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Social Networking Software: Computer Communication Supported Cooperative Assessment Tools in Medical Education

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Abstract
The social networking is becoming more popular. The computer supported social communication generally aims to achieve a higher-level of thinking skills, communication abilities, and the shared improvement of knowledge within a field of performance with others. The rapid growth has made it difficult for developing software of cooperative networking in medical education with an accurately assessment tools of social networking cooperation indicators. The locus of control gets a major interpersonal aspect in assessing cooperative social networking. Therefore, the study aims to develop communication software tools with assessment tools for cooperation and it investigates the relationship commitment of locus of control serves as an interpersonal factor. The purpose of the study is to develop communication software tools and The assessment tools to determine the cooperative social network (Locus of control tool, The effectiveness Observation assessment tool, Interactive Evaluation Methods and Tools, observation recording social Network interaction between the groups Observation recording participations performance indicators and Self-assessment tool). and to examine the learner interpersonal locus of control. The participants were 44 medical education students, who were enrolled in online computer courses at Taif University. The participants have been placed into five groups, each group has seven members with one leader. During the 10 week semester, the students had online reading assignments, participated in discussion activities, created technology-based lesson plans, worked on small group projects. The final results indicate that there is a significant difference between the locus of control and the self-assessment, participation interaction assessment, and Social network group's interaction. Consequently the locus of control effects of Social network group's interaction variable.

1. Introduction

The social networking is becoming more popular, social software has achieved an important position in the internet education industry. For social software to be successful, it is serious to understand how learner forms their constant usage target toward social software. The wide dispersion of the World Wide Web gives a variety of types of social software that has extended rapidly in individuals' daily lives. The Social network can be defined as methods and environments that support activities in social

network communication (Klamma et al., 2007) Social networking characteristically includes instant messages, blogs, social networks, media-sharing services, and social-bookmarking services. Consequently, social software is becoming more popular, since it provides flexible social connectivity with functionalities that enable people to communicate each other in collaborate manner, share various contents, and achieved an important position in the internet learning communication (Parames waran & Whinston, 2007).

The Computer Supported social networking methods (synchronous or asynchronous) have already been built-up and used to promote learner's cooperative social networking skills. They help the progress of networked learning communities, whose members work together to build a shared understanding of the subject matter and to give tools to evaluate cooperative in social networking, communication in depending on self-assessment and social skills assessment (Schwartz, 1995).

Locus of control is an important perception affected on social networking. Some people think that their lives depend on external forces while others believe that they control their own fate. This assembler is called locus of control. It has two dimensions internal and external, external locus of control indicates the belief that other people and external factors have control over one's life. On the converse, people who demonstrate high internal locus of control believe that their lives depend on their own will, rather than that of others. Reports of locus of control could provide meaningful insight to better understand online social networking.

2. Definition of Terms

2.1. The Computer Supported Social Networking Communication

The computer supported social communication generally aims to achieve a higher-level of thinking skills, communication abilities, and the shared improvement of knowledge within a field of performance with others (Oliver and Herrington,2003). Computer-mediated communication (CMC) and social software networking have also adopted the socio-technical perspective (Le Rouge et al., 2007).

2.2. Interaction Evaluation is

A systematic process tries to give the insight in how the interactions within networked learning communities affect learning. That is mean the definition of a framework and methods which can help evaluators to gather, investigate and understand data about the interactions inside networked learning environment. (TELL, 2005).

2.3. Brown's Locus of Control Scale (BLOCS)

(Brown, 1998) developed this Instrument for measuring college students' locus of control, it includes two subscales: internal, external social. Some people think that their lives depend on external forces while others believe that they control their own fate. This construct is called locus of control. External locus of control indicates the belief that other people and external factors have control over one's life. On the contrary, people who demonstrate high internal locus of control believe that their lives depend on their own will, rather than that of others. Reports of locus of control could provide meaningful insight to be better understand online

2.4. Learning Management System (LMS): (Ellis, 2009)

Course management system (CMS) defined this as a medium that provides automation of the administration, tracking, and reporting of training events and delivering contents.

2.5. Net Generation: (Oblinger, 2004)

He described that there was a different type of student emerging in higher education. They are a group of people who were born in or after 1982 and showing different characteristics from previous generations. Most of them are experts at learning through multimedia because of familiarity with various technologies.

2.6. Online Learning

It used interchangeably for online education and e –learning, Web-based computer-assisted learning environment.

2.7. Wiki

It is a collection of web pages designed to enable anyone with access to contribute or modifying content, it often used to create a collaborative web site and powerful community web site.

2.8. On Line Discussion Forum

A Group of students select a project module based on course reading each group is responsible for moderating and summarizing.

2.9. Student Blogs

The Student can keep blogs as a personal record of their work. What they have completed and, what they have learned.

3. Literature Review

3.1. Computer Communication Supported Social Networking

Due to the increased accessibility and popularity of the internet, social networking sites began to develop as a means for people to interact with each other based on their existing social networks or to connect with others who have similar interests. All social network sites share three general aspects. The first It allows persons to build a profile within a sharing

system, second they develop a list of other persons with whom they share a relationship, third their view with navigation through their list of associations within the computer sharing system.

One feature of social network sites is that it allows communities to make their networks able to be seen to others. Additionally, the primary purpose of belonging to a social network site is not to network with others, as may be the case with other computer-mediated communication (CMC).

The trend of getting part or all of social needs met online seems to be increasing Chat rooms, email, multi-user dungeons, social materials , blogs, wikis, online discussion board sharing social media ,interview with external experts ,group project work and social networking sites these all changed the way that people choose to interact with each other. Currently in higher, education, educational use of the Internet focuses on Learning Management Systems (LMS). An LMS (such as Blackboard, Desire2Learn, Web CT, and Moodle) utilizes the Internet for the delivery of course materials chosen or developed by instructors. These materials are available to online learners at any time from any location. According to (Volery, 2001), the success factors for teaching effectiveness in online education are found in three main areas: the technology, the instructor's characteristics, and the learner's characteristics. According to (Sun and Rueda, 2012) he developed an instrument to investigate student behavior with regard to self-regulation in both online and blended learning environments. As a result, the researcher was interested in examining this construct and determining whether it correlated with the other two constructs chosen for this study.

According to (Kearsley, 2005) there were closed network and local network systems for training as a form of online education. An increase in the number of smartphone users and other mobile, Internet-accessible devices have led some to claim that the "web is dead" and that we are entering a next stage of information delivery (Anderson & Wolff, 2010).

For online learning environments, this shift has introduced a new term, m- learning (or mobile learning). It is clear that the definition and implementation of online learning have changed over the years. Systems in education" (Simonson, 2011) besides, email was increasingly used as a communication tool. As more users and content providers became part of the web, its value as an information resource grew. However, it also became increasingly harder to find information. The importance of search engines in defining the Internet experience and shaping users' interactions cannot be understated. Google would be able to become the top search engine by offering more complex page ranking and information access than any of its competitors.

Google has since expanded its offerings to include searches of scholarly works, images, people, maps, shopping, etc. The ability to search and easily find relevant information continues to be a challenge as the size of the web continues to increase (Robison, 2007).

The quality of the technology is critical for seamless communication as a main objective of the technology (Liao and Tsou, 2009). (Lin, 2006), he is investigating perceived system quality as a principal technical attribute of social software. Other quality dimensions (i.e. information quality and service quality) are considered to have relatively less impact within the context of instant messaging.

3.2. Learning Management System Supported Social Networking

Online learning has become widely accepted and continues to grow. The Blackboard was then being used by over 12 million users in over 60 countries. According to the (Sloan Consortium, 2011) there were over 6.1 million students (nearly one-third of all higher education students) taking at least one online course in the fall of 2010. The organization also reported from a survey in which 65% of higher education institutions identified online learning as a critical part of their long-term strategy. Many, if not most, higher education institutions have adopted an LMS for providing their online courses.

(Ellis,2009) states that an LMS is "a software application that automates the administration, tracking, and reporting of training events. An LMS (such as Blackboard, Desire2Learn, Web CT, and Moodle) utilizes the Internet for the delivery of course materials chosen or developed by instructors. These materials are available to online learners at any time from any location.

Blackboard started with a vision to "provide a user-friendly means by which college.

Although the current generation of LMSs dominates online learning in higher education, this is likely to change. In the last few years, there has been greater emphasis on social networking. Various technologies have made it easier to collaborate in the construction of information and the building of communities in cyberspace. He emphasizes that online learners now rely on social communication tools such as discussion forums, and more recently blogs and wikis. Many Internet users have become more active because of participating in social networking sites.

(Nekritz, 2011) explored the features of social media in higher education and believes that user-friendly features, such as game-like aspects, have the most potential to impact learning. People feel comfortable with these social networks because they are familiar and simple to use. It is unclear if LMSs should merely adopt social networking functions, or if social Networking represents a fundamental shift in how people expect to interact with information and each other.

Another emphasis in online education is the development of m learning (or mobile learning). Although m-learning still focuses on the delivery of content via the Internet, the shift is in accommodating the increase in the number of smartphones and other mobile, Internet-accessible devices in the hands of students (Anderson & Wolff, 2010). (Szuchman, 2005) reported on an early attempt at m-learning and emphasized that the course changes caused by the portable technology were aimed not at the students' ability to receive information,

but, instead, for students to learn new computer skills that would reinforce their abilities to process information. M-learning or mobile learning may provide additional opportunities to learn with peers, because of increased accessibility and interaction. The use of mobile devices is characterized by brief interactions. However, those interactions are much more numerous and varied than those associated with typical PC sessions. Mobile users are always "logged on," even when engaged in the real world. Through social networking services, mobile device users can connect with experts and peers with similar interests to help in their learning. As for the demand increases, for more efficient online learning environments, m-learning may take a prominent role in the field of higher education (Peters, 2007).

3.3. Online Learner Characteristics

According to (Volery, 2001), the success factors for teaching effectiveness in online education are found in three main areas: the technology, the instructor's characteristics, and the learner's characteristics. Examples of technology include ease of access and navigation, the interface design, and the level of interaction enabled. In the short term, the implementation of online learning technologies involves design decisions and tradeoffs. However, in the long term, improvements in technology have brought greater functionality and options to both instructors and students. Instructor characteristics include attitudes towards students, the technical competence of the instructor, and the amount of interaction and feedback the instructor chooses to provide in a course.

Learner characteristics include previous use and experience with technology, which is often seen as an enabler of success in online learning. Online learning is often characterized as requiring better self-management and more motivation.

Advances in technology can provide opportunities for more varied and complex interactions (Vrasidas, 2011). Faculty must also be trained and knowledgeable about how interaction in online environments differs from that of face-to-face environments (Simonson, 2011). Arguably, learners often take online courses because of access convenience, not due to perceived educational effectiveness. In order to support learning interaction, more knowledge of student characteristics. There are many learner characteristics that potentially affect online learning. For example (Zacharis, 2011) examined learning style in students' preference for web-based courses. learner characteristics could affect information overload in online learning. For example, learners reported difficulty in reading on screen, typing with a keyboard, preferences for visual or auditory information, time constraints, etc. as various factors that contributed to information overload. According to (Sun & Rueda, 2012), previous research indicated that because distance education learners lack direct encouragement from instructors, they might be less self-regulated in online activities.

These researchers found that self-regulation was significantly correlated with three types of engagement (behavioral, emotional, and cognitive). (Artino, 2008) even suggests that online instructors may use a self-regulation assessment of students as a diagnostic tool, adapting their instructional practices based on the results.

Similarly, describes research as showing that successful students are more often associated with an internal locus of control, and that this is a critical success factor for online learning. (Pintrich, 2000) created a conceptual framework for classifying phases and self-regulation. It contains four phases: (a) for thought, planning, and activation; (b) Monitoring; (c) control; and (d) reaction and reflection. For the learner, these four phases are not connected linearly. They are experienced simultaneously and involve coordination and collaboration in a dynamic fashion. Each phase contains four areas for regulation: (a) cognition; (b) motivation/effect; (c) behavior; and (d) context. Cognition includes skills such as goal setting, selection of cognitive strategies, and cognitive judgments. Examples of motivation/affect are the awareness and monitoring of affect, affective reactions, and attributions. Behavior includes what a learner chooses to do, such as increasing or decreasing effort and persisting versus quitting. Finally, context is knowledge and awareness of the external environment.

Although Pintrich grants this is not necessarily an individual characteristic, he notes that monitoring and controlling the environment is seen by some as an important factor for successful learning. According to Pintrich, not all learning follows these phases; some is tacit, implicit, or unintentional on the part of the student. A student may attempt to self-regulate in all these areas, or another individual may do this.

The task or features of the educational environment may facilitate or constrain an individual's attempt as self-regulation. Research on self-regulation generally involves learners reporting on their own behaviors and motivation.

(Moos, 2010) conducted a study with undergraduate students to examine different levels of self-regulated learning process use. In his study, three categories of use were created based on the frequency of self-regulated learning processes scored by the researcher. Moos found that the students in the low-usage group scored significantly lower on the posttest than the other two, but there was no significant difference between the intermediate- and high-usage groups.

(Lee and Tsai, 2011) conducted a study in which they investigated college students' perceptions of collaboration, self-regulated learning, and information seeking in both online and traditional face-to-face learning contexts.

Although many self-regulated learning studies focus on specific lessons (Kramarski and Michalsky, 2009) looked at the effects of self-regulated learning in a hypermedia environment, both with and without metacognitive support. They examined preserves teachers learning pedagogical content with a hypermedia system. Although self-regulated learning had a positive relationship with outcomes in both groups, the addition of Metacognitive support in one condition created improved gains reinforcement situations. One can argue that in the succeeding decades of learner-

centered education, constructivism, and online learning, academic achievement is not as structured or clearly reinforced. In a survey of incoming freshman, (Fazey and Fazey, 2001) found that the majority had an internal locus of control and rated highly for internal motivation. However, relative differences in internal versus external ratings can be shown to have an effect. (Stant, Downes, 2008) demonstrated a relationship between locus of control and college student grades.

3.4. Social Cognitive Perception

the social-technical awareness clearly suggests that the designers need to consider the communications between the social and technical factors of an information system and learner, most previous social-technical studies have not got what manner they take action together (Lin and Lee, 2006b),(Choi et al., 2008). To deal with these limitations of existing social-technical studies, we assume the social cognitive perspective. The cognitive process serves as a foundation for understanding human social behaviors. In exacting, the Relationships among learner behavior, individual, and environmental technology factors to understand and predict a person's behavioral continuance or modification in using computer communication supported social networking. According to (La Rose, 2009). Indicated that a person's decision-making and behavior is influenced by his/her cognitive structure.

The social cognitive perspective may sufficiently make clear the interactions between the socially perceived user base and relationship commitment and technical computer communication supported social networking these factors involved in social software.

In particular perceived system quality as a technology computer communication supported social networking factor can be viewed as a social environmental factor while relationship commitment of locus of control serves as a personal factor. These personal and social environmental factors have a mutual interactive relationship. So learners' beliefs are affected by the social context within their environment. While at the same time, the interaction between the individual and computer communication supported social networking. This theoretical perspective had been usefully adopted for various technology-related social behavioral settings (Lee and Ma, 2012).

4. Problem Statement

The social computer communication networking has been grown at an incredible rate in the present age. So the learner in this age is called net generation. This rapid growth has made it difficult for developing software of cooperative networking in medical education and reach the accurate assessment of social networking cooperation indicators, and to evaluate how the communication and cooperation are effective with concerning the medical learner characteristics.

Therefore, the study aims to develop communication software tools in medical education subjects with the locus of control serves as an interpersonal factor. Consequently, there is a need to design a communication software tools to improve the networking cooperation skills between the medical learners through communication software in medical education and also to build assessment tools to facilitate the performance evaluation. Besides to overcome the difficulties have been faced the learner in cooperative medical projects.

5. Research Questions

Q1 What are the communication software tools for the cooperative project of Computer communication supported social networking?

Q2 What is the relationship between a learner's locus of control and social cooperation in Computer communication supported social networking?

Q3 How to evaluate social networking, cooperation indicators between groups?

Q4 What is the assessment indicators between the learner interactions?

Q5 What are the self-assessment indicators for learner perception about their performance in computer communication supported social networking?

Q6 What is the effectiveness of Computer communication supported social networking?

6. Research Purposes

Learner characteristics potentially effect on social networking learning. The purposes of this study, is:

- To examine the learner interpersonal characteristics, the locus of control was chosen for further examination based on their importance in past literature.
- To examine the effectiveness of performance Computer communication supported social networking with students' locus of control, interpersonal, by building and applying the assessment tools to evaluate the social media interactivity indicators medical education students.
- To cover the three types of networking, computer communication indicators, learner-content interaction, instructor-learner interaction, and learner-learner interaction between the groups and within the group's participants.
- to give a holistic view of the learning outcomes and learners' perception of the locus of control model based on which interaction occurred When users communicate with others using social communication technology.

7. The Importance of the Study

- Develop communication software tools for medical education.
- Understand the locus of control factors influence computer supported social networking, communication in the same or different ways than in face-to-face environments.

- Provide awareness on the importance and capabilities of cooperative assessment tools.
- Identify the major elements and requirements for successful implementation of computer networking support social communication.
- Identify skills required by learners to succeed computer networking support social communication.
- Encourage faculty members to activate computer networking support social communication
- Offers new ways of providing interactive, authentic and meaningful learning experiences
- Students in today's global world need to possess not only academic skills but also arrange of intellectual, social cultural and life skills needed to excel in educating
- Give multiple ways to students own interests offer appropriate, challenging and increase interpersonal motivation.

8. The Study Procedures

8.1. Developing Communication Software Tools

The communication development soft wares are presented through the following table:

Table (1). *Presents some of cooperative social network strategies/*

The software tool	the communication activity intended	The medical project activity
Chat ware Social communication By sharing personal collection on web	Course reading list Assignments group project recourses Ability to connect with different communities	Organize recourses Different perception about content Using cooperative tools
Blogs A web-based public diary with date entries often accompanied by links to other blogs	Article critic Peer review Assignment self-reflection Blogging portfolios Reflective writing and reading Opportunity for students activity to receive external feedback And to make contribution to the dialog in their field of study	Public or privet in management system around the medical computer project
Wikis Is a collection of web pages that can be edited by anyone at anytime from anywhere	Class book Online discussion summaries group essay peer review of student work Course planning Research activities Networking Personal and course home page	Integrate a wiki tool Manage and communicate with students Advertisement on free tools Who is responsible for the validity of content
Communication forum shareware Social networking and learning management system Focus on building and verifying of online social networking for community for people who share interested and activity	Online discussion board Study group Course communication Facebook Useful linking Class group	Limited educational information on Facebook
Share multimedia ware Social media sharing Simplify the process of posting and sharing content on the web Audio Image and video	Interview with external experts Case study Project work Sharing instructional recourses Discussion and database about learning object Easy to high importance Using YouTube	Overview about information Presentation their own Documents from students Appropriate chat message
Synchronous ware communication Opportunities Text message audio video support realtime collaboration Creative project	External guest presentation Group project Brainstorming and action plan Communication text and audio	Upload file to mobile device important to have plans for interaction and group activities
Virtual world medical education	Virtual experimentation Group project work Practice area Work medical skills Collaboration between institute experts and students	Virtual medical subjects and practice to support the medical project

The previous table (1) presents the communication software tools, which had been developed for the research aims. Such as a discussion forum, recording text based on chat, or real time web based communication through reflection on what they have learned and posting, a statement online, and tools for creating a demonstration online by presenting medical photos or video clips to show the results of their field experiences.

The actives medical Skills are in thinking and solving problem Collaboration problem solving Research project that could be presented in a range different formats Skills such as teamwork , Self learning which students take responsibility for individual collaborative learning event Shared course resource.

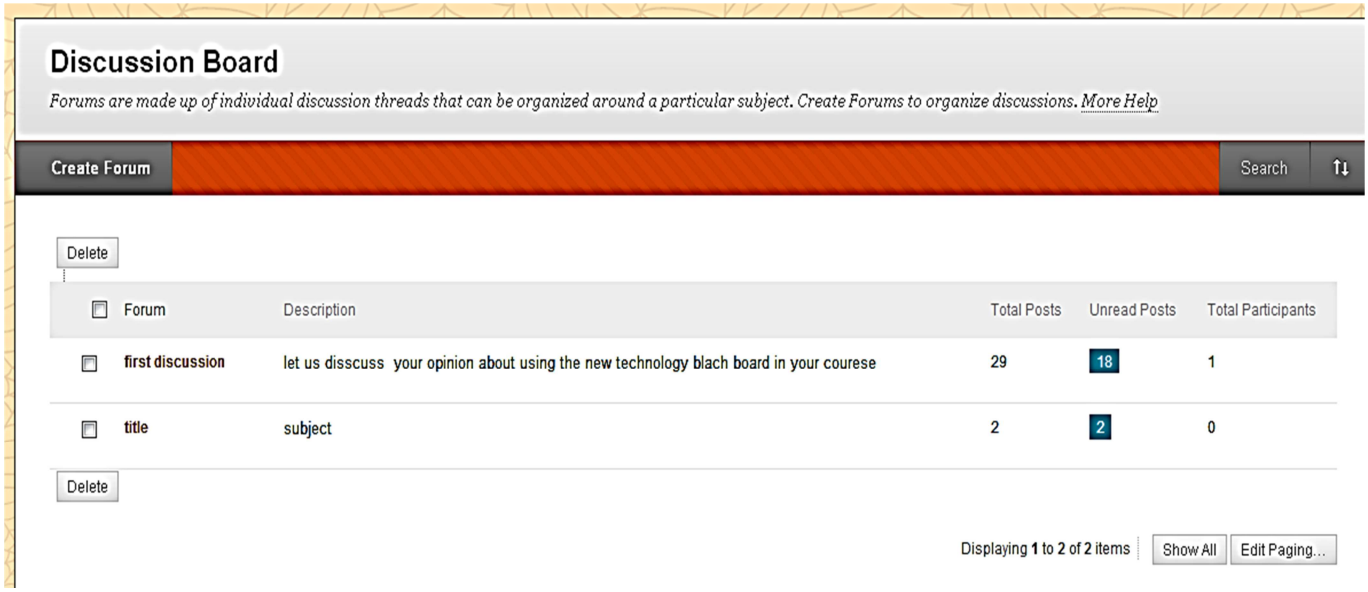

Figure (1). *Present model of collaborative social networking.*

The figure (1) presents a discussion between member about they are doing in social media and their opinion in sharing activities, and the posts have been sent

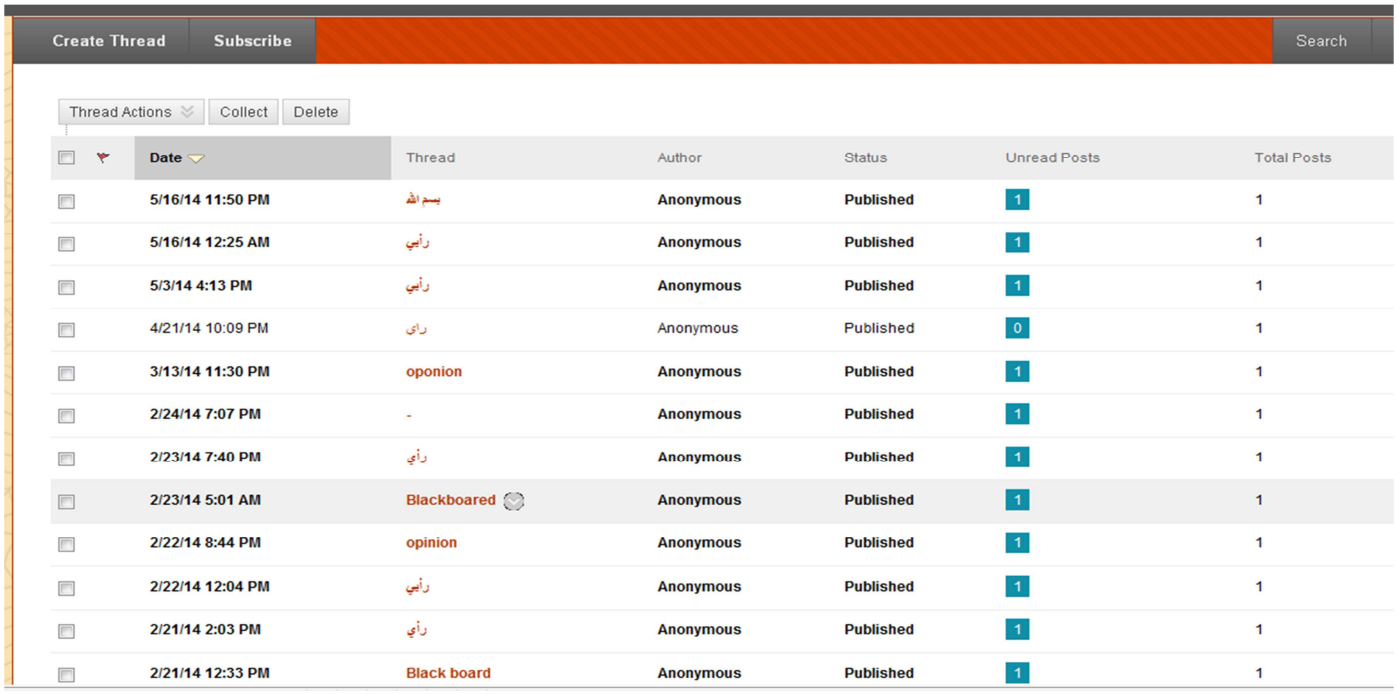

Figure (2). *Present a interactivity between groups members.*

The figure (2) presents all the interactivity between all the members in all over the project and their posts to share opinions among them.

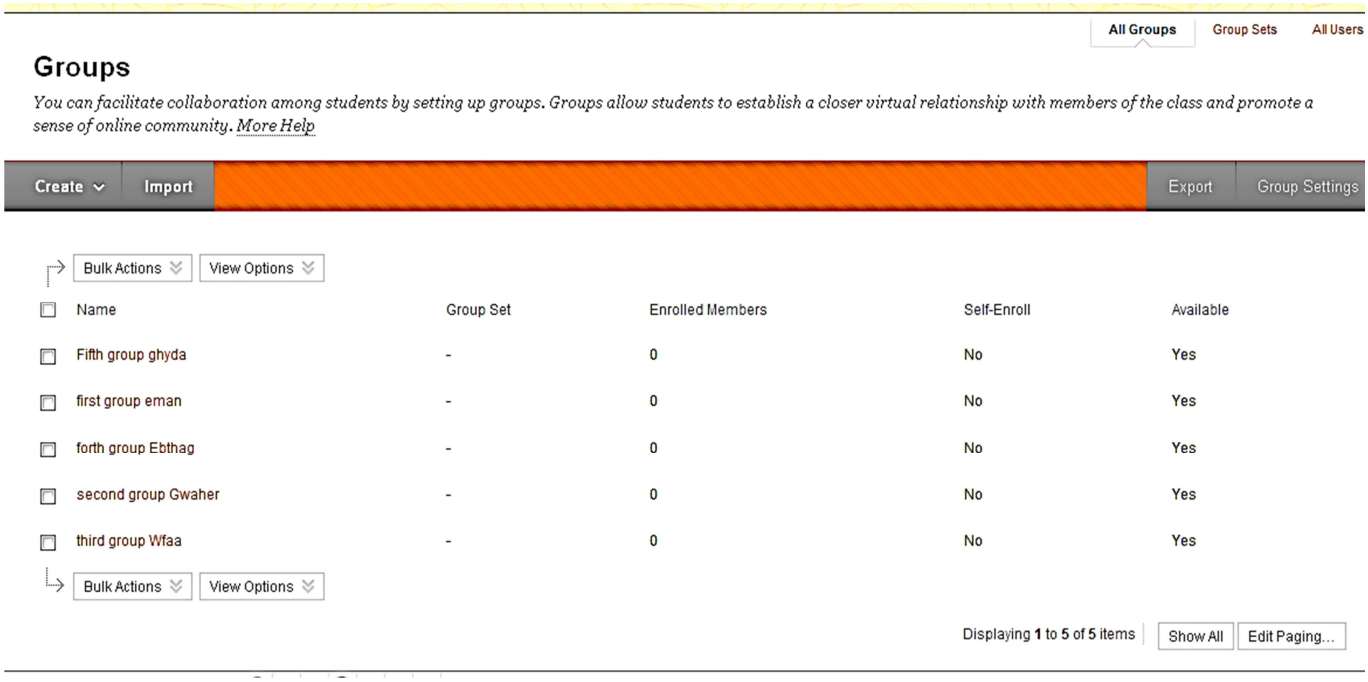

Figure (3). *Show the five medical students groups.*

Figure (3) presents the five groups and the leadership for each group, so each group has a different medical project should be finished at the end of the distinct period, all the members have the full responsibility to finish her task.

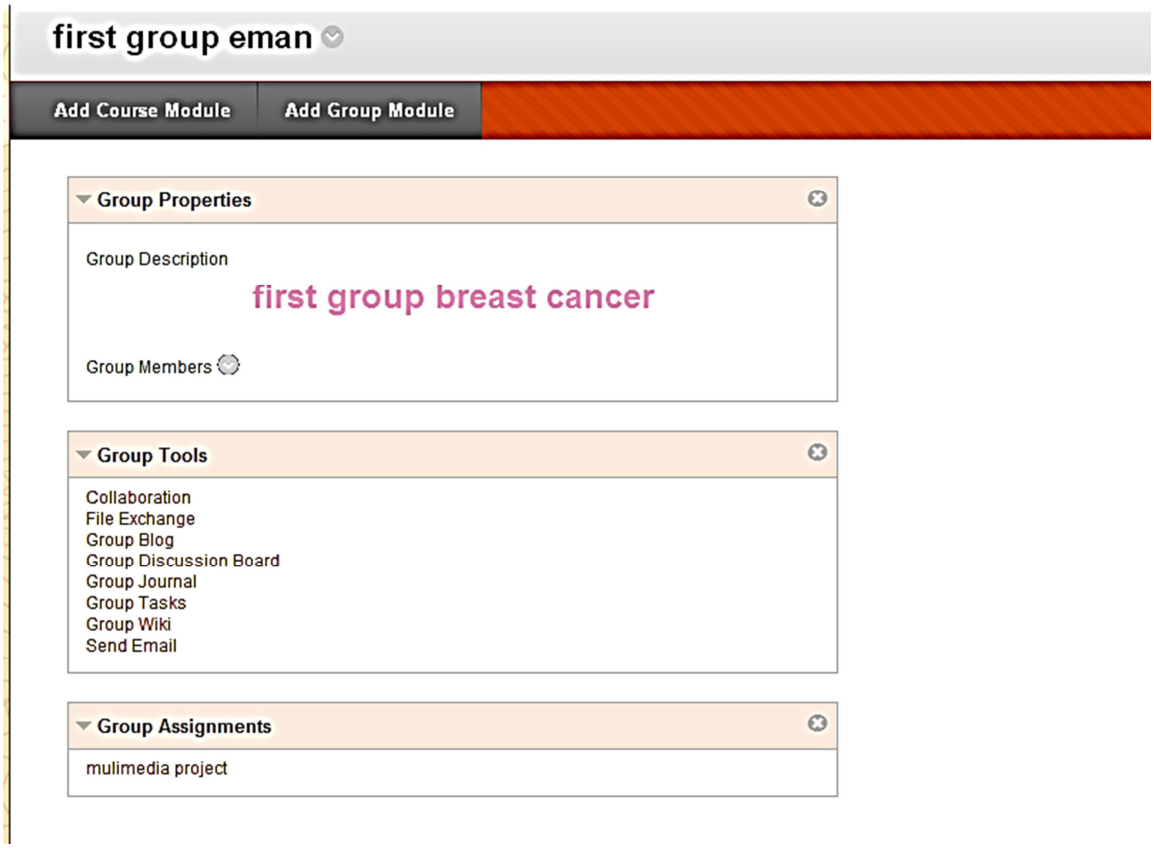

Figure (4). *Present the one group team and social cooperative tasks.*

This figure (4) presents the social interactivity, communication between the one group, it includes collaboration, file exchange, course blog, group task, group wiki, and send emails.

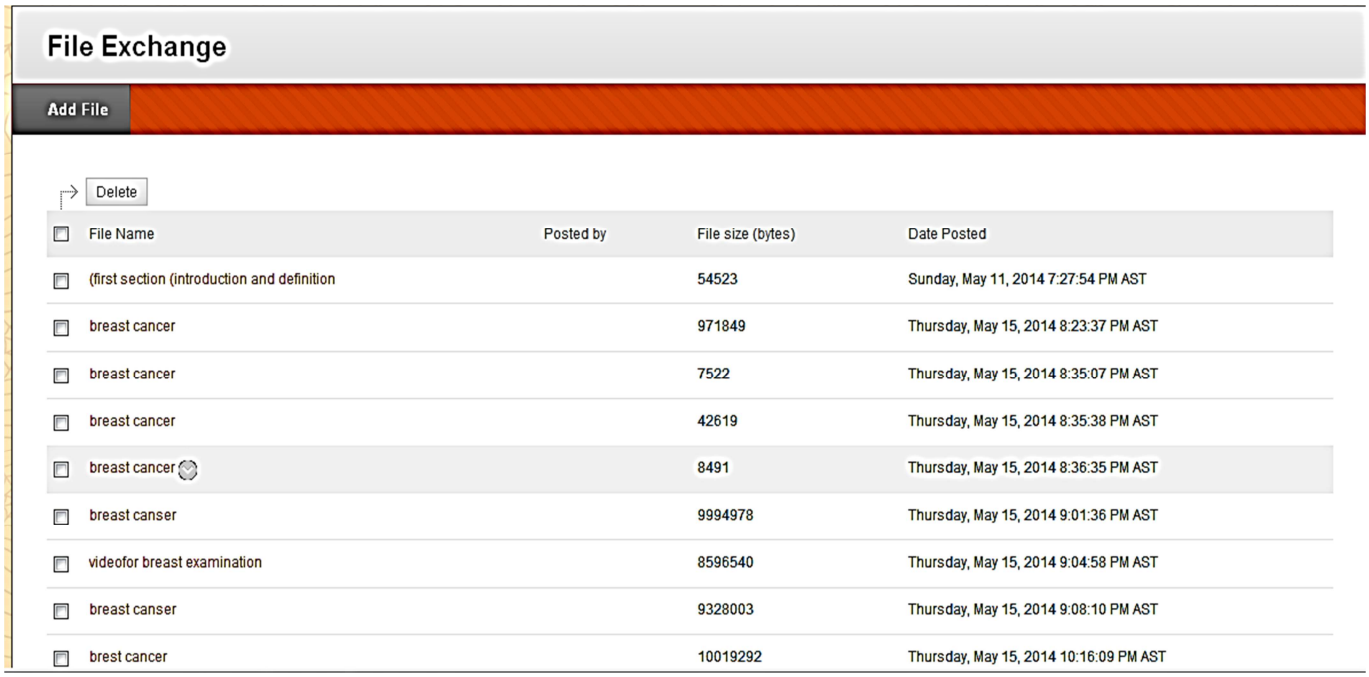

Figure (5). *Present one model of interactivity between the students.*

The figure (5) presents the medical topics that the students have worked with it and how they exchange the files and idea without actually meeting.

8.2. The Assessment Tools to Determine the Cooperative Social Network

8.2.1. Locus of Control Tool

This tool is done by(JulinRouter1966) with stability between .69 - .83 it has accepted the theory of social learning in four aspects (behavioral potential, expectation, reinforcement values and psychological situation)

He divided the locus of control into two parts internal locus of control which distinguished with more responsibility, more independent self-directed, confidence, ambitious. Adaptation, refutable, self-direction and positive attitude .on the other hand the external locus of control is characterized by less responsibility, less self- directed, less adaptability, more worried, a negative attitude in new situation depending on luck and has negative attitude. It has been adapted by the researcher into 39 items to be appropriate to the study situation to measure the locus of control in social networking technology.

8.2.2. The Effectiveness Observation Assessment Tool

The effectiveness of the applied computer cooperative project is strongly measured by the quality of the project, quality of social networking, cooperation, instructor support, and appropriateness of instructional Strategies according to computer project and internet technology available. The applied effectiveness model is considered to be influenced by a number of variables (Innes, 2007) (Retalis et al., 2005) (Avouris, 2003) it includes the percentage of the following indicators :

1 Marks on computer project ongoing and final learning products (such as final reports, tests, exercises, quizzes etc.)
2 The Group's overall performance in the specific cooperative matter.
3 The Mastery level of each concept/skill/method/competency (for each individual score)
4 Number of steps performed in a computer project (e.g., number of correct, wrong, or incomplete steps)
5 Quality indicators for the final computer project such as , the clarity of Presentation, and the quality standard for the final project
6 the total number of messages that the members exchanged each other (per week/per day)
7 the direction of the information flow (different kind of communication among the participants)
8 the total number of follow-up postings
9 Division of labor among participants Role playing (equal contribution/leading role within a group, a number of social nets).
10 The Ratio of social activities for overall Activities.
11 The Number of relationships established among a group of participants.
12 Type of intervention (actions, messages, etc.)during an on-line activity.
13 receiver (s) of tutor's intervention.
14 Tutor's participation patterns.
15 The Relevance of help to the participant needs.
16 Amount of time spent per concept/skill/ method/competency
17 Amount of time a participant spends within the network (per session)
18 Average time interval spent on each activity through the

computer project
19 List of accesses (and potentially) readcourse material
20 List of most frequently looked-upterms for the participants

8.2.3. Interactive Evaluation Methods and Tools

Interaction analysis has been the center of current study. Consequently, several tools have been developed to support it. The recent trend is to assess the interaction performance using mixed method approached(Martinez et al., 2003). Thus, the proposed conceptual framework according this trend and suggestion various interactive methods and tools in a consistent way. Each method and every tool are coupled with the indicators of the proposed framework as illustrated below:

a observation recording social Network interaction between the groups:

This tool aims to identify and describe Patterns of relationships between participants, to analyze and represent the structure of these patterns by tracing the flow of information(De Laat et al., 2005). This methods based on studying the developed reactions among groups, and the investigation of participant's social performance.

The tools consist of a five issues each issue includes cooperation indicators with five scales (always – often- sometimes- rarely – seldom) the issues are:

1. Positive mutual interactive.
2. Individual responsibility.
3. Personal, social networking skills.
4. Supported interaction.
5. communal work project.

b Observation recording participations performance indicators

This method refers to the system observation of learning process interaction in specific social networking environments. It aims at recording participation interactions, their performance, while communicating with each other. The direction of their communication, patterns, and how these factors influence their task performance. The observation tool includes20 cooperative performance indicators in three scales (excellent – moderate – poor)

c Self-assessment tool:

It aims to evaluate participants social cooperation by themselves include 20 cooperative performance indicators with three scales (effective – intermediate – unfortunate) the self-assessment tool present three main areas:

- Participants must cooperate to complete the responses.
- Participants must say what they think, what they do and what their performance
- Participants must know what they feel and think in order to report it.

Table (2). *Present model of self- assessment tool.*

Student online cooperation self-assessment				
		Effective	**Intermediate**	**unfortunate**
1	The Dividing groups project in to cooperative team work is effective			
2	The dividing tasks are effective			
3	The group leader is cooperative			
4	The leader distribute the tasks from the beginning			
5	The interactivity between members is organized			
6	Continuously using the discussionforum			
7	Exchangeopinions and point of views between members			
8	Online cooperative support the communication			
9	Using interactivity through blog			
10	Electronic journal			
11	E mails exchange			
12	E -announcement			
13	The inter active online arrange the time and save it			
14	It improve my academic skills			
15	The medical computer project Achievement			
16	The application in another projects			
17	the satisfaction about the project			
18	There is aclear plant from starting			
19	The interaction is effective than traditional communicate with my colleague			
20	I fully dependon communication during online project to finish my roll			

The table (2) presents the model of assessment, social cooperative tool in medical education learner.

a Interactivity analyzing survey:

It is a method, which allows the reinstatement and analysis of Participants navigation paths in a networking environment. This tool consists of 35 items with four scales (high cooperative, moderate cooperative, poor cooperative, and no cooperative) The results are represented through a variety of indicators such as a participation interaction tool (Retalis, et al., 2006). This tool has been tested for analyzing learners' performance in a social cooperative computer project. It provides more detailed information regarding computer project statistics.

All activities were designed to take place via the synchronous collaborative learning tool (Synergo, Avouris et al, 2002; 2003). They allow the collaborative computer project activity through its shared space and the chat tool. During all online project steps, participants had access to

related learning resources such as explanations of the computer project, solutions of quality project, meaningfully organized and integrated into cooperative social networking.

9. Participant and Methodology

This study aims to develop communication software and evaluate the interaction between students' perception by self-assessment and observations, moreover assess cooperative networking indicators with locus of control perception, through computer collaborative project were related in computer supported social networking communication for medical students.

This was accomplished through many surveys and observations administered to participants in the online computer project. The participants were 44 medical education students, who were enrolled in online computer courses at Taif University.

The participants have been placed into five groups, each group has seven members with one leader. During the 10 week semester, the students had online reading assignments, participated in discussion activities, created technology-based lesson plans, worked on small group projects, produced a digital storytelling video, and completed a final exam.

The course descriptions used a variety of computer communication networking tools. The project is sitting offer opportunities for cooperative learning and discussion in small groups, as well as for individual and between the whole groups. Thus, the application focuses on the online collaboration project, In addition, how to evaluate the online interactivity between medical education learners group and within the one group.

10. Data Analysis and Results

This study provides strong support for a relationship between The length of the survey may have discouraged participation. It was not clear if there was a bias in terms of who completed the survey, but this was a possible limitation.

Finally, each of these constructs affects learners throughout a learning experience and can be explored in much more depth. Although instrumentation choices must be made, the choices made here do represent limitations to the study.

Table (3). *Descriptive statistic of the study variables.*

Descriptive Statistics						
	N	Range	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Locus of control	44	14.00	15.00	29.00	20.2500	3.64165
Self- assessment	44	20.00	20.00	40.00	31.8636	5.26768
Interactivity analysis tool	44	46.00	58.00	104.00	88.0909	11.95499
Participation interaction	44	18.00	21.00	39.00	32.2955	3.93304
Social network groups interaction	44	44.00	55.00	99.00	84.6818	10.44091

Table (3) present the descriptive statistics for the study sample, it shows that the participants are 44 members. The range for locus of control is between 14, for self- assessment tool is between 20 ,for interactivity analysis is between 46,for participation, interaction is about 18,and for social networking group interaction is between 44. The mean for locus of control is 20.25 with 3.46 standard deviation, also the mean for self-assessment was 31.86 with 5.26 standard deviation, more over the mean for participation interaction was 32.29 with 3.93 standard deviation, furthermore for the Social network group's interaction the mean was 84 with 10.44 standard deviation. So that means all the assessment tools analyses are constantly with symmetry.

Table (4). *Skew and kurtosis.*

Descriptive Statistics					
	Variance	Skew		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Locus of control	13.262	.655	.357	-.383	.702
Self assessment	27.748	-.703	.357	-.592	.702
Interactivity analysis tool	142.922	-.893	.357	.183	.702
Participation interaction	15.469	-.549	.357	.723	.702
Social network groups interaction	109.013	-1.368	.357	1.558	.702

Table (4) presents the skew of the measurement analysis tools. If the measure of the asymmetry of the distribution is normal, the distribution has a skew value of zero. If a distribution with a positive skew it will have along right tail. Otherwise, if a distribution with a significant negative skew it will has a long left tail. So the locus of control .655 has a positive distribution, else the Self- assessment -.703, Interactivity analysis tool -.893, Participation, interaction-.549 Social network groups interaction -1.368 that mean they have negative skew according to the mean. In addition, the skew is the measure of the extent to which observation cluster around a center point (mean). The normal distribution the skew statistics is zero, the positive kurtosis indicates that the observation has a longer tail than the normal distribution and the negative tail indicate that the observation cluster less and have shorter tails. Therefore, the distribution is far away

from the mean in locus of control and self-assessment and close to the mean in the other measurements.

Table (5). *Locus of control and the rest of the study variables.*

One-Sample Test						
	Test Value = 0				Test Value = 0	
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Locus of control	36.885	43	.000	20.25000	19.1428	21.3572
Self-assessment	40.124	43	.000	31.86364	30.2621	33.4652
Locus of control	36.885	43	.000	20.25000	19.1428	21.3572
Participation interaction	54.468	43	.000	32.29545	31.0997	33.4912
Locus of control	36.885	43	.000	20.25000	19.1428	21.3572
Social network groups interaction	53.799	43	.000	84.68182	81.5075	87.8561
Locus of control	36.885	43	.000	20.25000	19.1428	21.3572
Interactivity analysis tool	48.877	43	.000	88.09091	84.4563	91.7256

Table (5) presents the significant relation between locus of control and self-assessment. That indicates there is a significant difference between the two variables it gives (.000) less than the p- value (.05) .so the locus of control effects on the self-assessment variable.

And show the significant relation between locus of control and participation interaction assessment. With the intention of indication of a significant difference between the two variables, it gives (.000) less than the p-value (.05) so the locus of control effects on the participation interaction variable.

Moreover, the table shows the significant relation between locus of control and Social network group's interaction. With the intent of indication of a significant difference between the two variables it gives (.000) less than the p-value (.05) consequently the locus of control effects on the Social network group's interaction variable.

Furthermore, the Table gives the significant relation between locus of control and Interactivity analysis tool. With the intent of indication of a significant difference between the two variables it gives (.000) less than the p-value (.05) .so the locus of control effects on Interactivity analysis tool.

Table (6). *The analysis of variance between the study variables.*

ANOVA							
				Sum of Squares		df	
Interactivity analysis tool	Between Groups	Linear Term	(Combined)	424.499	3.116	1	.085
			Unweight	424.499	3.116	1	.085
			Weighted	424.499	3.116	1	.085
			Within Groups	5721.137		42	
			Total	6145.636		43	
Self- assessment	Between Groups	Linear Term	(Combined)	3.827	.135	1	.715
			Unweight	3.827	.135	1	.715
			Weighted	3.827	.135	1	.715
			Within Groups	1189.355		42	
			Total	1193.182		43	
Participation interaction	Between Groups	Linear Term	(Combined)	169.281	14.338	1	.000
			Unweight	169.281	14.338	1	.000
			Weighted	169.281	14.338	1	.000
			Within Groups	495.878		42	
			Total	665.159		43	
Social network groups interaction	Between Groups	Linear Term	(Combined)	36.792	.332	1	.567
			Unweight	36.792	.332	1	.567
			Weighted	36.792	.332	1	.567
			Within Groups	4650.754		42	
			Total	4687.545		43	

As for the table (6) which presents the analysis of variance between groups and within groups, the results show that there is a significant difference between participatory interaction and for the two dimensions of locus of control (external and internal) so that mean the internal locus of control effects on the interaction between the participations. But for the rest of variables there is no significant difference between the variables of interactivity, self-assessment and social network groups' observation, according to the statistical analysis of variance, which gives us there is no affecting of internal and external locus of control these valuables.

Table (7). *Person Correlations analysis between variable.*

Correlations						
		Locus of control	**Self-assessment**	**Interactivity analysis tool**	**Participation interaction**	**Social network groups interaction**
Locus of control	Pearson Correlation	1	-.043	.163	.479**	.057
	Sig. (2-tailed)		.781	.291	.001	.712
	N	44	44	44	44	44

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The table (7) shows there is a significant difference in person coloration between locus of control and participation, interaction variable that mean the locus of control effects on social interaction ,but it doesn't give any effect on the self-assessment , interactivity and social network groups.

Table (8). *Nonparametric spearman Correlation.*

Correlations							
			Locus of control	**Self-assessment**	**Interactivity analysis tool**	**Participation interaction**	**Social network groups interaction**
Spearman's	Locus of control	Correlation Coefficient	1.000	-.044	.185	.472**	.122
		Sig. (2-tailed)	.	.779	.228	.001	.429
	Self- assessment	Correlation Coefficient	-.044	1.000	.167	-.029	.206
		Sig. (2-tailed)	.779	.	.279	.853	.180
	Interactivity analysis tool	Correlation Coefficient	.185	.167	1.000	.364*	.407**
		Sig. (2-tailed)	.228	.279	.	.015	.006
	Participation interaction	Correlation Coefficient	.472**	-.029	.364*	1.000	.319*
		Sig. (2-tailed)	.001	.853	.015	.	.035
	network groups interaction	Correlation Coefficient	.122	.206	.407**	.319*	1.000
		Sig. (2-tailed)	.429	.180	.006	.035	.

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The table (8) shows, there is a significant difference in nonparametric Spearman coloration between locus of control and the rest of the variables. So we can get from the previous table that there is a significant correlation at level 0.01 between locus of control and Participation interaction variable with a value(.472**) that mean the locus of control effects on social interaction, also it gives a significant correlation at level (0.05) between Interactivity analysis with Participation, interaction(.364*) and Social network groups interaction (.407**) at level(0.01). moreover there is a significant correlation at level (0.05) between participation interaction and Social network group interaction it gives (.319*) value.

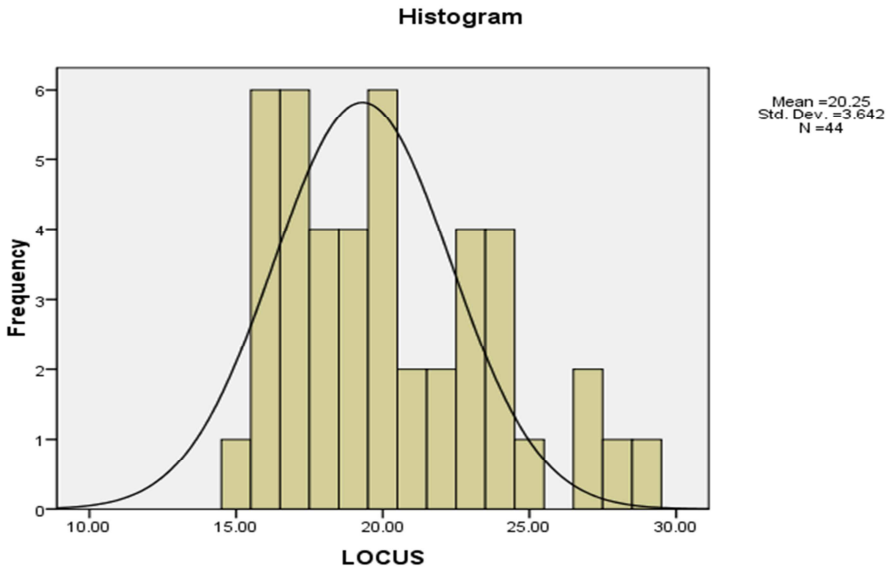

Figure (6). *The histogram of locus of control.*

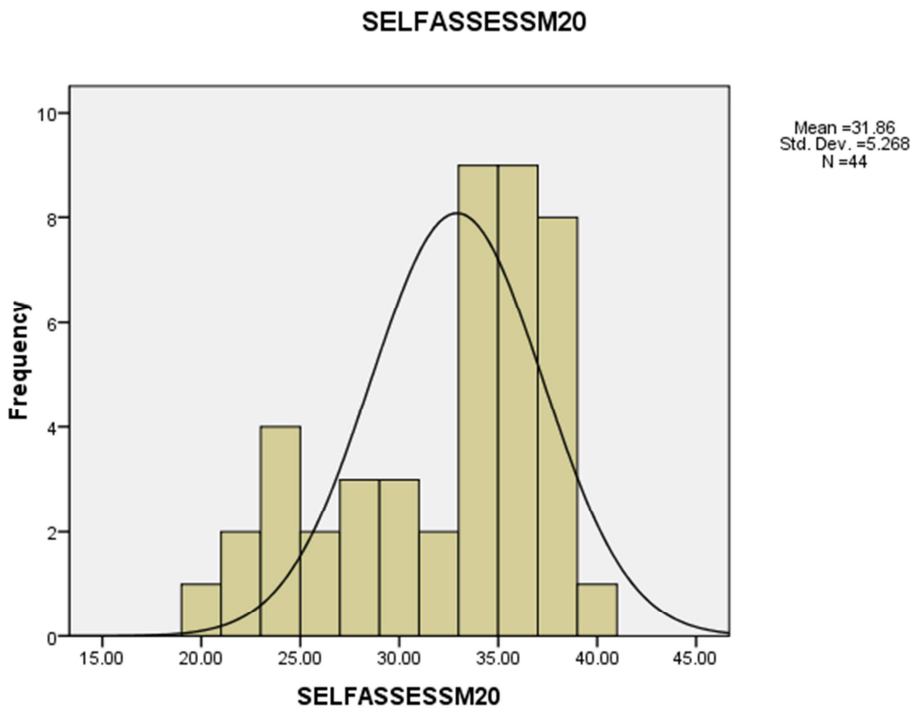

Figure (7). *The histogram of self-assessment.*

Figure (6) shows that the histogram of locus of control with its frequency. So we can notice that the graph gives a positive skew, that mean the values, directions are towards the positive side that means all the values trend is above than the average. The most participations get score more than the average and that means the locus of control tendency is to the internal locus of control rather than the external locus of control. That means the most of medical students have internal locus of control features. As for figure (7) shows that the histogram of self-assessment with its frequency gives a positive skew that means the values directions are towards the positive side and all the values tendency is above the average . However, that means the most of the values give a high score in self-assessment, according to the results the medical students get a high rate in network cooperation self-assessment.

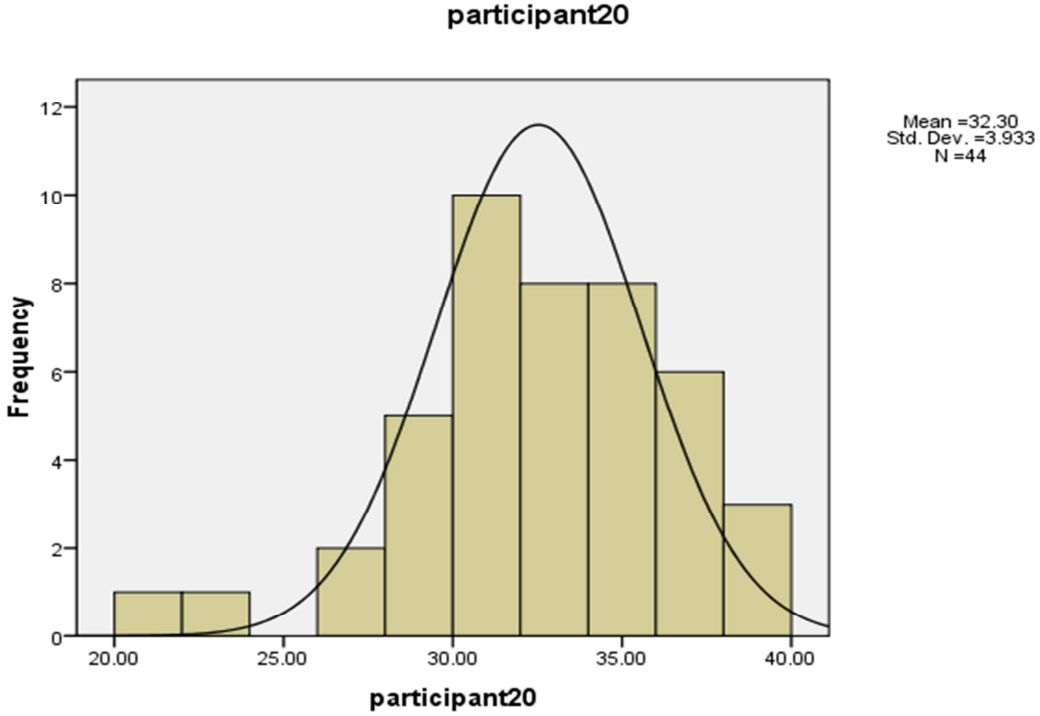

Figure (8). *The histogram of participation.*

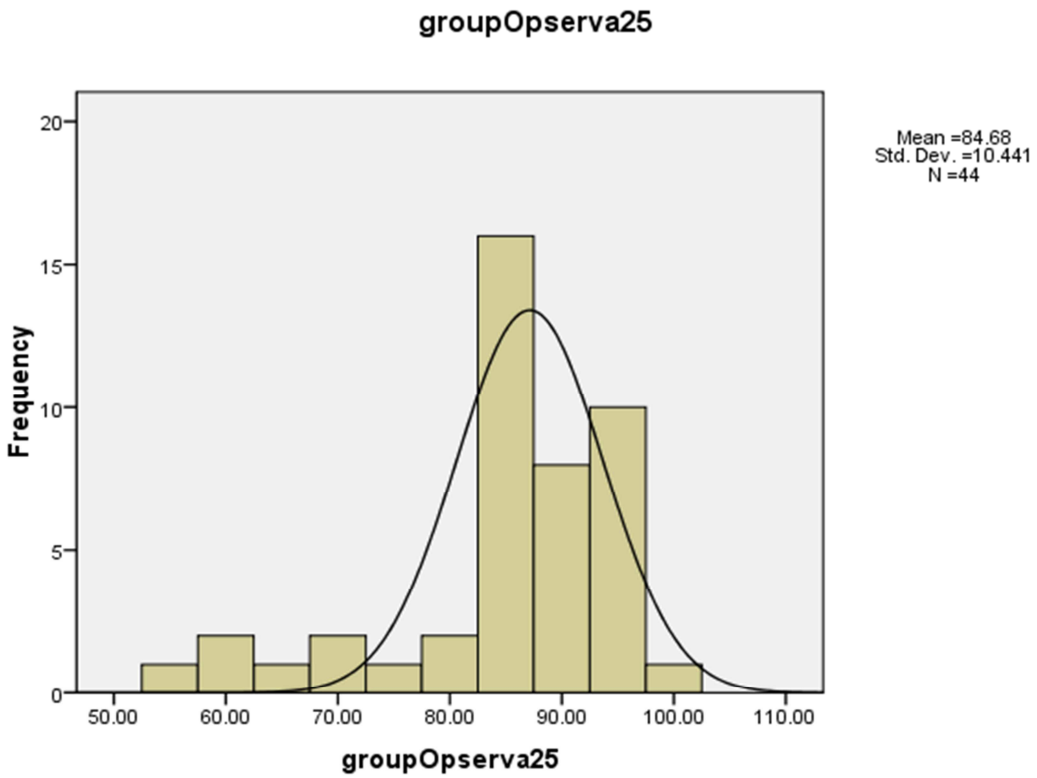

Figure (9). *The histogram of group observation.*

Figure (8) shows participation ratio with its frequency ,So we can notice that the graph gives a positive skew that mean the values directions are more than the average in the participation networking ratio between the learners which are between score (30 to 40). That means the participation is effective. As for figure (9) we can notice from the histogram of group cooperative observation that the direction is positive and the most values are between 80 to 100. That gives indications from the instructor online observation the most of students gets high score in participation between groups and within the groups

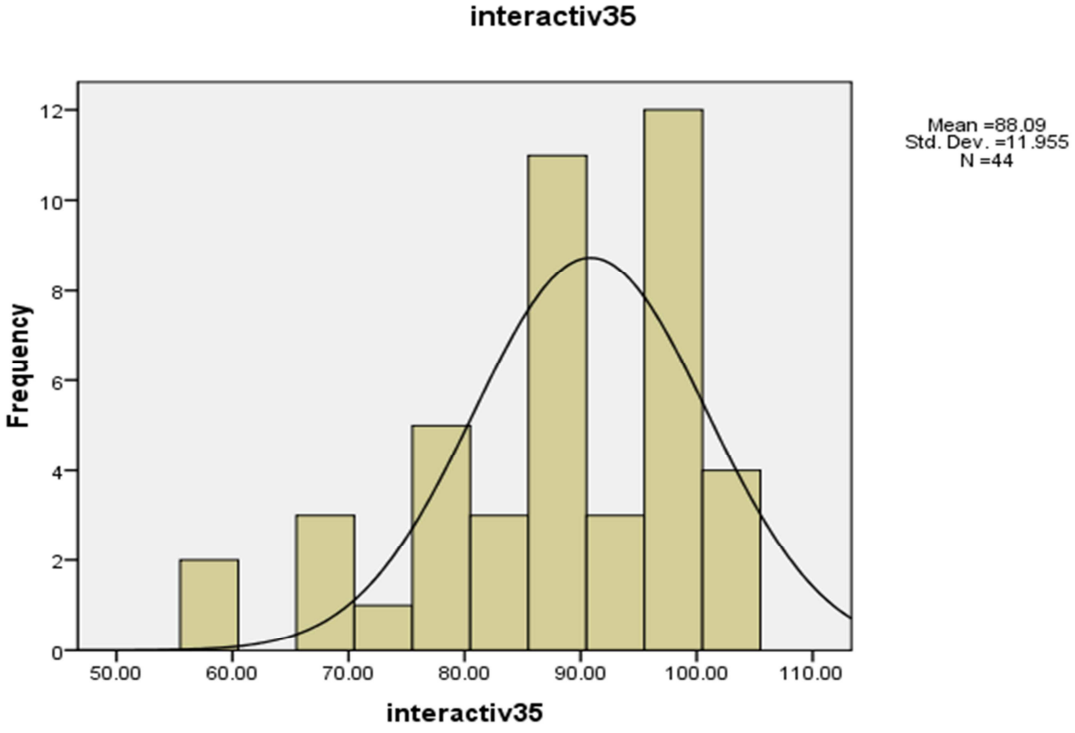

Figure (10). *The histogram of interactivity.*

Figure (10) shows that the histogram of interactivity ,So we can notice that the graph gives a positive skew that mean the values direction are on the way to the positive side. So most of the values are more than the average, they are between 80 to 100.that means most of the students give a high score according to the interactivity in sharing ideas and rolls.

11. Finding

The final results indicate that there is a significant difference between the locus of control and the self-assessment. And also shows a significant relation between locus of control and participation interaction assessment.so the locus of control effects of the participation interaction variable.

Moreover, there is a significant relation between locus of control and Social network group's interaction. Consequently the locus of control effects on Social network group's interaction variable. Furthermore, there is a relation between locus of control and Interactivity analysis tool. With the intent of indication for a significant difference between the two variables so the locus of control effects on Interactivity analysis tool.

Also, there is a significant difference between participatory interaction and for the two dimensions of locus of control (external and internal) so that mean the internal locus of control effects on the interaction between the participations. But for the rest of variables there is no significant difference between the variables of interactivity, self-assessment and social network groups' observation, according to the statistical analysis of variance, which gives us there is no effect of internal and external locus of control these valuables.

Moreover, there is a significant difference in person coloration between locus of control and participation, interaction variable that mean the locus of control effects on social interaction, but it doesn't give any effect on the self-assessment, interactivity and social network groups.

Locus of control and Participation interaction variable with a value ($.472^{**}$) that mean the locus of control effects on social interaction, also it gives a significant correlation between Interactivity analysis with Participation interaction and Social network group interaction. Moreover, there is a significant correlation between participation interaction and Social network groups interaction.

12. Recommendations for Future Research

Future research might investigate how the communication software related with medical learner knowledge and characteristics, so it could be used to help with design instructional communication software, to be more appropriate in terms of the level of medical difficulty. once the materials are redesigned, could determine whether the medical instructional materials are more effective at meeting the medical students' needs in terms of the content.

Future research can take the interactivity, communication into account and look for data throughout the course of the semester. Additionally, responses on the locus of control instrument illuminated the fact that the medical materials and projects.

In the future, course designers might want to conduct research regarding assessment tools in order to determine how to make the materials more pleasing to the learners.

Feedback was also rated as being in adequate in terms of assessments and satisfaction with the course. As a result, researchers could investigate how to design communication, social networking software tools and develop online instruction that is gathering, enjoyable, and appropriate in terms of feedback. No attempt was made in the current study to follow up on specific concerns raised about the course materials.

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