "external one".

We also assessed social capital in the affective education study previously described (Mebane et al., 2008). To evaluate whether either online of F2F setting had promoted the formation social capital among participants and feelings of sense of community we analyzed the personal observations about the seminar written by each student in the final term paper. Each student was invited to write his/her impressions of the seminar and to evaluate it. We wanted to ascertain whether bonding social capital had been promoted during the seminar that is if students had developed affective interpersonal ties and prosocial and mutual aids behaviors. We thought spontaneous remarks written in their final report about forming good interpersonal relations, or about feeling close to other group members or about making new friends could be a good measure of social capital formation. Independently two trained observers read each student's personal comments and classified each phrase, and counted whether in each student's final personal comments there was at least one phrase that showed the presence of social capital formation. In the social capital category were included comments such as "I have seen my relationships with my colleagues get deeper and more important every day", "To some of them I have told things about me that I do not let emerge unless I trust deeply" or "For me the personal contact with people is essential, to be able to touch them look at them. I thought I could never develop close relation without the physical presence, and still in this online seminar it has happened", "I got close to group members by sharing emotions, I have learnt to read among the lines, to listen to the silences and the absences, to respect the times and spaces of each" or "I have acquired new knowledge and competencies but above all, I made new friends, these people whom I had never seen, really cared about my health when I got sick, they were supportive when I was needy".

A second measure of social capital was gathered through a follow up study which was also carried out nine months after the end of the seminars to ascertain whether relations formed during workshop had lasted in time, actually widening the personal social networks of members. Affective education seminars for their specific contents favor the discussions of personal experiences as is common in other types of clinical training, so interpersonal relations are promoted, but they can or cannot develop in lasting affective ties. Forty three subjects were successfully contacted for the follow up and were asked if they had developed new close friendships among fellow seminars members whom they had not met previously, if they still kept in touch with these persons by phone or email, if they actually met F2F (saw each other to do something together) and if they had studied together during the nine months period interval between the seminar and the time of the interview.

Results show that both seminars favor the development of social capital and sense of community, online contexts actually promoted more development of some forms of lasting social capital. For instance 81% of online students wrote at least one comment that underlined that they had built new social bonds. Only 52% of the F2F students wrote at least one observation relating to social capital. Moreover online students more often wrote at least one statement that showed they had developed a sense of community in the seminar, about one in four wrote two or three comments. About half of the F2F students included at least one sentence, only four of them two or three. Data from the follow up show that were no significant differences between the two groups with respect to the development of new friendships, keeping in touch and studying together. However, significant differences emerged on how often the actually saw each other. Online members met F2F with the new friends made through the seminars more often than their counterparts. We also obtained similar results in another research with high school students involved in a school community online (Tomai, Rosa, Mebane, D'Acunti, Benedetti, & Francescato, 2009). The general aim of this study was to evaluate the impact of the presence of an online community on the social capital of students attending high school. We hypothesized that students belonging to a school online community would show higher levels of both offline bridging and bonding social capital than a control group of students, not using the online community. We further hypothesized that the more students used the online community the higher their level of their offline bonding and bridging social capital. Participants were 264 high school boys and girls, 126, (62 males and 64 females) who had joined the community online Spallanzani Shout and 138 (62 males and 76 females) who did not. Anova analysis showed that levels of bridging and bonding social capitals were significantly higher for members. Instead intensity of use was significantly related only to bridging but not to bonding social capital.

4. Which students learn better F2F or online? Does teachers experience matter?

In all the previous studies we have discussed, we held constant several variables associated with the success of a course (in particular, the subject matter taught, the activities and sequence of the course, and the teacher) in order to be able to compare online and F2F learning in small collaborative groups. However, to control for relevant variables in our studies the same teacher was used, this was a positive aspect but also a limit. The teacher who taught both online and face-to-face students was a strong supporter of online teaching and fairly experienced on online education and could have unintentionally ''favored'' online students, since this was the very first course offered online in the psychology faculty at our university. Which characteristics should a teacher have to be successful online, in fact has been a very controversial issue. Some authors maintain that not only online technology gives easier access to reliable data about what happened in the course than traditional note taking, but also that the method of teaching is changed by the presence of continuously available shared records. Harasim and Yung (1993) asked 176 teachers with online and F2F teaching experiences to evaluate the two settings. Ninety percent of the respondents

reported that online the online instructor becomes more a facilitator and a mentor, that students become active participants in discussion, grow more independent and develop more group interactions and have more time to reflect on ideas and exchange ideas. Moreover, educators and students operate more as equals with less hierarchy, and learning and teaching become more collaborative. Young (2004), in a 2-year longitudinal study, found strong support for Pickering's (1995) theory that online teaching would favor the emergence of informal, subject oriented groups of learner/teachers. The new Web teachers are returning education to more convivial and less authoritarian practices. Different authors (Berge & Collins, 1996; Bocconi & Pozzi, 1999; Draves, 2000; Gokhale, 1995; McGee & Boyd, 1995; Nelson & McFadzean, 1998; Shepherd, 2000a, 2000b; Zorfass, 1998) underline that online teachers, with respect to traditional F2F teachers, need to have also specific training competencies on both communications' technology and group facilitating skills. McPherson and Nunes (2004) maintain that educators have to play four main types of roles (pedagogical, social, managerial and technical) to maximize the benefits of learning environments. However, they also underline that often online teachers did not have basic skills to support students. Gray, Ryan, and Coulon (2004) have studied how online teachers are trained to become skilled online tutors. They selected 25 case studies in seven countries, only three involving collaborative learning. They found that in most cases tutors were trained through experiential learning where virtual tutors were trained in exactly the same environment as their learners. Gray et al. (2004) provide no data on the effectiveness of this kind of training. In fact, very few empirical research have compared tutors which different training, or experience levels. Some studies have shown that tutor led online learning groups fare better than untutored learning settings (Lombardi, Forte, Di Nocera, Sementina, & Renzi, 2004) but emphasize the importance of taking into consideration students' characteristics such as motivation. Klobas and Renzi (2000) maintain that benefits of online learning are obtained if teachers have a favorable attitude toward new learning technologies, are competent in their use and do not employ only traditional teaching methods but promote collaborative learning. However, most authors, who have described the specific functions online teachers have to carry out to stimulate active collaborative learning among students, underline the insufficiency of empirical evaluation studies (Chickering & Gamson, 1998; Gray et al., 2004; Ligorio, Talamo, & Simons, 2002; McPherson & Nunes, 2004; Salmon, 2000). There seems to be a lack of well-controlled studies comparing the efficacy of teachers with different levels of competence and years of experience teaching in online and face-to-face contexts.

Also which kind of students learn better on line is still an open to debate. Schrum and Hong (2002) maintains that seven dimensions may favor the success o an online student: (1) access to technological and multimedia instruments; (2) experience in the use of technology; (3) learning styles; (4) study habits; (5) motivation; (6) aspects related to life style (hours dedicated weekly to the online course, the support of family, friends and colleagues) and (7) individual characteristics. Sounder (1993) discovered that distance-students even perceived a greater level of connection between the professor and other students than their counterparts in traditional classrooms. Whiteman, Scott, and McElnay (1994) found that students have positive attitudes toward distant education. Bisciglia and Monk-Turner (2002)

found that students who attend class off campus and who work full time have a more positive attitude toward distance education, and are more likely to be motivated and willing to take other distance education course than their on-site peers. Hannay and Newvine (2006) found that students enrolled in criminal justice courses preferred distance education, because it allows them to balance their other commitments more easily. Respondents also thought they achieve higher quality educational outcomes in the distance learning environment. Reviewing the literature on students' characteristics, one can notice that there are several research that have studied the cognitive and learning styles of students who prefer and perform well in online settings, while fewer studies have examined the impact of personality variables and learning strategies. With respect to cognitive variables students who do well online have a high capacity for tolerance and ambiguity, a low level of anxiety, an active approach towards learning, a meta-cognitive competence, self-regulation, and a high level of motivation and capacity of learning from past experiences. Several studies have explored how students perceive distance education compared to traditional learning. Beare (1989) found that students had a preference for styles. Workman (2004) has found that students with high global cognitive styles performed better in a collaborative rather than individual setting. Chen (2002) reviewing the numerous studies, on field dependent or independent cognitive styles, found that field dependent students have more problems and need more guidance following online courses than field independent students.

With regard to learning styles,(defined as stable, physiologically based preferred modalities of learning), empirical studies yield contradictory results. Ross, Drysdale and Schulz (2001) found in a computer science course that students with a sequential learning style gained better grades than those who have a random learning style. Instead Miller's (2005) research showed opposite results: students with a random learning style performed better online. Aragon, Johnson and Shaik (2002) found significant differences in the learning styles preferences of the online students and those of F2F students. Online students had higher levels of reflective observation (learning by watching and listening) and abstract conceptualization (learning by thinking), while F2F students reported higher use of active experimentation (learning by doing). However, Aragon et al. (2002) discovered students could learn equally well in either delivery format, regardless of their learning style. Sonnenwald and Li (2003) in their study have shown that students characterized by a competitive learning style perceive online contexts more favorably than face-to-face settings. Students with an individual learning style have a more negative perception of online settings. Moreover, persons with a collaborative style perceive positively both settings. Personality traits have been theorized by Eysenck (1971) to be correlated with academic learning. De Fruyt and Mervielde (1996) have revealed using the BIG FIVE questionnaire, that conscientiousness with its components of precision and persistence was the best predictor of academic performance. Only a few studies have explored the relationship between personality traits and online learning, and they present contradictory findings Carey and Kacmar (1997) using a Jungian theoretical framework, found that subjects who use a combined sensing-thinking type approach present a higher level of satisfaction with teleconference communication than intuitive-feeling types. However, Mawhinney and

Lederer (1996) concluded that intuitive-feeling managers spend more time using computers than sensing-thinking managers. Wilson (2000) documented that sensing thinking subjects showed significantly greater usage of computer-mediated communication systems (CMCS), sending almost twice as many messages and double the message content with respect to intuitive-feeling subjects. Palloff and Pratt (2001) underlined that students who might be best suited to learning online are ones who need more time to think and reflect before responding to questions and ideas, while Day and Batson (1995) found that reticent students do not participate (in F2F-class discussion), simply because they do not 'think as rapidly as some of the other students. Ellis (2003) found that in asynchronous learning, students with introverted thinking appear more willing to contribute than extraverted thinkers, while those with judjemental attitudes (whether dominant or auxiliary) much prefer the F2F environment. Studies using standardized measures of personality also gave conflicting results. Santo (2001) underscored that those students who prefer online training tend to have lower levels of extraversion and higher levels of openness and conscientiousness compared to students who prefer traditional forms of training. But his results are in part contradicted by Zobdeh-Asadi's (2004) study that found that students who prefer traditional F2F teaching methodologies had higher levels of openness and conscientiousness that those that prefer online settings. A research of Wang and Newlin (2000) showed that students that have an internal locus of control had higher grades in an online statistical course, while F2F students who performed better had higher levels of external locus of control. Deter (2004), on the contrary, found students who were more field independent tended to have better online technologies self-efficacy, but did not receive higher grades than those students who were field dependent and had lower online technology self-efficacy.

Further investigations are clearly necessary to assess the personality traits and other psychological characteristics such as convictions of being able to succeed in solving problems, succeed in academic and social tasks, as well as feelings of empowerment or disempowerment of students who not only prefer but also perform better in traditional or online learning environments. A review of the literature also shows the need for more focused studies that compare, for instance, the efficacy of F2F and asynchronous online settings in increasing graduate students' academic and professional performances, when students are assigned randomly to the two settings, and are taught by educators with various degrees of technical competence and teaching experience. It appears that more data are necessary to understand which learning strategies, and which psychological variables differentiate students who perform better in asynchronous online or in F2F collaborative learning contexts.

So we embarked upon a study whose aims were: 1) to compare the efficacy of F2F and CSCL in increasing academic performance and professional psychological skills of university master level students assigned randomly to the two conditions; 2) to explore how some teachers' characteristics (having Master or Ph.D.'s, shorter or longer experience in teaching online and face-to-face) influence students' learning; 3) to ascertain if learning strategies, personality traits and other psychological variables (such as problem solving, academic and social efficacy and empowerment levels) differentiate students who do better in online or

face-to-face collaborative learning contexts. Ten seminars were offered to 170 psychology majors, five online and five F2F. Students were assigned at random to an online or F2F course. Students' performance was evaluated with before-after knowledge and competence measures used in the previously described studies. We also administered: questionnaire on learning strategies (Pellerey, 1996), the BIG FIVE Questionnaire (Caprara, Barbaranelli, & Borgogni, 2000) and a Locus of Control Scale (Nigro, 1983). Results show that students who benefitted more from online collaborative learning contexts were the ones who had more difficulties concentrating on studying, and organizing a efficient work schedule. They also had low levels of perseverance in finishing tasks, a low perception of their academic competence and sense of responsibility, low basic anxiety, high emotional control and high external locus of control.

Students who have better results in F2F contexts have lower scores of emotional stability, internal locus of control, low energy and high conscientiousness. Our outcomes that low anxiety and high emotional control students fare better online confirm previous studies (Liu, Papathanassiou, & Hao, 2001) which maintain that online learning can be efficacious particularly with students with high tolerance for ambiguity, low anxiety levels, capacity for independent judgment and high emotional control. Neither having a Master or a PhD degree, nor years of experience in teaching collaborative learning (F2F or online), were relate associated to students' performances. A limit of this study could be in the variables we investigated (length of teaching experience online and F2F, formal academic credentials); while these did not have an impact on students, other characteristics of teachers may have an influence on students learning. Further well controlled studies are needed, but our results seem to underline that a highly structured collaborative methodology that fosters students' interaction could be the key factor in promoting learning. Some research has shown that this social interaction has to be facilitated; one cannot take for granted participants will socially interact, merely because the environment makes it possible (Kreijnsa, Kirschner, & Jochems, 2003). Future research should explore if, as in our study, online learning seems to be particularly beneficial to those students who lack perseverance, are not very anxious, can control their emotional reactions and have external locus of control and high problem solving efficacy. Our results are similar to those found in other research (Liu, Papathanasiou, & Hao, 2001; Perkins, 1995; Reed & Overbaugh, 1993; Shermis & Lombard, 1998), which emphasize that students can learn well online only if they have low levels of anxiety and high control of their emotional reactions. We found it very interesting that particularly students who use learning strategies characterized by lack of perseverance and have difficulties in managing their study time and completing tasks punctually, benefited more from online settings. Possibly, asynchronous, highly structured collaborative learning courses, such as the one we tested in this study, which provide weekly deadlines and feedbacks, help students feel more responsible for their learning and also foster mutual aid.

5. Are asynchronous online groups less conflictive?

Several authors have studied how virtual teams form, establish roles and group norms and if they go through the same stages of group development, commonly found in face-to-face

groups (Palloff & Pratt, 1999; Preece, 2000; Schwier, 2002; Johnson et al., 2002; Gardner, 2004; Chidambaram & Bostrom, 1997). One interesting distinction has been found. In F2F groups linear sequential model development generally is characterized by a first stage in which people get to know each other establish goals and norms, a stage of conflict variously labeled as a storming, or fight stage, in which people disagree and argue about how goals can be reached and if groups members can be trusted. Then there is a phase in which norms are set, followed by a performing stage in which goals are reached, and a final stage of leave-taking. In the online settings, instead some studies (Johnson et al. 2002), found that the conflict stage was absent in virtual learning teams and infrequent conflicts were distributed throughout all the stages. To understand if and why virtual teams may experience less conflict in their group development could have strategic theoretical and practical relevance. However, reviewing the few pubblications examining this issue, we found various methodological limits, and that further study were necessary. Previous studies, in fact, varied in the pedagogical model used (degree of collaborative or solo learner) and CMC communication modalities (Griffith & Meader, 2004; Johnson et al., 2002; Mortensen & Hinds, 2001).

In our study with 98 students we explored whether CSCL asynchronous learning groups showed the same sequential stages found in F2F group development (forming, storming, norming, performing and adjourning) or whether the storming stage was absent and conflicts among members infrequent. To detect conflicts, we examined the entire corpus of email produced by 23 groups of students, working collaboratively in asynchronous modalities, using two different methodologies (paper and pencil and implemented by software analysis). Our findings were the same with both methodologies: we detected a very small number of conflicts; in 22 out of 23 we could not find enough messages indicating conflict to form the classical "storming stage" commonly found in F2F groups. We found, however, the same sequential patterns for the four other stages. In fact, in our groups, both manual and computer aided analysis showed that the content of messages corresponded first to the forming,then the norming, performing and adjourning stages. So we confirmed that also online asynchronous learning groups follow a sequential model of group development, but do not present the conflict stage. We had students working both in very small (4-5) and larger (18-20) groups, but we did not find differences with respect to levels of conflict. Both more task-oriented and socio-emotional oriented groups showed no storming stage. One could expect more conflict to emerge in a group were people are more personally involved and have to give each other feedback on their performances, as was the case in our socio-emotional oriented groups. Johnson et al. (2002), in fact, had hypothesized that the relatively few conflicts they had found in their groups were due to the fact that they were task-oriented groups, in a learning context where time and work procedures were rigid. We found instead, that type of task did not differentiate socio-emotional and task-oriented groups: in both the few conflicts that emerged involved process oriented conflict. This type of conflict has had limited investigation (Jehn, 1997; Jehn, Northcraft, & Neale, 1999) it occurs when members disagree over who should do what and how things should be delegated (process conflict includes disagreements regarding how to do the task or how to

delegate resources). We found however an interesting difference in the direction of the conflicts: in task oriented groups people directed their displeasure toward the platform or teachers, in socio-emotional groups they had more conflicts directed toward other members. The low level of conflict found in almost all our asynchronous groups could be in part influenced by the use of collaborative methodologies, which emphasize cooperation more than competition, and by employing asynchronous communication modalities, which may foster less conflict among members. Under the heading of collaborative learning are included experiences, which vary in the degree in which cooperation is required or promoted. In our groups we expected students to complete tasks that required cooperation and moreover we had their individual assessment partially tied to those of their group members. So we created, using Sipusic's (1999) indicators, a climate which actively promoted cooperation. We believe that both collaborative learning modalities and asynchronous communication patterns favor the development of a less conflicting atmosphere. As Rudestam (2004) theorizes, asynchronous computer mediated environment may favor the developments of meta-skills of critical analysis, of giving and receiving feedback, and managing time. Online students understand how group dynamics evolve, whether or not the instructors explicitly favor it. Asynchronous learning permits to confront more viewpoints than can emerge in a traditional class discussion: time constraints of synchronous oral communication usually allow only a few students to voice their opinions, often people may have problems remembering accurately what was said by a colleague. Asynchronous learning allows time to read other people comments with calm before writing, promoting critical thinking. We think that in class discussion is the synchronous communication modality given the limited time available that can create competition among student willing to speak; and promote potential conflicts when students are interrupted or feel overwhelmed by the different ideas being proposed buy their colleagues. If we are correct, synchronous online discussions groups should evidence more conflicts than asynchronous ones. We have some evidence than political and sports chats, which have no collaborative framework, can lead to very vehement conflicts among participants. Some authors described CMC interaction as negative and flaming (Kiesler, Zubrow, Moses, Geller, 1985; Sproull & Kiesler, 1986). Further research is needed also to ascertain if the degree of collaborative learning or the mode of communication is (synchronous or asynchronous), in learning groups, have more impact in fostering conflict production or reduction.

6. Can we favor the emergence of gender counter-stereotypical behaviors in online courses?

Recent developments in political and work organizations have shown that to solve complex problems we need people able to compete as well to cooperate, to be creative individuals but also good team workers, to pursue self-enhancement as well as community spirit (Gros, 2001; Schrage, 1990) in short, we need persons who can integrate the best characteristics stereotypically attributed primarily to males and females. To work in teams you need to be capable of using communication styles, which in the literature have been labeled as

"feminine" and "masculine". The feminine communication is person oriented, characterized by cooperation, sensitivity, understanding, and compassion. The masculine communication style is mostly task-oriented (dominant, analytical, competitive, and forceful). Educational institutions are therefore facing today the further challenge to enable female and male students to go beyond stereotypical gender behavior fostering the development of students that are both task and affiliation oriented, integrating the best characteristics attributed traditionally to males and females (Adam & Derber, 2008; Dawson & Newman, 2002; Herring, 1993, 1992, 1994; Lundin & Magnussen, 2003). Initial beliefs were that Internet could head in this direction promoting equalization among people of different backgrounds and also between women and men, and online courses using CMC were envisioned to increase participation ("equalization hypothesis") (Harasim, 1987). Since there was a fair amount of research supporting the assertion that in traditional F2F classrooms gender differences in interactions, specifically, are the cause of inequity (Spender, 1982; Stalker, 1996), with male students dominating face-to-face interactions by simply speaking more (Karp & Yoels, 1976; Coates, 1986; Fritschner, 2000). Most research on gender differences online has focused on examining whether females could overcome the gender gap in participation. However, studies adopting the equalization hypothesis have mostly neglected another line of inquiry: namely the potential of online settings to promote counter stereotypical behaviors not only in women, but also in males. Very few studies have explored under which conditions both males and females could exhibit counter stereotypical behaviors (Wishart & Guy 2009).

A review of the online literature on gender differences allowed us in fact to individuate different characteristics of educational settings, which had been found separately to be associated with the emergence of counter stereotypical behaviors mostly in female students. Our study attempted to explore if educational settings which integrated several of the characteristics which separately had been found to be associated with counter-stereotypical behaviors could promote counter-stereotypical communication styles both in male and female students. Our general aim was to ascertain if university educational settings with certain specific characteristics such as offering small group seminars, based on pedagogical method of collaborative learning as CSCL, using exclusively asynchronous communication, with a teacher actively promoting high levels of collaboration in gender-neutral activities, and evaluating students also on group participation, could promote the expression in both male and female students of counter-stereotypical behaviors in communication styles. About sixty psychology master students were divided into all female, all male and mixed groups learning the same group skills. Our results do suggest that it is possible to promote counter-stereotypical behaviors in both male and female students. In fact, some male students in both all male and mixed groups did exhibit more "feminine" communication styles, expressing more process-oriented statements generally uttered more by females. Our female students did in turn also exhibit some "masculine" task oriented communication patterns in both all female and mixed groups. Specifically our results have shown that women tended to provide more technical information, suggestions and gave less attention to social-emotional dynamics. Men

instead exhibited more feminine social emotional patterns. In our study they are, in fact. more focused on reducing tensions, showing solidarity, agreeing than on asking or giving information on task or domineering as males have been found to do in other online groups (Herring, 1994, 2000, 2001). In all our three groups negative socio-emotive messages were quite rare, confirming previous research that CSCL groups exhibits lower levels of conflicts or flaming than other online and F2F context (Johnson, Suriya, Won Yoon, Berret & La Fleur, 2002). Our females showed more conflict than males, therefore exhibited a counter-stereotypical behavior, since other studies have indicated that females tend to avoid conflict especially with other females (Jeong & Davidson-Shivers, 2003) and are more likely instead to comply and agree (Tisdell, 1993; Vanfossen, 1996).

We also wanted to explore if counter-stereotypical communication styles in both males and females would occur more often in same sex groups as separatist theories would suggest, or in mixed group as Bandura (2001) social cognitive theory would predict. Our results indicate a different pattern for females and males. Women in mixed groups showed more counter-stereotypical behaviors sending more than expected task answers and less than expected socio-emotive messages. Men on the contrary in mixed groups tended to reproduce more stereotypical behaviors (in these groups they sent more messages task oriented and less messages socio emotive, specifically they produced less positive socio-emotional messages and higher number of answers in the task area). Males showed instead, more often counter-stereotypical communicational styles in the only male group where they sent more socio-emotive messages than in the mixed group and sent fewer messages related to answers. Therefore, our results support separatist theories but only for males, and Bandura (1997) social learning theory but only for females. Further studies on different samples are needed to explore if only gender groups can be more effective than mixed gender in promoting counter-stereotypical communication patterns for males but not for females and vice versa. One limit of our study in fact is that we included only psychology students: males who major in psychology, a field chosen primarily by women may be more "person oriented" and have more feminine communication styles than other males, majoring in more traditionally male fields

7. Conclusion: educational implications of our findings and directions for future research

Overall our research show that the new platforms of distance education of the third generation, when integrated with collaborative pedagogical models as in asynchronous CSCL can provide high quality education, contrary to the misgivings many professors hold, particularly in the social sciences and in psychology, fields in which very little e-learning has been implemented. Our studies reveal the effectiveness of using Computer Supported Collaborative Learning (CSCL). In fact, by integrating CSCL, affective education techniques, and community psychology skills we have promoted students' social capital, empowerment, problem solving efficacy and social efficacy and fostered counter-stereotypical gender behavior in both male and female students.

The results of the several studies discussed in this chapter will have to confirmed by other researchers in other countries. Our research show that online education can foster the developments of crucially needed meta-skills, including promoting counter-stereotypical communication patterns. Not all online education is this effective however: our studies indicate that high quality courses should be offered with certain specific characteristics such as small group seminars, based on pedagogical method of collaborative learning as CSCL, using exclusively asynchronous communication, with a teacher actively promoting high levels of collaboration in gender-neutral activities, and evaluating students also on group participation. The integration of these different factors creates a positive learning climate that promotes not only professional skills taught normally in F2F seminars in graduate schools, but many socially wanted meta-skills, such as of various form of self-efficacy, and empowerment. CSCL settings were found to be even more effective than face-to-face settings in promoting social capital and team work skills.

Several directions for future research emerge from our findings. We had hypothesized that F2F students, benefitting from the physical presence of teacher would do better in learning psychological professional skills such as interviewing and facilitating small group discussions, skills which are based also on nonverbal cues. However our results showed that online students performed better, overcoming what could be the disadvantage of not seeing teacher's expressions and other non verbal behaviors. We think online training was more effective because students, having all their interactions recorded, could go back and review what teachers and fellow students had written and done and therefore could compare and contrast their performance with those of their fellow students and teachers as often as they needed. Moreover, online groups can understand group developmental phases better, since they can go back and see, for instance, how decisions were taken and how conflicts were resolved, while F2F students have to rely on their notes and memories, which are often more partial and incomplete. More studies are needed to confirm our outcomes, however these initial results indicate that online collaborative learning can indeed be used to increment different kinds of professional competencies as theorized by authors such as Rudestam (2004). Collaborative learning did promote new friendships among students, initially more in the F2F settings, as we had hypothesized, indicating that social capital may be more easily built in settings that can also benefit from nonverbal communication (Kiesler & Sproull, 1992). However the social ties built, perhaps with more difficulty online, proved more lasting, and the social support exchanged more varied. In fact while there were no significant differences between the numbers of online and F2F students who kept in touch with their new friends by phone or email exchanging emotional and informational support, more online students actually saw their friends, spending their free time with them. For instance, in our study of high school students involved in a school community online, we had also hypothesized that people who made more intensive use of the site would have higher bridging social capital. Our results confirmed our hypotheses and they are similar to those obtained by Ellison et al. (2007) with college students. As theorized by many authors (Howard et al., 2001; Kraut at al., 2000, 2001) virtual communities allow people to get in touch easily, and to keep weak ties alive. Instead our hypothesis that intensity of use would be correlated also with bonding social capital was not confirmed. Also Ellison et al (2007)

had found a weaker relation between intensity of use and bonding social capital than for bridging social capital among college students. Ellison et al. explain their findings postulating that college students used their Social Network Site more specifically to maintain weak ties, while for strong ties it was used a supplement to offline communication. Our high school students may be adopting the same communication style or other factors may play a role. We think further research should explore this area. We found that intensity of use was related to higher levels of bridging social capital but not of bonding social capital. Other studies are needed to find out precisely what kind of interactions foster what kind of capital.

It could be interesting to conduct longitudinal studies, starting with entering freshmen. We could measure their initial level of social capital and explore whether students who do join a school online community already start out with higher levels of social capital, or whether intense use of the community online actually favors the growth of social capital or whether both hypotheses can be confirmed. Since bridging and bonding social capital have been shown to be positively related to school performance, (Israel, Beaulieu, & Hartless, 2001; Parcel & Dufur, 2001) it could be useful to investigate if school which have online communities and high social capital also have lower levels of high school drop-outs. Over all our studies contradict supporters of traditional teaching that maintain that online groups cannot equal F2F groups, because online normal communicative processes are disrupted by the absence of the physical presence and non verbal communication, making cognitive, meta-cognitive and social learning more difficult. On the contrary, our research support those authors who maintain CSCL favors the perception of social presence (Calvani & Rotta, 2000; Galimberti, 1994; Short, Williams, & Christie, 1976). The results of our studies will have to be confirmed by other research, done with different populations, however our data give some support to the thesis of those who maintain that online contexts can increase the development of affective relations and of social capital at least as well as F2F contexts (Biolghini, 2001; Calvani & Rotta, 2000; Parks & Floyd, 1996; Parks & Roberts, 1998; Tu, 2002; Yalon & Katz, 2001). Our research also supports previous studies that maintain that CSCL settings can enhance feelings of social presence and social belonging (Kiely, 1993; Vanderbosch & Ginberg, 1997).

Our results will have to be duplicated with different samples, especially with males, since that our university psychology population was primarily of female students, but they do offer some support to those who underline that collaborative learning online should not be considered a "series B" educational setting (Boling & Robison, 1999; Lundin & Magnusson, 2003), but one that can also improve graduate and professional training (Johnson et al., 2002; Rudestam, 2004) and favor students' social efficacies, empowerment, and counter stereotypical gender communication styles. The implications for educational institutions are clear: they should offer students who cannot attend regular graduate F2F seminars, graduate CSCL learning opportunities to increase not only their professional knowledge and skills, but also their social efficacy and their social networks. New research should also explore the use of Computer Supported Collaborative Learning outside university educational settings. It could be used, for example, in international companies and

worldwide non-profit organizations where members of teams live in different countries. Management training programs could be set up for virtual teams using CSCL to foster the growth of social as well as professional skills in employees belonging to the same organization but living in different areas or countries, or on organizations who need to network for a particular cross-cultural projects.

Another important line of research could explore if online learning communities such as the ones described in this chapter could bring about changes in the formation of identity and in sense of belonging and in the meaning of community. Some sociologists and political science experts think that the rapid increase in exchange in the social, technological, and in the cultural domains, will bring us to the creation of a global community, whose territory will include the whole planet, and whose inhabitants will feel primarily "world citizen".They argue that identity is no longer provided through identification of being born in a given location, but through experiences in the netcommunities. Online learning communities can create an "electronic reality, that for some people becomes more meaningful and affective than real places or people. Other analysts have to made reference to the emergence of a "cosmopolitan" culture and that we are experiencing the formation of "transnational culture" and common humanity through the establishment of a "unitary global culture" (Giddens, 1993, Jamieson, 2002). Some researchers maintain instead that globalization processes favor an excess of individualism, lowers awareness of interdipendence and devalues belonginess. Some authors therefore hypothesized that more people will feel no particular sense of belonging to any place and no sense of community (Mittelman, 2000, Nelson and Prilleltensky 2005). Further CSCL learning projects with students of different countries and different ethnic groups are needed to ascertain to which of these theories empirical data provide more support.

Author details

Donata Francescato, Minou E. Mebane, Manuela Tomai, Maura Benedetti and Veronica Rosa
University La Sapienza of Rome, Department of Psychology, Rome, Italy

8. References

[1] Adam K, Derber C, (2008) The New Feminized Majority: How Democrats Can Change America with Women's Values. Paradigm Publishers, Boluder, CO.

[2] Adler PS, Kwon SW (2002) Social Capital: Prospects for a New Concept. Acad. Manage. Rev. 27:17-40.

[3] Amerio P (2000) Psicologia di Comunità. Bologna: Il Mulino.

[4] Angelique HL, Reischl TM, Davidson II WS (2002) Promoting Political Empowerment: Evaluation of an Intervention With University Students. Am. J. Community Psychol. 30:815–833.

[5] Aragon SR, Johnson SD, Shaik N (2002) The Influence of Learning Style Preferences on Student Success in Online Versus Face-To Face Environments. AJDE 16:227–24.

[6] Bales RF (1951) Interaction Process Analysis: A method for the Study of Small Groups. Cambridge: Addison-Wesley Press.

[7] Bandura A (1989) The Multidimensional Self-Efficacy Scales, Unpublished Test. Stanford. California: Stanford University.

[8] Bandura A (1997) Self-Efficacy: The Exercise of Control. New York: Freeman, 604p.

[9] Bandura A (2001) Social Cognitive Theory: An Agentic Perspective. Annu. Rev. Psychol. 52:1-26.

[10] Barbera E (2004) Quality in Virtual Education Environments. Brit. J. Educ. Technol. 35:13–20.

[11] Bargh JA, McKenna K (2004) The Internet and Social Life. Annu. Rev. Psychol. 55:573–590.

[12] Beare PL (1989) The Comparative Effectiveness of videotape, audiotape, in delivery of continuing teacher education. AJDL, 3, 57–71.

[13] Beaudoin CE (2007) The Impact of News Use and Social Capital on Youth Well-Being: An Aggregate Level Analysis. J. Community Psychol. 35: 947–965.

[14] Benbunan-Fich R, Hiltz SR, Turoff M (2002) A Comparative Content Analysis of Face to Face vs. Asynchronous Group Decision Making. Decis. Support Syst. 34:457-469.

[15] Berge Z, Collins M (1996) Facilitating Interaction in Computer Mediated On-line Courses. FSU/AECT Distance Education Conference, Tallahasee, FL.

[16] Bernard RM, Lou Y, Abrami PC, Wozney L, Borokhovski E, Wallet P, et al. (2004) How Does Distance Education Compare With Classroom Instruction? A Meta-Analysis of the Empirical Literature. Rev. Edu. Res. 74:379–439.

[17] Biolghini D (a cura di) (2001) Comunità in Rete e Net Learning. Milano: Etas.

[18] Bisciglia MG, Monk-Turner E (2002) Differences in Attitudes Between On-site and Distance-Site Students in Group Teleconference Courses. AJDE. 16:37–52.

[19] Biuk-Aghai RP, Simoff SJ (2004) Patterns of Virtual Collaboration in Online Collaboration Systems. In: Proceedings of the IASTED International Conference on Knowledge Sharing and Collaborative Engineering. St Thomas, USVI, pp 57–62.

[20] Bocconi S, Pozzi F (1999) Un Modello di Comunicazione del Formatore in Rete. Tecnol. Didat. 18:25–36.

[21] Boling NC, Robinson DH (1999) Individual Study, Interactive Multimedia, or Cooperative Education? Which Activity Best Supplements Lecture-based Distance Education? J. Educ. Psychol. 91:169-174.

[22] Bourdieu P, Wacquant L (1992) An Invitation to Reflexive Sociology. Chicago: University of Chicago Press.

[23] Brown JS, Collins A, Duguid P (1989) Situated Cognition and the Culture of Learning. Educ. Res. 18:32-42.

[24] Bruscaglioni M, Gheno S (2000) Il Gusto del Potere: Empowerment di Persone ed Azienda. Milano: Franco Angeli.

[25] Calvani A, Rotta M (2000) Fare Formazione in Internet: Manuale di Didattica Online. Roma: Erikson.

[26] Caprara GV, Barbaranelli C, Borgogni L (2000) BFQ: Big Five Questionnaire. Manuale. Firenze: Organizzazioni Speciali.

[27] Caprara GV, Gerbino M, Delle Fratte A (2001) Autoefficacia Interpersonale. In: Caprara GV, editor. La Valutazione dell'Autoefficacia. Trento: Erickson, pp. 51-61.

[28] Carey JM, Kacmar CJ. (1997) The Impact of Communication Mode and Task Complexity on Small Group Performance and Member Satisfaction. Comput. Hum. Behav. 13:23–49.

[29] Chen S (2002) A Cognitive Model for Non-linear Learning in Hypermedia Programmes. Brit. J. Educ. Technol. 33:449-460.

[30] Chickering A, Gamson Z (1998) Seven Principles for Good Practice in Undergraduate Education. AAHE Bull. 39:3–7.

[31] Chidambaram L, Bostrom RP (1996) Group Development (I): A Rewiew and Synthesis of Development Models. Group Decis. Negot. 6:159-187.

[32] Clifford EF, Green VP (1996) The Mentor-Protege Relationship as a Factor in Preservice Teacher Education: A Review of the Literature. Early Child Develop. Care, 125.

[33] Coates J (1986) Women, Men and Language: A Sociolinguistic Account of Sex Differences In Communication: Alternative Uses of the Internet in Households. Inform. Syst. Res. 10:287-303.

[34] Cole ER, Zucker AN, Ostrove JM (1998) Political Participation and Feminist Consciousness Among Women Activist of the 1960s. Polit. Psychol. 19:349-371.

[35] Curran EM (2007) The Relation Between Social Capital and Substance Use by High School Student. J. Alcohol Drug Educ. 51: 59-73.

[36] Dawson IR, Newman IA (2002) Empowerment in IT Education. J. Inf. Educ. Technol. 1:125-141.

[37] Day M, Batson T (1995) The Network-Based Writing Classroom: The ENFI Idea In Berge ZL, Collins MP, editors. Computer Mediated Communication and the Online Classroom. Volume II: Hig. Educ, pp 25–46.

[38] De Fruyt S, Mervielde I (1996) Personality and Interests as Predictors of Educational Streaming and Achievement. Eur. J. Personality. 10:405–425.

[39] Deter ML (2004) Investigating the Predictive Value of Cognitive Style and Online Technologies Self-Efficacy in Predicting Student Success in Online Distance Education Courses. Dissertation Abstracts International Section A: Humanities & Social Sciences. 64: 2761.

[40] Doise W, Mugny G (1984) The Social Development of Intellect. Oxford: Pergamon.

[41] Donnely PG, Majka TJ (1998) Residents' Efforts at Neighborhood Stabilization: Facing the Challenges of Inner-City Neighborhoods. Sociol. Forum. 13:189–213.

[42] Draves W (2000) Teaching on-line. River Falls, Wis: Lern Books.

[43] Edmonson A, Bohmer R, Pisano G, (2000) Collaborating to Learn: Effects of Organizational and Team Characteristics on Successful Adoptions of New Medical Technology in Hospital-Based-Surgical Teams. In: Neale MA, Mannix EA, Griffith T, editors. Research on Managing Groups and Teams: Technology. Stanford, CT: JAI Press, pp 29-51.

[44] Ellis AE (2003) Personality Type and Participation in Networked Learning Environments. Educ. Media Internat. 4:101–114.

[45] Ellison NB, Steinfield C, Lampe C (2007) The Benefits of Facebook ''Friends": Social Capital and College Students' Use of Online Social Network Sites. J. Comput-Mediat. Commun. 12:1143–1168.

[46] Eysenck HJ (1971) Relation Between Intelligence and personality. Perceptual and Motor Skills. 32:637–638.

[47] Fahy PJ (2006) Online and Face-to-Face Group Interaction Processes Compared Using Bales' Interaction Process Analysis (IPA). EUROD, I-January to June.

[48] Fletcher KM (2005) Self-Efficacy As An Evaluation Measure for Programs in Support of Online Learning Literacy for Undergraduates. Internet High Educ. 8:307–322.

[49] Florin P, Wandersman A (1984) Cognitive Social Learning and Participation in Community Development. Am. J. Community Psychol. 12:689–708.

[50] Foster-Fishman PG, Keys CB (1997) The Person/Environment Dynamics of Employee Empowerment: An Organizational Culture Analysis. Am. J. Community Psychol. 25:345–369.

[51] Foster-Fishman PG, Salem D, Chibnall S, Legler R, Yapchai C (1998) Empirical Support for the Critical Assumptions of Empowerment Theory. Am. J. Community Psychol. 26:507–536.

[52] Francescato D, Ghirelli G (1988) Fondamenti di psicologia di comunità. Roma: La Nuova Italia Scientifica.

[53] Francescato D, Mebane M, Sorace R, Vecchione M, Tomai (2007a) EMPO: Una Scala di Misurazione dell'Empowerment Personale e Politico. G. Ital. Psicol. 2:465-490.

[54] Francescato D, Porcelli R, Mebane M Cuddetta M, Klobas J, Renzi P (2006) Evaluation of the Efficacy of Collaborative Learning in Face to Face and Online Contexts. Comput. Hum. Behav. 22:163-176.

[55] Francescato D, Porcelli R, Mebane ME, Attanasio C, Pulino M (2007b). Developing Professional Skills and Social Capital Through Computer Supported Collaborative Learning in University Contexts. Int. J. Hum-Comput. St. 65:140-152.

[56] Francescato D, Solimeno A, Tomai M, Paulesu N (2005) La Leva Giovanile Come Strumento di Accrescimento dell'empowerment: L'esperienza del Comune di Firenze G. Ital. Psicol. 2:309-330.

[58] Fritschner L M (2000) Inside the Undergraduate College Classroom. J. High. Educ. 71: 342-362.

[59] Fyson SJ (1999) Developing and Applying Concepts About Community: Reflections From the Field. J. Community Psychol. 27:347–365.

[60] Galimberti C (1994) Dalla Comunicazione alla Conversazione. Ric. Psicol, 18:113-132.

[60] Garcia-Reid P (2007) Examining Social Capital as a Mechanism for Improving School Engagement Among Low Income Hispanic Girls. Youth Soc. 39:164-181.

[62] Gardner D, (2004) Understanding the Factors that Influence the Pursuit of Higher Education Among First-Generation Community College Students. University Council for Educational Administration (UCEA). Kansas City, MO.

[62] Gerhardt MW, Brown KG (2006) Individual Differences in Self-Efficacy Development: The Effects of Goal Orientation and Affectivity. Learn. Individ. Differ. 16:43–59.

[63] Giddens A. (1991) Modernity and self identity. Oxford: Polity Press.

[64] Goker SD (2006) Impact of Peer Coaching on Self-Efficacy and Instructional Skills in TEFL Teacher Education. System. 34:239–254.

[65] Gokhale AA (1995) Collaborative Learning Enhances Critical Thinking. J. Technol. Educ. 7:1.

[66] Gray DE, Ryan M, Coulon A (2004) The Training of Teachers and Trainers: Innovative Practices, Skills and Competencies in the Use of eLearning. EUROD II.

[67] Griffith TL, Mannix EA, Neale MA (2003) Conflict and Virtual Teams. In Cohen SG, Gibson CB, editors. Virtual Teams That Work. San Francisco: Jossey-Bass, pp. 335-352.

[68] Griffith TL, Meader D, (2004) Prelude to Virtual Groups: Leadership and Technology in Semi-Virtual Groups. In Pauleen D, editor. Virtual Teams: Projects, Protocols and Processes. Hershey, PA: Idea Group, pp 231-254.

[69] Gros B (2001) Instructional Design for Computer-Supported Collaborative Learning in Primary and Secondary Schools. Comput. Hum. Behav. 17:439-451.

[70] Handy C (1995) Trust and the Virtual Organization. Harvard Bus. Rev. 73:40-50.

[71] Hannay M, Newvine T (2006) Perceptions of Distance Learning A Comparison of Online and Traditional Learning.: J. Online Learn. Teach. 2:1.

[72] Harasim LM, Yung B (1993) Teaching and Learning on the Internet. Burnaby, Canada: Simon Fraser University.

[73] Harasim, L. (1987). Teaching and Learning On-Line: Issues in Computer-Mediated Graduate Courses. Canad. J. Educ. Communic. 16.

[74] Harris L (2003) Turning Space Into Place: A Community of Online Learners Seek Mutual Support in a Familiar Environment Of Their Own Making. Proceedings ASCILITE conference [://wwwasciliteorgau/conferences/adelaide03/doc/pdf/215pdf]

[75] Heller K, Price RH, Reinhartz S, Riger S, Wasserman A (1984) Psychology and Community Change: Challenges of the Future. Homewood, IL: Dorsey.

[76] Herring SC (1992) Gender and Participation in Computer-Mediated Linguistic Discourse. Washington, D.C.: ERIC Clearinghouse on Languages and Linguistics, document ED345552. [http://ella.slis.indiana.edu/~herring/participation.1992.pdf]

[77] Herring SC (1993) Gender and Democracy in Computer-Mediated Communication. Electron. J. Commun. 3[In Internet URL http://www.cios.org/www/ejc/v3n293.htm]

[78] Herring SC, (1994) Gender Differences in Computer-Mediated Communication: Bringing Familiar Baggage to the New Frontier. Keynote talk at American Library Association Annual Convention. Miami, Florida.

[79] Herring S (2000) Gender Differences in CMC: Findings and Implications. The CPSR Newsletter. 18:1–12.

[80] Herring SC (2001) Gender and Power in Online Communication. *Center for Social Informatics Working Papers.* 01-05.

[81] Hinkle S, Fox-Cardamone L, Haseleu JA, Brown R, Irwin L (1996) Grassroots Political Action as an Intergroup Phenomenon. J. Soc. Issues. 52:39–51.

[82] Howard PEN, Rainie L, Jones S (2001) Days and Nights on the Internet: The Impact of a Diffusing Technology. Am. Behav. Sci. 45: 383–404.

[83] Israel GD, Beaulieu LJ, Hartless G (2001) The Influence of Family and Community Social Capital on Educational Achievement. Rural Sociol. 66:43-68.

[84] Jamieson, L. (2002). Theorizing Identity, Nationality and Citizenschip: Implications for European Citizenship Identity. Sociol. 34(6), 507-532.

[85] Jahng N, Krug D, Zhang Z (2007) Student Achievement in Online Distance Education Compared to Face-to-Face Education. EURODI.

[86] Jehn KA (1997) A Qualitative Analysis of Conflict Types and Dimensions in Organizational Groups. Admin. Sci. Quat. 42:530-557.

[87] Jehn K A, Northcraft G, Neale M, (1999) Why a Difference Make a Difference: A Field Study of Diversity, Conflict, and Performance in Workgroups. Admin. Sci. Quat. 44:741-763.

[88] Jeong A, Davidson-Shivers GV (2003) Gender Interactions in Online Debates: Look Who's Arguing With Whom. Paper presented at the Annual Meeting of the American Educational Research Association. Chicago, April 21-25.

[89] Johnson D, Johnson F (1975) Joining Together Group Theory and Group Skills. New Jersey: Prentice Hall, Englewood Cliffs.

[90] Johnson SD, Surya C, Won Yon S, Barrett JV, La Fleur J (2002) Team Development and Group Processes of Virtual Learning Teams. Comput. Educ. 39:379-393.

[91] Karp DA, Yoels CW (1976) The College Classroom: Some Observation on the Meaning of Student Participation. Sociology and Social Research. 60:421-39.

[92] Karpinnen S, Katz Y, Neill S (2005) Theory and practice in Affective education. Helsinki: University of Hensinki.

[93] Kawachi I, Berkman LF (2000) Social Cohesion, Social Capital, and Health. In Berkman LF, Kawachi I, editors. Social epidemiology. Oxford: Oxford University Press, pp 174–190.

[94] Kennedy BP, Kawachi I, Prothrow-Stith D, Lochner K, Gibbs B (1998) Social Capital, Income Inequality, and Firearm Violent Crime. Soc.Sci. Med. 47:7–17.

[95] Kiely T (1993) Learning to share. CIO. 6:38-44.

[96] Kiesler S, Sproull L (1992) Group Decision Making and Communication Technology. Organ. Behav. Hum. Dec. 52:96-123.

[97] Kiesler S, Zubrow D, Moses AM, Geller V, (1985) Affect in Computer–Mediated Communication: An Experiment in Synchronous Terminal-to-Terminal Discussion. Hum-Comput Interact. 1:77-104.

[98] Klobas JE, Renzi S (2000) Students' Psychological Responses to a Course Supported by Collaborative Learning Technologies: Measurement and Preliminary Results. The Graduate School of Management Discussion Papers Series, 2000-2/3. Nedlands, Western Australia: GSM

[99] Kraut R, Mukhopadhyay T, Szczypula J, Kiesler S, Scherlis B (2000) Information and communication: Alternative uses of the Internet in households. Inform. Syst. Res. 10:287-303.

[100] Kreijnsa K, Kirschner PA, Jochems W (2003) Identifying the Pitfalls for Social Interaction in Computer Supported Collaborative Learning Environments: A Review of the Research. Comput. Hum. Behav. 19:335-353.

[101] Lethinen E, Hakkarainen K, Lipponen L, Rahikainen M, Muukkonen H, (1999) Computer Supported Collaborative Learning: A Review of Research and Development. The JHGI Giesbers Reports on Education 10, Department of Educational Sciences, University of Nijmegen.

[102] Ligorio MB, Talamo A, Simons RJ (2002) Synchronic Tutoring of a Community On-Line. Mentoring and Tutoring: Partnership in Learning. 10:137–152.

[103] Lin N (2001) Social Capital: A Theory of Social Structure and Action. New York: Cambridge University Press.

[104] Liu M, Papathanassiou E, Hao YW (2001) Exploring the Use of Multimedia Examination Formats in Undergraduate Teaching: Results From the Fielding Testing. Comput. Hum. Behav. 17:225-248.

[105] Lombardi S, Forte G, Di Nocera F, Sementina C, Renzi P (2004) Tutoring Matters: Investigating the Role of Communication on e-Learning Effectiveness. In: Grew P, Valle G, editors. TEL 03 Proceedings: International Conference on Technology Enhanced Learning. Milan: FAST, IS.

[106] Lundin J, Magnusson M (2003) Collaborative Learning in Mobile Work. J. Comput. Assist.Lear. 19:273-283.

[107] Maggio LM, Chenail R, Todd T, (2001) Teaching Family Therapy in an Electronic Age. Journal of Systemic Therapies. 20:12–23.

[108] Marshall EM (1995) The Collaborative Workplace. Manag. Rev. 24:13-17.

[109] Mawhinney CH, Lederer AL (1996) An Investigating of the Relationship Between Managerial Personality Type and Computer Use. Journal of End User Computing. Winter: 4–11.

[110] McGee P, Boyd V (1995) Computer-Mediated Communication: Facilitating Dialogues. In Internet, URL: 4.

[111] McPherson M, Nunes M B (2004) The Role of Tutors as an Integral Part of Online Learning Support. European Journal of Open, Distance and E-learning, I

[112] Mebane M, Francescato D, Porcelli R, Iannone A, Attanasio C, (2008) Evaluation of the Efficacy of Affective Education Online Training in Promoting Academic and Professional Learning and Social Capital. Int. J. Hum.-Comput. Int. 24:1-19.

[113] Menezes I, Coimbra J, Campos B (2005) The Affective Dimension of Education: European Perspectives. Porto, Portugal, Fundacao para Cienca e a Tecnologia.

[114] Meyer KA (2006) When Topics Are Controversial: Is It Better to Discuss Them Face-To-Face or Online? Innov High. Educ. 31: 175–186.

[115] Miller LM (2005) Using Learning Styles to Evaluate Computer-Based Instruction. Comput. Hum. Behav. 21:287-306

[116]. Mittelman, J. H. (2000). The globalization syndrome: transformation and resistence. Princeton N.J: Princeton University Press

[117] Mortnsen M, Hinds PJ, (2001) Conflict And Shared Identifying Geographically Distribuited Teams. Journal of conflict management. 12: 212-238.

[118] Nelson G, Prilleltensky I (2005) Community Psychology. In Pursuit of liberation and wellbeing. NewYork:Palgrave MacMillan.

[119] Nelson T, McFadzean E (1998) Facilitating Problem-Solving Groups Facilitator Competences. Lead. Org. Develop. J. 19:72–82.

[120] Nigro G (1983) Contributo alla Taratura Italiana della Scala di Controllo Interno-Esterno (I-E) di Rotter. B. Psicol. Appl. 168:29-41.

[121] Palloff RM, Pratt K (2001) Lessons from the Cyberspace Classroom: The Realities of Online Teaching. San Francisco Ca: Jossey- Bass Inc.

[122] Palloff R, Pratt K (1999) Building Learning Communities in Cyberspace: Effective Strategies for the Online Classroom, San Francisco, CA: Jossey-Bass.

[123] Parcel TL, Dufur M J (2001) Capital at Home and at School: Effects on Student Achievement. Soc. Forces. 79: 881–911.

[124] Parks MR, Floyd K (1996) Making friends in cyberspace. J. Commun. 46:80-97.

[125] Parks MR, Roberts LD (1998) "Making MOOsic": The Development of Personal Relationships On Line and a Comparison To Their Off Line Counterparts. J. Soc. Pers. Relat. 15:517-537.

[126] Pastorelli C, Vecchio GM, Boda, G (2001) Autoefficacia nelle Life Skills: Soluzione dei Problemi e Comunicazione Interpersonale. In: Caprara GV, editor, La Valutazione dell'Autoefficacia. Trento: Erickson, pp 137-146.

[127] Pastorelli C, Picconi L (2001) Autoefficacia Scolastica, Sociale e Regolatoria. In: Caprara GV, editor. La Valutazione dell'Autoefficacia. Trento: Erickson, pp 87-104.

[128] Pellerey M (1996) Questionario sulle Strategie d'Apprendimento. Roma: LAS.

[129] Perkins DD, Brown BB, Taylor RB (1996) The Ecology of Empowerment: Predicting Participation in Community Organizations. J. Soc. Issues. 52:85–110.

[130] Perkins RF (1995) Using Hypermedia Programs to Administer Tests: Effects Of Anxiety and Performance. Journal of Research on Computing in Education. 28: 209–220.

[131] Phipps R, Merisotirs J (1999) What's the Difference? A Review of Contemporary Research on the Effectiveness of Distance Learning in Higher Education. Washinngton: DC The Institute for Higher Education Policy.

[132] Pickering J (1995) Teaching on the Internet is Learning. Active Learning-Using the Internet for Teaching. 12:9–12.

[133] Preece J, (2000) Online Communities: Designing Usability, Supporting Sociability. Chichester: Wiley.

[134] Prilleltensky I (2005) Promoting Well-Being: Time for a Paradigm Shift in Health and Human Services. Scand. J. Public Health. 33:53-60.

[135] Putnam RD (2000) Bowling Alone the Collapse and Revival of American Community. New York: Simon and Schuster.

[136] Reed MD, Overbaugh R (1993) The Effects of Prior Experience and Instructional Format on Teacher Education Students' Computer Anxiety and Performance. Computers in the Schools. 9:75–89.

[137] Ross JL, Drysdale MT, Schulz RA (2001) Cognitive Learning Styles and Academic Performance in two Postsecondary Computer Application Courses. Journal of Research on Computing in Education. 33:400–412.

[138] Rudestam KE (2004) Distributed Education and the Role of Online Learning in Training Professional Psychologists. Prof. Psychol-Res. Pr. 34:427-432.

[139] Russell TL (1999) The No Significant Difference Phenomenon. Raleigh, NC: North Carolina State University.

[140] Salmon G (2000) E-Moderating: The Key to Teaching and Learning Online. London: Kogan Page.

[141] Santo SA (2001) Virtual Learning, Personality, and Learning Styles. Dissertation Abstracts International Section A: Humanities & Social Sciences. 62:137.

[142] Schrage M (1990) Shared Minds. New York: Random House.

[143] Schrum L, Hong S (2002) From the Field: Characteristics of Successful Tertiary Online Students and Strategies of Experienced Online Educators. Educ. Inform. Technol. 7:1, 5-16.

[144] Schwier R, (2002) Shaping the Metaphor of Community in Online Learning Environments. Unpublished Manuscript, University of Saskatchewan.

[145] Shepherd C (2000a) Evaluating On-Line Learning. Fastrak Consulting.

[146] Shepherd C (2000b) The Real Time On-Line Tutor. Fastrak Consulting.

[147] Shermis MD, Lombard D (1998) Effects of Computer-Based Test Administrations on Test Anxiety and Performance. Comput. Hum. Behav. 14:111–123.

[148] Short J, Williams E, Christie B (1976) The Social Psychology of Telecommunications. London: Wiley.

[149] Sipusic MJ, Pannoni RL, Smith RB, Dutra J, Gibbons JF, Sutherland W (1999) Virtual Collaborative Learning: A Comparison Between Face-to-Face Tutored Video Instruction (TVI) and Distributed Tutored Video Instruction (DTVI). Palo Alto, Ca: Final Report Sun Microsystems.

[150] Sonnenwald DH, Li B (2003) Scientific Collaboration in Higher Education: Exploring Learning Style Preferences and Perceptions of Technology. Brit. J. Educ. Technol. 34:419-431.

[151] Sounder WE (1993) The Effectiveness of Traditional V. Satellite Delivery in Three Management of Technology Masters Degree Programs. The American Journal of Distance Education. 7:37–52.

[152] Spender D (1982) Invisible Women. London: The Women's Press.

[153] Sproull L, Kiesler S, (1986) Reducing Social Context Cues: Electronic Mail in Organizational Communication. Manage. Sci. 32:1492- 1512.

[154] Stalker J (1996) Women and Adult Education: Rethinking Androcentric Research. Adult Educ. Quart. 46: 98-113.

[155] Steinfield C, Ellison NB, Lampe C (2008) Social Capital, Self-Esteem, and Use of Online Social Network Sites: A Longitudinal Analysis. J. Appl. Dev. Psychol. 29: 434–445.

[156] Stewart AJ, Settles IH, Winter NJG (1998) Women and the Social Movements of the 1960's: Activists, Engaged Observers, and Nonparticipants. Polit. Psychol. 19:63–94.

[157] Stiglitz, J.(2002) Globalization and its discontents.London:Penguin.

[158] Susskind JE (2005) Power Point's Power in the Classroom: Enhancing Students' Self Efficacy and Attitudes. Comput. Educ. 45:203–215.

[159] Tisdell EJ (1993) Interlocking Systems of Power, Privilege, and Oppression in Adult Higher Education Classes. Adult Educ. Quart. 43:204-226.

[160] Tomai M, Rosa V, Mebane M, Dacunti A, Benedetti M, Francescato D (2009) Virtual Communities in School as Tools to Promote Social Capital With High School Students. Comput. Educ. 54:265-274.

[161] Tu CH (2002) The Measurement of Social Presence in an Online Learning Environment. Int. J. E-Learn. 1:34-45.

[162] Unrau YA & Beck AR (2004) Increasing Research Self-Efficacy Among Students in Professional Academic Programs. Innov High Educ. 28:187–204.

[163] Vanderbosch B, Ginzberg MJ (1997) Lotus Notes and Collaboration: Plus Ca Change. J. Manage. Inform. Syst. 13:65-82.

[164] Vanfossen B (1996) Gender Differences in Communication. Institute for Teaching and Research on Women. Towson, MD: Towson University. [Retrieved August10, 2009 from http://midget.towson.edu/itrow.]

[165] Vygotsky L (1978) Mind in Society: The Development of Higher Psychological Processes. Cambridge: Harvard University.

[166] Wallack L (2000) The Role of Mass Media in Creating Social Capital: A New Direction for Public Health. In Smedley BD, Syme SL, editors. Promoting Health Intervention Strategies From Social and Behavioral Research. Washington, DC: National Academy Press, pp 337–365.

[167] Walther JB, Loh T, Granka L (2005) Let Me Count the Ways. The Interchange of Verbal and Nonverbal Cues in Computer-Mediated and Face-to-Face Affinity. J. Lang. Soc. Psychol. 24:36–65.

[168] Wang AY, Newlin M (2000) Characteristics of Students Who Enroll and Succeed in Psychology Web-Based Classes. J. Educ. Techonol. Syst. 92:137-143.

[169] Watters JJ, Ginns IS (1995). Origins of, and Changes in Pre-Service Teachers' Science Teaching Self-Efficacy. Annual Meeting of the National Association for Research and Science Teaching, San Francisco, CA, April 22–25.

[170] Wheelan S, Verdi R, McKeage R (1993) The Group Development Observation System: Group Development. Small Gr. Res. 24:60-83.

[171] Whiteman J, Scott EM, McElnay JC (1994) Analysis of Pharmacists' Attitudes Toward a Distance Learning Initiative on Health Screening. Am. J. Pharm. Educ. 58:300–306.

[172] Williams D (2006) On and Off the 'Net: Scales for Social Capital in an Online Era. J. Comput.-Mediat. Comm. 11: 593–628.

[173] Wilson EV (2000) Student Characteristics and Computer-Mediated Communication. Comput. Educ. 34: 67–76.

[174] Wishart C, Guy R (2009) Analyzing Responses, Moves, and Roles in Online Discussions Interdisciplinary. Journal of E-Learning and Learning Objects. 5:129-144.

[175] Wittig MA (1996) An Introduction to Social Psychological Perspectives in Grassroots Organizing. J. Soc. Issues. 52:3–14.

[176] Workman M (2004) Performance and Perceived Effectiveness in Computer-Based and Computer-Aided Education: Do Cognitive Styles Make a Difference? Comput. Hum. Behav. 20, 517–534.

[177] Yalon YB, Katz YJ (2001) An ICT Based Project for the Facilitation of Equality, Understanding and Tolerance Among Istraeli Jewish and Bedouin High School Students. In: Montogomerie C, Viteli J, editors, Proceedings of Ed-Media 2001 Norfork, VA: Association for the Advancement of Computing in Education, pp 2086-2091.

[178] Young SSC (2004) In Search of On-Line Pedagogical Models: Investigating a Paradigm Change in Teaching Through the School for All Community. J. Comput. Assist. Lear. 20:133–150.

[179] Zhao Y, Lei J, Yan B, Tan, S (2004) What Makes the Difference? A Practical Analysis of Research on the Effectiveness of Distance Education. [Available online: http://otteducmsuedu/literature/report.pdf]

[180] Zimmerman M, Rappaport J (1988) Citizen Participation, Perceived Control, and Psychological Empowerment. Am. J. Comm. Psychol. 16:725–750.

[181] Zimmerman MA (1989) The Relationship Between Political Efficacy and Citizen Participation: Construct Validation Studies. Journal of Personality Assessment, 53:554–566.

[182] Zimmerman MA (1990) Taking Aim on Empowerment Research: On the Distinction Between Individual and Psychological Empowerment. Am. J. Comm. Psychol. 18:169–177.

[183] Zimmerman MA, Israel BB, Schultz A, Checkoway B (1992) Further Exploration In Empowerment Theory: An Empirical Analysis Of Psychological Empowerment. Am. J. Comm. Psychol. 19:707–727.

[184] Zobdeh-Asadi S (2004) Differences in Personality Factors and Learners' Preference for Traditional Versus On-Line Education. Dissertation Abstract International Section A: Humanities & Social Sciences. 65:436.

[185] Zorfass J (1998) Strategies to Ensure That On-Line Facilitators Are Successful. Education Development Center.