



## Investigación de asertividad relacionada con el dominio y uso de las TIC en estudiantes de la Universidad de Guadalajara (México)

### Assertiveness research related to the domain, use of ICTs in students of the University of Guadalajara (México)

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#### RESUMEN.

Esta investigación busca encontrar si la habilidad de asertividad se refleja en la interacción con otros utilizando Tecnología de la Información, se llevó a cabo con estudiantes de México en la Universidad de Guadalajara, Campus de Valles, con un modelo educativo semipresencial, con un 50% de presencia del estudiante y el resto con el uso de la Tecnología de la Información. Los datos fueron recogidos a través de dos cuestionarios, uno destinado a identificar la habilidad asertiva de los estudiantes y otros sobre las TIC. Los datos fueron analizados con medidas de tendencia central y distribución, y se encontró una relación positiva entre asertividad y dominio e uso de las TICs.

#### PALABRAS CLAVE.

Comunicación Interpersonal, TIC, educación superior, estudiante.

#### ABSTRACT.

This research seeks to find if the skill of assertiveness is reflected in the interaction with others using Information Technology, was conducted with students from México in the University of Guadalajara, Valleys' Campus, with a semi-classroom educational model, with 50% of presence of the student and the rest with the use of Information Technology. Data were collected using two questionnaires, one aimed at placing students in relation to assertiveness and others about ICTs. Data were analyzed with measures of central tendency and distribution, and a positive relationship was found between assertiveness and dominance and use of ICTs students.

#### KEY WORDS.

Interpersonal Communication, ICT, higher education, student.



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## 1. Introduction.

### 1.1. ICTs as tools for social communication.

ICTs imply today, a means of social interaction and exchange of information that can directly influence the development and acceptance of people in society (Cabero & Salinas, 1999). Also facilitate decision-making, by reducing the time to access the data.

It is from the emergence of Web 2.0 in 2005, technology has had a disproportionate development. Judging by Castaño & Cabero (2013), the stage of technology has marked three stages of progress: mobile devices; Cloud computing or cloud computing and the advent of "apps", applications on different devices that can allow to go beyond the simple application.

All these changes have led to the appearance in the world of education (specifically speaking of learning and training) of a new trend that has in common the property of ubiquity and the connection to the network, called by the aforementioned authors: mobile -learning (m-learning) or learning on the go.

The development of tools, using Internet has revolutionized telecommunications, promoting contact and work of citizens around the world in a fast, effective and inexpensive (Ríos, 2010).

Meanwhile, Duart & Reparaz (2011) state that the role of the teacher (consisting of incorporating ICTs in the teaching learning) is an arduous task, since it is necessary to adapt teaching methods taking into account the mission of the teachers, active and collaborative role of students, customization and adaptation of learning, interdisciplinary approaches and collaboration among teachers.

In the educational intervention, ICTs is a tool that enhances the capabilities of individuals, to strengthen collaboration, allowing access to knowledge immediately, facilitate communication processes, and feedback management, which supports the construction of shared meanings in certain social groups (Diaz & Morales, 2009).

Communication is essential in building ideas and transferring them, which strengthens the bonding and strengthens the educational process, coexistence between actors involved in the learning process (Estrada, 2010), so it is important and indispensable make use of ICTs.

### 1.2. Social skills and assertiveness.

Paula (2000) social skills are specific skills or social skills required to competently perform a task in response to the demands of the situation. According to Fernandez & Ramirez (2002, p.1) "social skills involve skills in relationships with others. They arise from interactions with others; active participation in different contexts can promote successful social relations. "

Social skills necessary to place them in a specific cultural context, as communication patterns vary greatly between cultures, and even within the same culture according to age, sex, social class and education (Cia et al., 2000) and they are also conditioned by the mood and circumstances (Martinez & Navarro, 2011).



The concept of social skills is related to the cultural context, so there are different interpretations and concepts about it, we finally lead to behavior and decision making in the social sphere for achieving personal and group goals.

Assertiveness is considered a social skill that can express thoughts, feelings, accepting criticism, giving and receiving compliments, start conversations and defend the rights of each direct, honest and timely manner respecting yourself and others (Flores & Diaz, 2004).

Riso (1988, p 45) defines the assertive behavior as:

Conduct that allows a person to express properly (without measuring anxiety and cognitive distortions or combining the verbal and nonverbal components in the most effective way possible) opposition (say no, express disagreements, make and receive criticism, defending rights and express in general negative), feelings and affection (giving and receiving compliments, express positive feelings in general) according to their interests and objectives, respecting the rights of others and trying to achieve the proposed goal.

Rees & Graham (1991) aforementioned in Gonzales & Galvanovskis (2009, p. 406) states that "being assertive is essentially to respect themselves and others having the basic belief that one's opinions, beliefs, thoughts and feelings are as important as anyone else".

### 1.3. ICTs and assertiveness.

By providing various opportunities for communication, ICTs increase social interaction and it will be conditioned by social skills and assertiveness of people. These interactions with ICTs, are important in college and propitiates social construction of knowledge among students and teachers in a "process in which each individual learns more than he would learn by itself, the result of the interaction of the member's team" (Guitert & Giménez, 2000, p. 114).

The use of ICTs has a positive effect on learning because they facilitate information access and contact between the actors of the learning process. Of particular interest are the results of Marzo et al. (2006), which they found that the success rate is higher among students in semi-face methods, using ICTs to-face type, due to, among others, the benefits of ICTs, including the adequate contact with the teacher and fellow students. Besides the ongoing development of ICTs, it has generated tools that encourage collaborative and team work.

With proper use of the Internet to promote interaction processes involved in joint construction and sharing of knowledge, which allow group interaction (Bustos & Coll, 2010).

The present study seeks to find if the skill of assertiveness is reflected in the interaction with others, using ICTs. In this regard, it's of a particular interest to study (Person, 2000), assertive individuals which interacted through the computer equipment and computer equipment simulating an individual, using assertive and non assertive code; in this study it was found that there is a complementary attraction between assertive people looking to achieve their goals, using his speech with unassertive people; in other words, assertive individuals prefer to interact with non-assertive ones. A similar attraction was found years ago (Nass, et al., 1995), the study "Can be computer personalities human personalities?". Person (2000) also found that assertive people get frustrated when they are spoken in a dominant tone.



According to the results of Person (2000) and Nass (1995), assertive people react with hostility when their targets or goals are thwarted by interacting with other individuals, which does not happen when they interact with the computer.

Now a days we have applications across the computing equipment which promote the development of social skills. There are platforms that provide environments for promoting interactions between different participants, involving them in situations where context is conducive to promote reactions in participants. A relevant work related with this subject, is performed by a multidisciplinary group in the area of computer science education and the "SIDES: A Cooperative Tablet of Computer Game for Social Skills Development," which has developed a technology that creates an environment for those participants who have a dominant temperament, workup respect and turn to their peers, i.e. strengthens assertiveness.

#### **1.4. Background to the problem.**

Currently there are studies on assertiveness and its relationship to the family educational styles, the relation of assertiveness and self-esteem, and how they can develop these skills in students, what is the effect of interacting with others through computer equipment and computer equipment itself. But we did not find, nor do we have information that allows us to link the profiles of students of different educational programs and their communication skills and how they use ICT.

Studies are needed to assess the impact of the students' training, identify practices, design of advisers environment to them and assess their influence to determine if adjustments are needed rescue best practices or modify those that are not productive to improve the quality indices and subsequent impact on society of graduates of public Universities and higher education.

Within the context of the University of Guadalajara (here in after UdG), the CU Valles, South SUV and CU represent three different educational models that integrate the way they work in the University of Girona. We try to find if there is any difference between students of these centers, to answer the question: What is the relationship, in the students of the University of Girona, headquarters CU Valles, SUV and CU South between assertiveness level and use, domain and how they view technology in the 2011 school year? To this effect seeks an approach to diagnose the ability of assertiveness on the participants and their views, use and control it has on information technologies.

Today the existence of a digital gap, which can be defined as inversely proportional to the extent each person has to use technology and communication in the search and exchange of information through it. The main factors that reduce it are economic, cultural and contextual possibilities to access it (the greater the scope or availability, lower gap). However, there are no studies that allow us to identify the relationship of the use, control and review of ICT with social skills called assertiveness, and if it is an additional factor to the reduction or increase in the digital gap and the impact on social interaction.



Having a clear understanding on factors influencing interaction of human and social development, provides the pattern to intervene in such social phenomena and modify which is required and provide the right incentives. This research seeks to develop knowledge to answer the following questions: what is the relationship between individuals with assertiveness and the use they give to Information Technology and Communication, in view what are the profiles that influence this relationship?, is there any relationship?; what is that will influence?, according to social skills of the individual or is it independent of this?; social skill and assertiveness influences the way of using technology?, the choice of the media that performs students is based on their social skills?, how does assertiveness influence in this election?

### **1.5. Researcher's role.**

Researchers noted that there were differences in the use of ICT among students and thought this might result from some personal characteristics like assertiveness.

To verify if indeed the apparent differences were real and determine the possible cause, researchers conducted a double process: 1) select a validated tool to determine the Assertiveness of students who were to participate in research and 2) create a tool (questionnaire) to evaluate the use of ICT in students. All this to check for possible correlations between Assertiveness and use of ICT.

Likewise researchers gave the instruments to the students and they have performed the analysis of data obtained with them.

### **1.6. Theoretical perspective .**

According to the point of view of (Barndard, 1968) the development of the concept of group or organization began as a social system that allows the understanding of rationality in social structures.

Systems theory establishes as mentioned above that groups or organizations such as political and public institutions are integrated by parts, which themselves are systems, understood as the set of various elements found interrelated and they affect each other to form a unit.

As a basis are identified five characteristics:

1. The activity of groups with a specific objective is clear in terms of their relationship with their environment.
2. The groups thought as a whole, may be considered metaphorically as biological organisms, full of needs or goals that overlap or are separated conceptually from the needs, purposes and goals aware of parts or individual members.
3. Parts of the groups are only understood in terms of their link to other parts forming the group.
4. The members of groups, including their relationships are important as they contribute to their operation in general.
5. The needs and goals of the groups can be designed statically or dynamically.

This theory has its origins in the structural and functional sociology of Parsons and general systems theory of Bertalanffy.





Parsons (1951) raises a basic question, how do societies manage to function and survive? For structural functionalist, the starting point or primary unit of analysis is the social system designed as a whole. Running functions systems argue: they can only be seen in relation to the whole; they use the explanation of the relationship of the parts to the whole to demonstrate that those social phenomena which seems to be isolated, if not inexplicable, actually comply with some larger purpose related to the stability of society.

Any social system must meet if it is to survive, four functional absolutes that should be governed, according to Parsons (1951):

1. Adaptation.
2. Integration.
3. Maintenance of latent models.
4. Achieving goals.

It reaffirms that the strong performance of these four functions for the conservation of any living system, from a small agency to a large social population is necessary.

In view of the above mentioned two issues they may relate, first, from this point of view, any improper change may threaten the survival of the system; and survival is possible for the efficiency and stability that the system works; therefore, the change is an indication of a conflict, discontinuity, or adaptation imbalance. In the process of adapting many organisms become extinct, others evolve and adapt to new environmental demands.

Systems theory proposed by biologist Bertalanffy, is the result of an effort of interdisciplinary study that tries to find the properties common to systems that occur at all levels of reality, but are subject to different academic disciplines. The science of systems observes totalities, phenomena, isomorphisms, circular causalities, and is based on principles such as subsidiarity, pervasiveness, multi-causality, determinism and complementarity. According to the laws found in other disciplines and by isomorphism, it raises the understanding of reality as a complex, achieving its transdisciplinary and multidisciplinary (Ramirez, 1999).

Recently it highlighted the strong influence of German sociologist Niklas Luhmann with the influence of general systems theory. Who has managed to solidly introduce systems thinking in the social sciences (Luhmann, 1998).

Systems theory proposed by Luhmann, assumes the characteristics of societies as complex and label an inescapable reality, highlighting and shore classical interpretations of society.

Luhmann observes the continuous changes of societies through their evolution in different social subsystems (religion, economics, politics, law, education, etc.). These differences help reduce complexity, where each subsystem is agreed to be each, communication areas. The company is formed by sets of communications. As critical point in Luhmann's theory: society is not composed of individuals, but in communications. Therefore, it is very important how individuals are directed together to prevail and maintain the existence of the group.

The transcendental Luhmann's theory are contemporary societies. By using the latest knowledge of systems theory to interpret the growing imbroglio of modern societies. Luhmann recognizes three main systems: living, psychological, and social; each of them differ in their own way to reduce the complexity and type of operation.





The process that defines the social system is the communicative event, which according to Luhmann has three stages: participation, information and understanding. The first two moments of communication are closed when understanding is made. How to communicate helps the structural link between the social system and the systems that structure (individual and collective).

## **2. Research Methodology.**

### **2.1. Research Question.**

Is there a correlation between the use of students at The University Center of Valleys of the University of Guadalajara, of ICTs and their assertive skills?

### **2.2. Goals.**

- a) Knowing what students do with ICTs
- b) Classifying students in assertive and none assertive ones
- c) Determine whether there is a relationship between the social skill assertiveness and the use of ICTs

### **2.3. Method.**

The research is the result of a descriptive study, using data collection method questionnaire (survey methodology) with a transversal cohort.

### **2.4. Sample.**

The research was conducted in The Valleys' University Center (CUValles) of the University of Guadalajara (Mexico), where instruments were applied to 1,108 participants (21% of the population).

### **2.5. Instruments and their implementation.**

We searched and identified a standardized test to identify the type of assertiveness people, Laurence Smallheise's questionnaire. This instrument was supplemented with the design and creation of a questionnaire (ad hoc) for getting feedback from students about their mastery and use of ICTs.

On the information obtained statistical analysis with measures of central tendency and distribution were made by correlating the variables assertiveness with the use and mastery of ICTs. In the non-parametric analysis between assertiveness, control and use of ICTs, we proceeded to categorize the results in quartiles for a proper distribution of the information obtained. To analyze the application SPSS version 12 was used.

### **2.6. Socio-demographic data.**

The average age of the students who participated in this study, is 21 years. Women represent 47.74% of the sample, compared to men who are the 50,09%. Respondents are eleven undergraduate students.





### 3. Research Results.

#### 3.1. From whom have you learned the use of ICTs.

The 43.59% of the students have learned "quite" and "very much" with friends to operate ICTs, 29.16% say they have learned from "regular" shape and 19.94% have learned "little" or "nothing"; 44% of students negatively value learning acquired ICTs in their family interaction, compared with 24% who have a positive opinion.

#### 3.2. ICT skills.

In relation to the question, what level of security feels to use ICTs in the development of activities and future projects? highlights that the distribution is concentrated in the categories: pretty much 54%, while 36% of students opt for the "regular" neutral response.

#### 3.3. Use of ICT.

On the question of, whether the use of ICTs have improved your process of personal communication and transmission of ideas to those around you? Participants overwhelmingly identified with a yes, representing 91.5% of the sample.

We sought to identify, from a list of listed technological resources, which ones students use and how often they do it (see Table 1).

Table 1. Use and frequency of use of ICTs, tools and resources

Technology / use-frequency	Never	Occasionally	Some days	Almost every day	Daily	Unanswered
Editor or word processor	6.83%	17.79%	21.41%	29.25%	20.80%	3.92%
Spreadsheet	14.74%	39.32%	26.28%	8.63%	6.12%	4.91%
Database	14.67%	37.49%	25.33%	10.65%	7.04%	4.82%
Introductions	0.80%	15.88%	42.86%	27.57%	10.49%	2.40%
Web browsers	0.60%	1.89%	7.08%	24.93%	63.71%	1.79%
Email	0.80%	5.60%	15.30%	25.10%	51.20%	200%
Blogs	31.18%	31.99%	18.26%	6.76%	3.94%	7.87%
Social media	6.31%	11.12%	18.84%	22.95%	36.77%	4.01%
Wikis	22.10%	26.74%	24.52%	12.11%	6.05%	8.48%
Forums	11.85%	25.70%	35.44%	14.66%	7.63%	4.72%
Instant messaging	7.52%	15.83%	21.74%	19.64%	29.96%	5.31%

A significant majority used Internet browser in the first instance, the second more used is e-mail and then social networks. Are established in the background and frequency of use the technologies for the desktop or the local platform of computer equipment, spreadsheet, presentations and databases, surpassed by far, frequency of use and percentage distribution by those technologies that are accessed through the Internet.







### 3.4. Personal relationships.

Although ICTs are the preferred tools for communication, data transmission and access to information, to perform academic work, etc. when it comes about to seeking help from friends, the vast majority of students (82%) prefer to make the request personally. Among the questions asked it is "tool they prefer to receive remote assistance", the answers are shown in Table 2.

Table 2. When you decide to get help from a distance, what tool rather uses?

Tool / preference	1	2	3	4	5	Unanswered
Forum	12.4%	11.1%	14.7%	12.3%	23.2%	16.2%
Email	36.2%	19.2%	16.6%	9.6%	7.6%	4.9%
Phone or mobile	41.4%	18.2%	11.1%	6.9%	8.3%	6.8%
Landline	29.4%	19.0%	12.8%	9.7%	11.8%	10.3%
Social network	24.8%	18.5%	14.6%	11.1%	12.2%	10.1%
Moodle platform	16.1%	16.0%	17.5%	11.5%	12.8%	14.8%
Instant messaging	28.8%	15.4%	12.6%	10.1%	12.0%	12.0%

Students evaluated each tool independently, corresponding response 1 to more preferably and 5 to the minimum. Of the seven tools that have been offered to students, the highest percentage of them, gives most preferably Rankings 1, five of them: email, cell phone, phone, social networking and instant messaging; Moodle has the highest percentage in the value 3, and 5 forum.

The medium students which like the best is the cell phone. This is appropriate for variables that can be seen involved in the context of the request for support. After cell use, e-mail, which indicates that prefer to consultations and request support directly with any known contact. These data are strengthened when assessing preference, minimum, participant's show with the participation of expert's spaces such as forums and Moodle.

When students are asked how they solve their classroom activities extra classroom activities (of the subjects enrolled) and how often, we get the data in Table 3 reflect.

Table 3. How do you solve your subject's classroom activities and extra classroom activities and how often?

Activity / Frequency	Never	Occasionally	Some days	Almost every day	Daily	Unanswered
Looking for information in the library physically and in person	4.85%	27.40%	42.89%	15.38%	5.48%	4.00%
Looking for information online or Internet	0.74%	4.95%	16.86%	39.52%	34.04%	3.90%
With the support of the advice of the advisory	3.38%	32.70%	43.99%	11.50%	4.54%	3.90%
With the support of a friend	2.96%	30.55%	40.49%	16.81%	4.76%	4.44%
With the support of a family member	20.65%	42.78%	20.86%	7.17%	3.58%	4.95%





The results show that the majority option among students to solve the activities, is the search for information online using Internet search engines, which are used very often by 73.56%.

Internet use has surpassed advisers, libraries and friends. It is curious to note that 20.86% of students use the library very often and 21.57% go very often to friends, compared to 16.04% who interact very frequently with the advisers. This requires special attention, if it is true that the information is online, available to everyone, it is also clear that those responsible to guide and lead on learning are the teachers. They are in a consultation level, lower than friends, and libraries, and this is particularly striking when students studying in mixed mode in which becomes more prominence the advisory work of teachers.

In Table 4, we can see that the participants in their majority, 72.19% when consulting information, prefer to use traditional search engines. According to these data, it would be necessary to strengthen the use of databases and websites with specialized information at universities.

Table 4. Which technology do you prefer to use and how often, to find information about your activities?

Technology / Frequency	Never	Occasionally	Some days	Almost every day	Daily	Unanswered
Social media	24.08%	28.51%	21.75%	10.35%	9.19%	6.12%
Blogs	37.78%	30.20%	15.15%	4.38%	2.03%	10.46%
Internet search engines	0.74%	6.21%	18.21%	33.58%	37.47%	3.79%
Rooms IM	21.12%	26.40%	24.18%	13.52%	7.60%	7.18%
Online forums	15.24%	31.01%	29.52%	12.59%	5.71%	5.93%
Database	17.99%	33.33%	21.27%	13.76%	5.71%	7.94%
Specific pages on the theme provided by friends	9.41%	24.63%	30.55%	17.12%	12.16%	6.13%

To know the distribution of the perception and opinion of the students participating, regarding ICTs, depending on their level of assertiveness, the fourth quartile was calculated and two units at the same subtracted, resulting in a value of 50 as an approximation to the upper limit. The same operation was done with the lower limit which value is -44 minus two values, we have -42, in order to balance the perception of the contribution and distribution to the scale of values associated with the response, we calculated the third quartile, resulting as value 22, whose median value is 12 and the first quartile with a value of 3.5. With these values we proceeded to group the number of individuals with values greater than 50, greater than 22, higher than the median (12), smaller and equal to the median and below -42; resulting in what is shown in Table 5.





Table 5. Frequency and distribution of opinion on Information and Communication Technologies in view of the scale of assertiveness

ICT review score	Assertiveness (3)	Percentage (3)	No assertiveness (2)	Percentage (2)	Indirect Assertiveness (1)	Percentage (1)
> 50	5	4.39	0	0.00	7	0.90
> 22	38	33.33	September	18.75	150	19.21
> 12	32	28.07	14	29.17	188	24.07
<= 12	38	33.33	24	50.00	436	55.83
<-42	1	0.88	1	2.08	0	0.00
Total	114	100.00	48	100.00	781	100.00

Significantly it appreciates how participants with a better view, that is, those who are in the upper limit of the scale of values and the third quartile are assertive participants with 37.72% on their own grouping, compared with the 18.75% of non-assertive and 19.21% indirect assertive. It is consistent the contrariwise distribution between the lower limit and the first quartile, as shown in Figure 1.



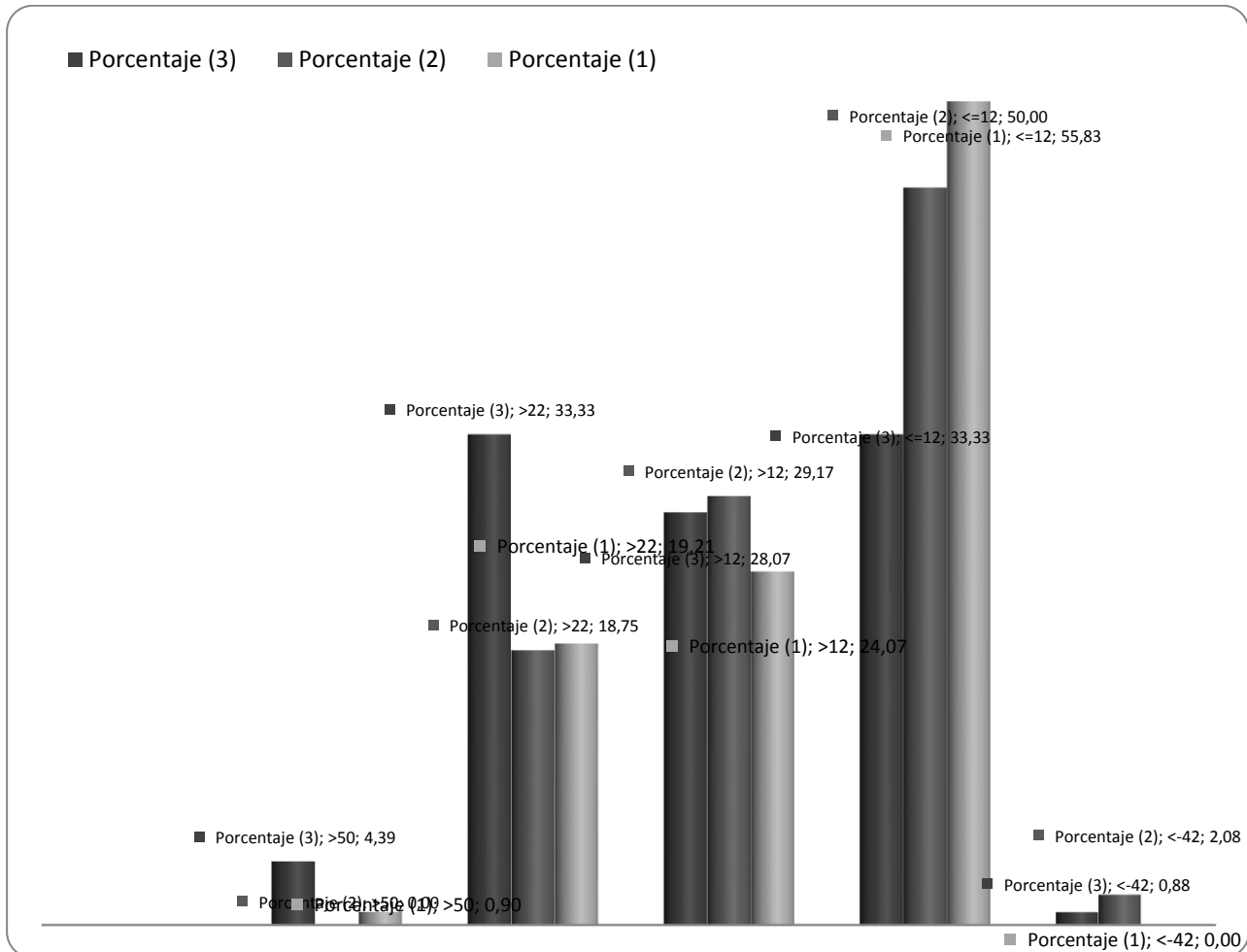


Figure 1: Opinion distribution on the use of Information and Communication Technologies for assertiveness scale.

#### 4. Discussion.

Correlations that might exist between the responses of students and sex, age, marital status, school level and assertiveness with domain and ICTs use were studied, and it was not found a significant relationship between these; it is to be noted that the use and domain of ICTs has no relationship with the variables in question.

Meanwhile in the nonparametric chi-square analysis of the data between assertiveness, domain and use of ICTs, were found significance values less than 0.05 for the two cases, assertiveness-control, assertiveness-use, which means that there is a positive relationship between assertiveness, dominance and use of ICT; therefore, in the assertive students who

participated in this research, it appears that they keep a greater mastery and use of ICTs in research and exchange of information in relation to those who are not assertive.

It is important to continue the research related to assertiveness to know us better and assess whether assertive people develop better than others in different areas of our lives and not just in the ownership, use and opinion of ICT.

You have to deal with the many questions that these findings pose to society as a whole, as: safety assertive people allows them to dominate in an easier way any tool, compared to those without this ability? Some studies have shown that the level of assertiveness is directly proportional to the self-esteem (Rodríguez, Ferrel, Ceballos & León, 2009), this involves answering: what should be done to improve stimuli conditions and allow 15% of assertive people become 80% of the population ?, what the implications would be ?.

Florez (2015) criticizes, in an investigation in Venezuela, that ICTs "do not Are used in an assertive way in consideration of the needs Of the student community.

Sánchez (2013) affirms that assertive communication is necessary for Pedagogies centered on the teaching-learning processes, where Teachers and students learn together using ICT.

We wanted to contribute to the debate and reflection, in this case linking personal characteristics of students with the use, ownership and how they view ICT. Clearly the results of this research are conditioned by the environment and specific circumstances in which we have obtained the data, so a generalization is not intended, but contribute data, results and reflections to research on this matter. To the extent that various investigations are generated data, results and conclusions it will strengthen the knowledge on this subject of study, enabling a better understanding of these personal characteristics of students and how they can condition the use of the tools, now richer for the development of knowledge, which are ICT.

#### **4.1. Conclusions.**

The need to raise the study of the relationship between social skills and assertiveness and use ICT skills, will contribute to the understanding of the performance of individuals assertive, indirect assertive and not assertive about how to engage in the use of ICT, to better meet the skill acquisition in relation to the social position of each individual.

This research with the hypothesis that arises when we start this research is confirmed: in CUValles assertive students maintain a greater control, better view and greater use of ICT in research and exchange of information in relation to those that are not assertive.

When participants are documented on its own initiative to investigate a topic of interest on the Internet, what are the search engines prefer to use the same medium, preference is followed by the courses themselves online, and the tool is at the opposite side of preference, regarding Internet search engines are the blog.

Social networking and instant messaging rooms are described as unusual tools to search for specialized information by the population of this study.

The use of Information and Communication Technologies, impacts the culture in universities in the world and infrastructure to keep information available, so much so, that has revolutionized the access to data. Adding to this the ease that ICT provide, render them the preferred and most used in a global context, where the latest data emerge continuously and at a higher speed at which we process as individuals.



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This research contribute to responds today: Students of CUValles in the dimension of assertiveness, have a better opinion on ICT as the rest, and greater mastery and use thereof, if certain variables are met, such as having been in contact with ICT, know their function and have resulted benefit from the use thereof.

Using standardized test, allows the division of the students' sample; in assertive, indirect assertive and non assertive. On the other hand, the questionnaire on the use of ICT was also validated by experts and a test pilot. The instruments used, the high percentage (21%) of the sample population, and random choice allows sample data to be representative of the student's population at University Center of Valleys.

It's possible that assertive people, indirect assertive and unassertive in different environments can make a similar use of ICT than CUValles students, but it would be advisable to replicate the research before a generalization could be done on the findings of this research, in other contexts.

Villasana & Dorrego (2007) in a study with university students (Venezuelans) about communication in a virtual environment, affirm that "the 95% of the students' interventions have a very high degree and high...; 96% of the students have a very high and high degree of Assertive acceptance skills, and 87% have a very high High of assertive opposition".

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