INTERCULTURAL COMMUNICATION AND INTERDISCIPLINARY STUDIES FOR TECHNOLOGICAL INNOVATION: A CUBAN-FRENCH PEDAGOGICAL EXPERIENCE

Claude Martinez[1]*, Maria Heidi Trujillo Fernandez[2]

[1]IUT - University of Nantes, France

[2]Technological University of Havana "Jose Antonio Echeverria", Cuba

Abstract

In the Interdisciplinary Master Studies for Technological Innovation taught at the IUT of the University of Nantes (Nantes IUT) the development of intercultural communication is considered a significant goal to be attained for developing the technological values and social competences inherent to the effective interaction in the present international entrepreneurial innovation. The Master students are expected to be capable of demonstrating the intercultural professional behavior required by the present enterprise context. An experience of international training on supplementary intercultural communication skills was carried out at the Nantes IUT. Accuracy regarding concepts and actions concerned with culture and the effect of diversity in contemporary teams strengthen the priority of the development of innovation and culture from an intercultural view. A Cuba-France joint pedagogical experience was implemented at the Nantes IUT in the framework of the bilateral agreement on cultural an education priorities signed by the University of Nantes and the Havana University of Technology (Cujae). The main characteristics of the international pedagogical experience, the tasks and results of the students and professors involved are analyzed. Some recommendations are stated for improving the development of competences of the innovation engineers in charge of solving the future scientific and technical problems from a comprehensive approach and an intercultural professional commitment.

Keywords: *intercultural competences, interdisciplinary, international pedagogical experience*

INTRODUCTION

The present globalisation developments and migration trends impose new communicative challenges to society. It is required to understand development results linked to competences and skills concerned with the task of addressing the phenomena of internationalization in all professional areas. Therefore it is necessary to train future professionals to be able to interact successfully under the present international circumstances.

Higher education institutions around the world are experiencing globalization in various ways: students are increasingly mobile as they move from campus to campus, employers are calling for students who are prepared to enter a competitive global job market, and we all need citizens who understand the complexities of our world and can live harmoniously with others. Globalization is the reality of the world in which are living, internationalization is higher education's response to that reality. (Hill, 2013)

Students require abilities for facing problems concerned with internationalization acting upon the intercultural development of education, organisations and institutions from an innovative research and development point of view. Education on intercultural competences is recognized as a valuable way contributing to pave the way for interdisciplinary professional collaboration and networking based upon intercultural links leading to sustainable development. The development of intercultural competences train students for interacting with international academic and professional groups in charge of solving real problems. The development of intercultural competences provides tools for interacting in international teams, based on communicative competences and innovation skills resulting from international training opportunities.

In the Interdisciplinary Master Studies for Technological Innovation taught at the IUT of the University of Nantes (Nantes IUT) the development of intercultural communication is considered a significant goal to be attained for developing the technological values and the social competences inherent to the effective interaction of the present entrepreneurial innovation context either in France or in other foreign countries under the conditions imposed by globalization.

The Master students are expected to be capable of demonstrating the intercultural professional behaviour required by the present enterprises. An experience of international training on supplementary intercultural communication skills development was carried out at the Nantes IUT. Concepts and actions concerned with the role of culture, civilization and society in the innovation contexts and the effect of diversity given by multiplicity of languages, interests and identities in contemporary teams strengthen the priority of considering tradition and innovation in culture from the intercultural view.

1. JOINT PEDAGOGICAL EXPERIENCE CUBA-FRANCE

1.1. Objectives of the joint pedagogical experience

A joint pedagogical experience Cuba-France was implemented at the Nantes IUT in the framework of the bilateral agreement on cultural an education priorities signed by the University of Nantes (UN) and the Havana University of Technology (Cujae) from May to December, 2019. The main characteristics of the international pedagogical experience, the tasks, opinions and results of the students and professors involved in the experience are analyzed at the end of this paper for underlining how the joint experience has had impact on Nantes IUT Master Course students and Cujae engineering students.

This joint international pedagogical experience was designed for improving the development of comprehensive competences of the innovation engineers in charge of solving the future scientific and technical problems from a comprehensive approach and an open minded intercultural and responsible professional behaviour and commitment.

The interaction with students from the Nantes IUT at the University of Nantes was focused in developing the intercultural communicative competences more frequently used in their professional communication. Therefore it was important to get information concerning students' motivation and learning context characteristics for understanding the background and setting of the teaching-learning process. The topics dealt with were concerned with the development of communicative competences using different types of speech in scientific discourse for interacting in multicultural teams.

The background of the state of knowledge development or theoretical framework for the joint pedagogical experience was taken into account as the teaching of communication in professional and intercultural events has undergone important changes and its goals have widened their scope going into several stages of evolution up to the present approach aiming at achieving comprehensive professional competences covering the professional and the sociocultural and intercultural aspects as well as ensuring a successful negotiation in any branch of science and technology.

The development of professional competences has always been supported and influenced by new teaching trends and technological developments. The communicative teaching and the development of professional skills in mother tongue and foreign languages stress the commitment of the student in a meaningful, authenticprofessional interaction to be ready to negotiate in English in international frameworks. Within this general communicative and intercultural tendency to promote professional competences and successful negotiation in fostering international relations two different approaches were distinguished and both have had implications in terms of how to better integrate technological developments in the classroom: the cognitive approaches and the socio-cognitive approaches supported by information and communication technologies.

The recent development of information and communication technologies (ICT) have brought about important reflections and theoretical changes in today's pedagogical views and learning theories,

including the field of negotiation, communication, language learning and teaching. The change in teaching has gone from cognitive and learning development theories to a social and cooperative vision of learning mediated by ICT.

This joint pedagogical experience is approaching a socio-cognitive vision that stresses the real use of professional discourse and skills in a meaningful and authentic context, trying to integrate not only the different professional skills but also the intercultural ones and the appropriate use of technology in a more effective way in accordance with the international contextual framework.

The objective of the joint experience was to develop intercultural competences in the students enabling them to interact in different international contexts without communicative difficulties for implementing the tasks associated to their professional profiles. A similar course was also taught to students interested in engineering and scientific professional topics at Cujae in Havana, Cuba.

The joint experience made possible a characterization of the students for assessing the need to foster the development of comprehensive skills for achieving the professional and intercultural competences required in international events and professional tasks. Furthermore, the joint experience was intended to provide updated and objective data to identify the existing problems and determine the strategies to be applied in order to solve them so as to meet the requirements imposed by the international scenario to the professionals of the XXI century. All this will enable students to develop their skills in accordance with the present international demands of their careers.

Two professors were in charge of coordinating the course taught at Nantes IUT: Maria Heidi Trujillo Ph.D. from Cujae and Claude Martinez Dr.C from IUT. Both professors participated in the design and academic coordination and implementation of the course on intercultural competences and professional development taught at Nantes IUT. A similar course was previously taught at Cujae and Professor Trujillo included the same topics in the course taught at the Nantes IUT.

Fig. 1. Prof. Trujillo and Prof. Martinez (Intercultural Course Coordinators) in Nantes

Source: M.H. Trujillo Personal Picture Records. Havana. Cuba. (May, 2019)

At the beginning of the course the Cuban professor provided a panoramic view about the cultural context in Cuba for supplying general and specific information on the topics taught in Cuba to the Nantes IUT students. The main features of the study of intercultural topics taught at Cujae and the academic and professional results characterizing the Cuban students behaviour were also explained at Nantes IUT for underlining the antecedents and background studies carried out on the topics to be dealt with in the joint pedagogical experience course at Nantes IUT.

Fig. 2. Intercultural Communication and Interdisciplinary Studies, Nantes IUT-Cujae

Source: M.H. Trujillo Picture Records. Havana. Cuba. (May, 2019)

The students that participated in the joint experience had studied English at Nantes IUT and Cujae (Level B1) and as English is the foreign language studied at both universities, and used as international language in most negotiation interactions the course was taught in English. The professors involved in this project used a blended learning approach, including an average of 50 per cent of course hours in the classroom and an online component of 50 per cent of the total course hours, based on guided activities supported by the ICT, enhancing the communicative opportunities for interacting in the second language with the professor and with other students.

1.2. Students' motivation and learning context at Nantes IUT and Cujae

After explaining Cujae main characteristics and results concerned with intercultural topics some questions were asked to identify the motivations of the Nantes IUT students and all of them answered that they were aware of their academic aim and objectives. They know the significance of what they study and explained that they are determined to do their best to achieve their objectives in spite of difficulties or challenges. They feel motivation and enthusiasm concerning their studies and most of them said that they are committed to devote the required time and effort to do all the academic tasks, although most of them require a lot of time and thought.

There were similarities between the answers of the Cuban and French students concerning motivation and commitment. Regarding the opinions about learning contexts, both groups of students were satisfied with their academic conditions but there were some differences concerning satisfaction with the possibilities of using information and communication technologies to support the learning process. The French students were satisfied regarding the available technology but the Cuban students answered that they face difficulties concerning the ICT availability and connectivity to internet.

Anyway, the students from Cuba and France underlined their interest in using ICT as much as possible to supplement the academic information received in classes, and all of them supported the possibilities of using remote study possibilities if required. They were asked about main difficulties to be a successful professional and the students from both nationalities explained that when they think about success they take in mind the price to be paid in time and effort to get to the goal and they are really devoted to get successful academic results. So in terms of motivation and context the conditions are different in both countries but they may be considered as adequate conditions for ensuring a learning process of high quality standards.

Most students are enthusiastic and try to get tasks done on time although some of them referred that they face certain difficulties in the process of learning due to the huge quantity of information to be studied and tested per week. In both universities the students felt that the study load is very high, the number of tests should be decreased and some of them consider that professors sometimes are too much demanding in both countries, but all students agreed that their professors have the highest standards in terms of professional quality.

Nantes IUT and Cujae students recommended a more balanced distribution of tasks and tests per week in both institutions, as it is necessary to offer them just the required course of action because if too much information is provided and tested at the same time they will not know what to do first. Students considered very important to have a clear idea regarding learning steps from the beginning of the course. Sometimes when a lot of information is given they may feel overwhelmed and then they may even think that the learning process is too complex for their minds. When it happens to some of the students it is necessary to find a solution and a possible one may be to include less content in each single teaching session or propose an increase of the total number of teaching sessions if it is possible to reorganize the contents in the syllabus program.

"When there are students from different nationalities in a classroom it is more difficult to find a balance regarding learning preferences and styles because of the previous study habits and cultural learning styles". (Trujillo, 2016). It is important to identify these problems in advance for reacting properly as many cultural differences may interact with the cognitive styles and interfere in the learning rhythm as teaching-learning procedures are not the same in different cultures. Therefore these elements may be taken into account in analysis concerned with students' learning limitations and challenges for foreign students learning to live abroad and starting to understand other cultural patterns. In such cases it is necessary to help them to achieve their goals by means of help aids available in their interaction with professors and students.

The intercultural approach of teaching-learning takes into account that as time goes by students become more familiar with diversity in cultural patterns and learn to live in a diversity context based on respect to each other cultural roots and features. Communicative competences are vital in contributing to the understanding of different cultures and contexts, so it is the main goal of the professor to train students in the development of intercultural communication for using adequate speech at any multicultural communicative interaction in spite of the diversity in the contexts.

"Most scholars in our field are now cognizant and accepting of the fact that diverse realities should be included in our communication theories. Studies incorporating diverse cultural perspectives are leading to more updated and inclusive theories that reflect the realities of a diverse world… Approaching global learning from a communication constitutive approach subtly shifts the experience away from observation towards participation. Students come to understand that how they communicate and engage with people from around the world constitutes the world in which we live and that they have the obligation to consider what they want the world to be". (Yook, Turner, 2018)

1.3. Intercultural communication and discourse at Nantes IUT and Cujae

As a way of training students in developing intercultural competences they need to develop their communicative competences. The principal aim is to learn to use speech properly in different communication contexts and in this case as students at Nantes IUT and Cujae are concerned with technical sciences the specific object of study in professional communication is the scientific discourse.

Students at Cujae and Nantes IUT interact in scientific contexts and must learn to comprehend scientific ideas and summarize them as the way of reinforcing the essential core in the scientific discourse. Summaries and outlines become very important tools. Summarizing information and speech in intercultural professional contexts requires ordering the thoughts, clarifying ideas and suggesting ways of structuring mental images. Students must learn to write an outline of the speech that is used like a guide to be followed when speaking or writing about any scientific topic in different communicative settings. The aim is to associate ideas, to be able to select the important ones for getting the appropriate connections in a coherent way. The outline is not only a chronological list of events or causes in an increasing or decreasing significance order, its purpose is to be a guideline that motivates students and leads a productive discussion.

It is required to open up new approaches of the topic, to open up new fields of thought for connecting isolated thoughts in what is known as association of ideas at Nantes IUT and Cujae. Some students complained about the fact that their ideas refuse to flow and in such cases it is wise to recommend them not to concentrate only in new ideas, but to pay attention to any idea connected in certain way

with the topic because new links can be discovered in a fresh analysis and a certain order may come out of unorganized thoughts if they are seen several times to get a suitable line of thought in their foundations. Students need suggestions for learning how to do it and different cultures approach the tasks in different order and give priority to different shades of meaning and chronological events. So it is recommended to take all those characteristics into account when analyzing discourse because the point of view of the writer and the one of the audience may be apart from each other from a cultural view.

For writing an appropriate summary it is recommended to classify ideas according to the topic they are dealing with and then they must be grouped following a rational order and should be organized according to their hierarchical position. It is required to take into account that the logical pattern of thoughts is grasped if it is structured by ideas closely related to each other. If not there will be difficulties in identifying the main ideas and there may be misunderstanding risks regarding the placement of subordinate ideas and supporting details. In a clearly structured speech ideas may be expanded and associated to the new ones in a coherent way because their association is based upon the similarities of the ideas to be related. They may suggest different possible themes, but it is recommended to select only one brief statement strictly related to the theme for strengthening the message.

The analysis of the use of speech acts in scientific discourse interactions at Nantes IUT and Cujae showed that students face difficulties in using different types of speech in scientific discourse. They know that different types of speech are used in expressing ideas in scientific discourse and they know that the most frequent types of discourse are informative, descriptive and persuasive, but although they have the theoretical information they do not have the same skills in using the three types of speech.

The descriptive speech is simpler in structure than the informative speech or the persuasive speech. It uses chronological elements and do not include examples or too many incidents, and details of doubtful interest. Students prefer to use descriptive speech at Nantes IUT and Cujae. Cuban students use a lot of adjectives which enlarges the sentences. The French students used less adjectives than the Cuban ones. They used more connectives to links sentences and increase coherence. The styles are different concerning the use of the same type of speech because each culture emphasizes particular priorities transmitted in their speech sequence as a mirror of the thought and the patterns of analysis.

In the informative speech the logical and emotional approaches are clearly defined. In the logical approach facts are set in a direct way awakening interest. It expresses ideas into images that are more acceptable. The descriptive technique is useful as a means of putting over an abstract idea. Cuban students prefer descriptive techniques for emphasizing the internal and external structure of the described object or person, they used a lot of physical descriptions including connections. French students emphasized more in functional descriptions, even references to physical elements were included but they used a different pattern for organizing events in their descriptive speech.

Cuban students used a lot of illustrations for supporting their views. French students used informative speech supported by frequent aids aimed at demonstrating their points, they avoid the use of abstract phrases in their speech for the sake of accuracy. The Cuban students used more examples although they know that demonstration form the basis upon which the informative speech is supported. French and Cuban students follow different rhythm in learning the strategies for using these types of speech but they managed to use them properly and they communicated in such a way that their intentions were grasped. So the different alternatives were valid in terms of speech use. But it is wise to know that for intercultural purposes. Both will get to the required point but different ways are used to get to the goal. Patience and respect to diversity is required in these cases for ensuring successful interaction.

Students of both countries are more familiar with the use of narrative speech and try to present ideas in chronological order which is suitable in certain communication contexts but most of the time they require to use informative speech illustrating ideas, not only following their order but also adding the appropriate verbs for creating the required action images. Some of the French and Cuban students had difficulties in using this type of speech, but most of the difficulties were faced in the persuasive speech and in particular in the speech aimed at appealing persuasively for specific actions. Cubans were more

direct and it may be misunderstood and even it may be considered impolite. Cuban and French students faced also difficulties in the use of arguments and mainly in the alternative ways to try to convince others to accept different opinions.

Fig. 3. Prof. Trujillo and Nantes IUT students

Source: M.H. Trujillo Picture Records. Havana. Cuba. (May, 2019)

1.4. Challenges in using persuasive speech in scientific discourse

French and Cuban students faced some difficulties in analyzing professional problems. They tried to approach problems in a comprehensive way and identifying several difficulties disappointed most of them. In these cases it is recommended to start focusing on one aspect of the problem and analyze that aspect alone until it has been understood and then turn into other aspects and their connections. It is recommended to analyze a single aspect first and then go into the rest of those to be considered. It is suggested to analyze all of them one by one. Cubans tried to find final solutions in a faster way than French students and the solutions were inaccurate and incomplete so they had to repeat the steps. French students took more time for analysis but tried to combine the steps and it made more difficult getting to the appropriate end and offering a correct solution. In general students from Nantes IUT and Cujae required corrections regarding the algorithm to be used in their work.

Once the theme is chosen, the assumed premise supporting the theme has to be stated. Personal assumptions are not accepted without evidence so premises have to be proved. Students tried to eliminate the step of proving premises but speech is only coherent and valid if the theme is developed using the appropriate arguments which are those supported by true premises. Students know that the persuasive speaking has to be characterized by its unity but they were not so familiar when applying the required steps, i.e. the premise is proved and the theme is expanded to be closer to a successful communication.

Students must know that these steps are commonly put into practice in negotiation contexts and their professional profiles will include a lot of negotiation skills for example in project management meetings, therefore they must learn to use the key of the persuasive speech. It is to concentrate the attention into demonstrate a single premise, present the theme and create the required emotional effect that leads to the desired impression.

Persuasive speech is closely linked to the projection of emotions. Another point to be emphasized is that the kind of emotional effect and its communicative and social consequences have to be taken into consideration by students from Nantes IUT and Cujae because they were familiar with the significance of the technical part and neglected the emotional one.

2. ASSIGNMENT

After explaining the required theoretical foundations concerning speech, main speech acts and discourse it was explained that it is recommended to accept challenges and appeal to the group for the required help in solving problems in team-work. When the students have the required information they are in conditions of deciding what actions they want to take. Team work is better when there is plenty of time for the task to be done and it is better to work in teams with people that appear confident and ready for contributing to the work rhythm. Students must learn to be patient good listeners in team-work and unfortunately they are not used to be good listeners, mainly in the case of Cuban students.

Once the main difficulties to be faced were identified and explanations for decreasing the risk difficulty were given, the academic task below was assigned to student-teams.

Assignment: You are part of a multicultural team. Propose a professional problem of interest to be solved in your context from an intercultural point of view. Read the following Learning Aids for guiding your work.

Learning aids:

- Set the context in which the event takes place,
- State the problem and the general aim,
- Identify the threats and enumerate the possible challenges,
- Identify the risks and make risk control proposals
- List the tasks to be done and the required timetable
- Propose the human and material resources required to implement the tasks
- Identify the possible participants and if possible a budget proposal
- State the scientific and technological innovation significance of your proposal
- Underline the link between the problem solution and the expected impact of the proposal

The analysis from an intercultural point of view implied the application of the contents studied in the course for solving the assigned task it was also required a creative approach using innovation as a tool to provide alternative solutions. The task was a comprehensive one that required the integration of interdisciplinary knowledge and skills.

Unfortunately French and Cuban students were not in conditions of answering all the questions. The analysis of their answers showed difficulties concerned with cognitive and communicative processes mainly concerned with the use of persuasive speech.

The analysis of the students' difficulties showed the urgent need of identifying suggestions for participating in discussions using persuasive speech. A list of recommendations for contributing to students training in the use of that type of speech which is a key in the participation in international intercultural communicative experiences is below.

Recommendations for participating in discussions using persuasive speech

- Identify the problem to be solved and state it clearly
- Search what the group interests are
- Use your persuasive skills and achieve purpose unity for working in teams
- Collect the required information about difficulties and alternatives evaluated previously
- Assess the collected pieces of knowledge and devote some time to think about the problem
- Study the collected pieces of information and try to get an original approach to the problem
- Make remarks suggesting a new approach based on a fresh look to the problem

- Consider different lines of analysis according to context conditions and priorities
- Propose a creative way of approaching the problem to be solved
- Describe it by using the accurate words to intensify impressions and maintain attention
- Mention the participants, tasks, actions and context to be included into the analysis in the required priority order
- Follow a logical order to state facts and create an interesting image i.e. a clear and dynamic description about the object of study and its context
- Develop nonverbal communication strategies to obtain and identify emotional responses.

3. EMOTIONS AND SPEECH IN SCIENTIFIC DISCOURSE

The point of using emotions in a legitimate way in the speech acts in scientific discourse has been the core of several discussions in different cultural contexts. The fact is that scientific discourse is not as neutral as it was thought and said some time ago and at present communicative and cultural analysis have demonstrated discourse' emotion shades.

If students learn to identify these shades they will be able to distinguish between the positive and the negative purpose concerning the emotional intentions or reactions in communicative interactions using scientific discourse. This awareness is very important for understanding any discourse. Unfortunately students from Nantes IUT and Cujae still have difficulties in identifying and using the speech acts in accordance with some specific intentions.

Informative speech presents ideas in such a way that the listener or reader will be convinced to use them as evident truth. It is a fact that in informative speech the listener or reader decides for himself or herself but in the argumentative speech the listener or reader is persuaded to accept the speaker's conclusions. In any case it is interesting to consider why it has been accepted that emotions must be analyzed separated from reasoning.

However all thinking has an emotional basis, speech behaves as a mirror of thinking intentions and emotions, so speech just transmits them. Hence it is very significant to learn how to decode them according to rules and cultural patterns because it plays an important role in developing the required communicative competences for understanding each other in any cultural context.

It is recommended that the informative speech be considered dispassionately but no thinking can be totally unemotional as speech is used with intentions in all contexts. Students need to identify the main intentions in the main contexts and their links. If we prepare our students to identify the roots of intentions and differences in language use in scientific and academic contexts they will be ready to a comprehensive understanding and use of language and they will be aware of any manipulation of their emotions.

Studies about the uses of speech acts in scientific discourse support these ideas. (Trujillo, 1999). The professors agreed that students should be trained in identifying the main intentions inherent to the main scientific contexts and their links. If students learn to identify the intentions and their differences in language use in scientific and academic contexts they will grasp the roots of the used discourse and they will react properly in any case of manipulation of their emotions. The appropriate use of speech makes possible that ideas take new shape and support scientific and communicative purposes in an effective way in intercultural professional communicative interactions.

The scientific theoretical foundations and practical results required for understanding these type of communicative interaction using scientific discourse were tested at Cujae (Trujillo, 1999). The learning experiences can be transferred to any cultural context aimed at improving the learning of scientific discourse and the communicative skills inherent to scientific contexts for ensuring the required accurate intercultural communication.

Once all the required aspects for the appropriate intercultural interaction are identified and their characteristics in different cultures are understood it is easier to keep communication alive and get to the intercultural communication goal in a faster and successful way.

4. RESULTS

4.1. Results of the joint pedagogical experience

The results obtained confirm the need to carry out further studies to widen the knowledge about the development of the required competences to be active and successful participants in international professional scenarios. As Dalib stated "This study contributes into providing phenomenological evidence on the specificities needed for intercultural participants to relate well with one another. Since it does not observe how competent behaviors are enacted in actual intercultural situations future researchers may observe how intercultural participants appropriately and effectively manage interactions in real situations. What actually took place when people of different cultures interact to achieve appropriate and effective outcomes? Findings from such research would be beneficial into delineating the workings of relational competency in actual situations, in particular, when using such a skill to interact with diverse others in daily situations" (Dalib, 2012)

It is required to follow a particular methodology for the development of the professional skills and the intercultural abilities inherent to negotiation contexts, based on the integration of the latest developments of advanced pedagogical tendencies and the state-of-the-art information on the topic to approach the development of competences from a comprehensive approach with the purpose of making our students develop their abilities and increase their professional and intercultural communicative competence in English language. Therefore students need to improve their communicative competence in English language to be fluent and coherent in interacting in different intercultural professional contexts using intercultural skills required for their successful professional behavior in intercultural professional events.

The students must be capable of presenting and providing accurate arguments to defend their theories and views in the present international context and they must be capable of discussing research topics and promoting collaboration and negotiation in international frameworks.

After the ending of the course taught at Nantes IUT the students kept in contact with the Cuban professor by email and sent the answers to the questions asked by the professor as assignments on the topics studied in the course. The analysis of the results of the experience indicated that there were a lot of similarities in the answers of Cuban and French students concerning academic motivation, commitment and learning context. Both groups were satisfied with their academic conditions but they recognized gaps and differences in using ICT to support the learning process in Cuba. All the students showed interest in using ICT to supplement the academic information received in traditional classes.

The main topics of interest concerning intercultural competences at Nantes IUT and Cujae were identity conflicts and cultural differences in mutual understanding, negative attitudes, prejudices, barriers and stereotypes in professional and interpersonal relations, significance of values in dialogue and cultural processes, intercultural and social development, communicative, affective and cognitive dimensions in knowledge, actions and attitudes in intercultural experiences.

There were some differences in the speech elements ordering and preferences in the use of some types of speech by French and Cuban students but all of them were able to transmit the communicative intentions. However they had more difficulties in the use of persuasive speech.

All students showed similar results about the idea of considering scientific discourse in a dispassionate or without emotion way that creates a contradiction in understanding links between thinking, communication and emotions. They understood that no communication can be completely unemotional even in the scientific context as speech acts have intentions, transmit emotions and express the psychological development of human beings, and the shades of cultural diversity.

Students appreciated to be trained to be ready for a comprehensive understanding and use of communicative competences in a diversity context as the understanding of cultural differences contributes to eliminate barriers affecting joint work. All of them recognized that an appropriate intercultural training contributes to achieve successful results in multicultural teams.

The need to carry out further studies for improving the development of intercultural competences has been proved by the results of the pedagogical experiences implemented at Cujae and Nantes IUT that has demonstrated that the required competences must be developed in our students for them to be capable of designing and implementing international projects and negotiating effectively at any intercultural interaction context.

The experience of international training on supplementary intercultural communication skills development carried out at Nantes IUT was very important for emphasizing on concepts and actions relevant for understanding present challenges concerning diversity in culture, civilization, society and innovation. It was demonstrated that perceptions were just interpretations shaded by cultural patterns that may interfere in the beliefs and actions in professional contexts and affect the success of the communicative interactions.

The present intercultural professional contexts require people who respect differences, people in favor of a cooperative and respectful approach of life and development. Hence, students may believe that difference is valuable and may have sensitivity to and respect for difference which means that students be trained for accepting differences without frustration or stress. The intercultural communication does not include features of rigid and inflexible people; students have to learn to listen to other points of view without disagreeing and interrupting, therefore it is vital to teach students how to be open to difference and consider it valuable, because it shows diverse enriching shades of the object of analysis. Students have to learn how to be elegant players in a complex intercultural game, players ready to be flexible enough to lead a negotiation successfully in spite of serious international challenges. Professional competences include management ability concerning intercultural communication and every professional task implemented in an individual way or in teams. It is also very important to understand that team working requires a lot of cooperation and responsibility for obtaining the expected results.

Students at Nantes IUT and Cujae need a deep training in solving problems, as they have to learn that the more flexible person is the one with more possibilities of succeeding in international contexts hence it is a must to develop a range of behavior and thinking in such a way that flexibility is increased and the intercultural approach is effectively applied ensuring the achievement of the goal. Sometimes a movement in the rhythm of a conversation is enough to ensure the negotiation success, but students need to know when and how the rhythm has to be modified. Open minded students will be the appropriate ones for a new look characterized by the correct application of intercultural competences. In the present intercultural contexts, the appropriate language use is a powerful and effective tool for improving the quality of the information exchanged with others, mainly in situations where it is necessary to increase the understanding level created with the intercultural communication challenges.

Intercultural situations require a lot of attention not only to what is said but also to how it is said, and a climate of trust and understanding is widely necessary. Therefore, students need to learn how to adapt their language to match the language of the people to whom they are speaking for building rapport through the language suitable to the particular intercultural communicative context. In scientific contexts project review meetings are common and scientific and business language styles have to be properly used for ensuring success in capturing and holding the audience's attention. A significant point in these interactions is the relevance of speech as it is the expression of thought and the used style of communication is the key in any successful negotiation. Generally it is said that a neutral abstract language is used in business and official negotiations but it is recommended to enrich communication in order to increase understanding, motivation and commitment in intercultural contexts.

Another important point to be taken into account at Nantes IUT and Cujae is concerned with the present priority to create a proactive culture. Students must understand that their present goals are mostly set in reaction to others so their actions are determined by what others do next and that behavior is not correct. Students must learn that outcome oriented people are innovative and influential and if vision is lacked, then the only possibility is reacting to the changes imposed by other people. They require a clear understanding about the importance of proactivity which has to be understood as a priority to be taken into account because it seems that its relevance has not been deeply emphasized. The significance of taking responsibility not only for the effects of the actions implemented but also for their effects on others has to be underlined in a training program dealing with those topics. It would be very useful for teaching students how to behave properly for increasing the choices available to them in solving present and future problems.

The awareness of the real possibilities and the expectations in terms of impact of actions on the environment due to the students' behavior marked by the developed competences is fundamental for achieving the goals in accordance with their belief systems and values. By becoming aware of the present range of development possibilities it is easier for students to choose what to do, based on deep thinking and understanding leading to a successful competent international performance in intercultural environments.

4.2. Proposal of future joint work

The results obtained in the joint pedagogical experience indicated that it is necessary to find alternatives to continue working in the topics that were difficult for students at both institutions The experience opened new possibilities of collaboration. The present limitations created by the sanitary conditions due to the Corona virus affecting the world have imposed the use of remote work as the only possible alternative to go ahead in implementing new joint courses on intercultural topics.

The development of professional competences has always been supported and influenced by new teaching trends and technological developments. The communicative teaching and the development of professional skills in mother tongue and foreign languages stress the commitment of the student in a meaningful, authentic interaction to be ready to negotiate in English in international frameworks. Within this general communicative and intercultural tendency to promote professional competences and successful negotiation in fostering international relations we distinguished two different approaches, both having their implications in terms of how to better integrate technological developments in the classroom: the cognitive approaches and the socio-cognitive approaches supported by information and communication technologies.

The recent development of ICT have brought about important reflections and theoretical changes in today's pedagogical views and learning theories, including the field of negotiation, communication, language learning and teaching. The change in teaching has gone from cognitive and learning development theories to a social and cooperative vision of learning mediated by ICT and some of the ICT advantages were used in this joint experience. They open a lot of future possibilities to continue the Nantes IUT- Cujae joint work.

The professors from Cuba and France have kept in contact by email and in spite of the challenges imposed by remote work new joint courses supported by the use of ICT are being designed taking into account the present technological possibilities in Cuba. The courses will simulate situations providing opportunities for improving transversal competencies through activities based on mobile and social applications. The intercultural exchange to be fostered in the future courses taught at Nantes IUT and Cujae will include several collaborative work supported by the use of mobile devices.

Previous experiences concerned with this possibility have shown significant results to be taken into account in future joint works supported by the recent digital technological applications in education. As Mesh stated "because mobile and social technologies are a part of students' lives, the careful integration of selected applications enhanced the learning process. The opportunity to develop cross-cultural exchanges in which aspects of the learning process can be handed over to the students promotes ownership and helps to foster learner autonomy. Finally, we have demonstrated that language competences that are developed in conjunction with intercultural exchange activities can

provide opportunities for students to develop a range of transversal skills that may aid their transition into the global workplace". (Mesh, 2016)

The new courses to be designed in a joint way are aimed at preparing students for an intercultural interaction by developing the required transversal competencies and the intercultural awareness required for a better professional development in international settings. Collaborative activities about the impact of intercultural communication in international projects will underline the students' possibilities for successful international career opportunities or research collaboration.

This type of joint course will provide orientation to students to make easier their interaction into international workplaces by developing intercultural competencies that enable them to communicate effectively in foreign languages, in cross-cultural situations and interpersonal relationships.

5. CONCLUSIONS

The results of the joint pedagogical experience have shown that Nantes IUT and Cujae students still have difficulties in the development of the professional skills and the intercultural abilities required in the professional negotiation contexts.

A joint pedagogical proposal based upon an educational foundation derived from the sociocultural psychology and the communicative professional and intercultural teaching approach required for fostering negotiation and international links and participating in international events has to be implemented as soon as possible at both institutions.

The students of the Interdisciplinary Master Studies for Technological Innovation at Nantes IUT and Cujae engineering students agreed that the development of intercultural communication is a very important objective to be attained for mastering the social competences required in the international entrepreneurial innovation context in which they have to interact into the global workplace.

Students are aware of the significance of the intercultural professional behaviour required by the present enterprises in the framework of the globalization conditions and consider that learning activities on communicative and intercultural competences provide opportunities for developing transversal skills useful in the students' transition into the global workplace.

The joint pedagogical experience Nantes IUT- Cujae was useful for identifying similarities and differences in the learning procedures and achievement of competences. Diversity in student teamwork strengthens the priority of being trained for considering knowledge, values and behavioural patterns associated to innovation from the required intercultural view.

The possibilities offered by mobile devices have provided new opportunities for joint work and availability of materials. The new joint courses supported by the use of ICT will open new communication possibilities for future joint pedagogical research works leading to future academic actions and research work on intercultural communication and interdisciplinary studies for technological innovation in Cuban and French contexts.

ACKNOWLEDGMENTS

The authors wish to acknowledge the support provided by Rodolpho Dalle, IUT Director, in the implementation of the joint pedagogical experience described in this paper. We also thank the students participating in the courses for their contribution to this work.

REFERENCES

1. Dalib, S. et al. 2014. Reconceptualizing Intercultural Competence: A Phenomenological Investigation of Students' Intercultural Experiences. Procedia - Social and Behavioral Sciences 155. Elsevier p.135

2. Hill, B. 2013. American Council of Education: Center for Internationalization and global engagement. Retrieved from http://www.acenet.edu/news-room/Pages/Center-for-Internationalization-and-Global-Engagemenrt.aspx
3. Mesh, L. 2016. "Intercultural communication for professional development: creative approaches in higher education". In S. Jager, (Eds), New directions in telecollaborative research and practice: selected papers from the second conference on telecollaboration in higher education pp. 253-259 Research-publishing.net. https://doi.org/10.14705/rpnet.2016.telecollab2016.515
4. Trujillo, MH. 1999 "Análisis psicolingüístico-pedagógico de los actos de habla fundamentales del discurso científico'. Tesis Doctoral. Universidad de La Habana. La Habana. Cuba.
5. Trujillo, MH. 2016 "Desarrollo de competencias interculturales desde el contexto universitario de la Cujae en Cuba". En Johnson GA, América Platina: fronteiras de diversidades e resistencia, pp 181-210
6. Yook E. Turner P. 2018 "Bringing International Perspectives to the Communication Curriculum in the Age of Globalization" En Journal of Intercultural Communication Research V47, I.5 PP. 375-381