Estudio de valores personales y adaptación al medio entre estudiantes de diseño industrial y diseño gráfico

Study of personal values and adaptation to the environment among students of industrial design and graphic design

Estudo de valores pessoais e adaptação ao meio ambiente entre estudantes de design industrial e design gráfico

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Resumen

En este artículo se abordó un estudio exploratorio de valores personales de los estudiantes de las licenciaturas en Diseño Industrial y Diseño Gráfico de la Universidad Autónoma del Estado de México. El propósito fue conocer los valores que los estudiantes asignan a la formación profesional elegida. Se partió del supuesto de que existe una escala distinta de valores por parte de los estudiantes; dependiendo de la licenciatura se conforma una escala diferente, porque son distintas las expectativas y las maneras de adaptarse al medio.

Para la investigación se propuso estudiar dos carreras que están dentro de una misma área: el diseño. Sin embargo, cada una tiene perfiles distintos. El diseño industrial, orientado a la creación de objetos, procesos y sistemas, es proclive a las innovaciones conforme cambia la industria. El diseño gráfico es sensible a los cambios digitales y sus formas. Las características de ambas carreras determina la ponderación de los valores por parte de los estudiantes de cada una de estas licenciaturas. Se aplicó el Estudio de Valores con una escala para la medición de los intereses dominantes de la personalidad (Allport, Vernon y Lindzey, 2001) a una muestra de 201 estudiantes (77 de Diseño Industrial y 124 de Diseño Gráfico). Las preguntas que guiaron este estudio fueron dos: ¿Cuáles son los

valores personales de los estudiantes de Diseño Industrial y Diseño Gráfico con respecto al aprecio hacia su licenciatura en esta era del síndrome Blade Runner? ¿Qué valores dominan en los estudiantes durante su adaptación a la profesión que estudian?

Una de las conclusiones sobresalientes fue que estudiantes de ambas licenciaturas atienden menos los valores religiosos, sociales y políticos, inclinándose más por los valores económicos y estéticos. Las preguntas quedaron contestadas de la siguiente forma: existe congruencia entre los valores que dominan en los estudiantes de Diseño Industrial y Diseño Gráfico con su perfil de formación, esto es favorable para los tiempos actuales de transito hacia el síndrome Blade Runner.

Palabras clave: allport, diseño gráfico, diseño industrial, valores.

Abstract

In this article, an exploratory study of personal values of the students of the Industrial Design and Graphic Design degrees of the Universidad Autónoma del Estado de México was addressed. The purpose was to know the values that students assign to the chosen professional training. It was assumed that there is a different scale of values on the part of students, depending on the degree a different scale is formed, because expectations and ways of adapting to the environment are different.

For the study it was proposed to study two careers that are within the same area, the design; however, each one has different profiles. The industrial design oriented to the creation of objects, processes and systems is prone to innovations as the industry changes; While graphic design is sensitive to digital changes and shapes, this determines the weighting of values by students of each of these degrees. The Study of Values was applied. A scale for the measurement of the dominant interests of the personality (Allport, et al. 2001), to a sample of 201 students (77 of Industrial Design and 124 of Graphic Design). The questions that guided this study were two: What are the personal values of the students of industrial design and graphic design with respect to the appreciation towards their degree in this era of the Blade Runner syndrome? What values dominate the students in their adaptation to their profession they study?

One of the outstanding conclusions, which surprised, was that students of both degrees attend less religious, social and political values; leaning more, for the economic and aesthetic values. The questions were sufficiently answered in the following way: there is congruence between the values that dominate in students of industrial design and graphic design with their training profile, this is favorable for the current times of transit towards the Blade Runner syndrome.

Keywords: allport, graphic design, industrial design, values.

Resumo

Neste artigo foi abordado um estudo exploratório de valores pessoais dos alunos dos diplomas em Design Industrial e Design Gráfico da Universidade Autônoma do Estado do México. O objetivo era conhecer os valores que os estudantes atribuem ao treinamento profissional escolhido. Supôs-se que existe uma escala de valores diferente por parte dos alunos; Dependendo do grau, uma escala diferente é formada, porque as expectativas e as formas de se adaptar ao meio ambiente são diferentes.

Para a pesquisa foi proposto estudar duas carreiras que estão dentro da mesma área: o projeto. No entanto, cada um tem perfis diferentes. O design industrial, orientado para a criação de objetos, processos e sistemas, é propenso a inovações à medida que a indústria muda. O design gráfico é sensível às mudanças digitais e seus formulários. As características de ambas as carreiras determinam a ponderação dos valores pelos alunos de cada um desses graus. O Estudo de Valores foi aplicado com uma escala para a medição dos interesses dominantes da personalidade (Allport, Vernon e Lindzey, 2001) para uma amostra de 201 alunos (77 de Design Industrial e 124 de Design Gráfico). As questões que orientaram este estudo foram duas: quais são os valores pessoais dos estudantes de Design Industrial e Design Gráfico com respeito à apreciação em relação ao seu grau nesta era da síndrome de Blade Runner? Que valores dominam os alunos durante a sua adaptação à profissão que estudam?

Uma das principais conclusões foi que os alunos de ambos os graus atendem a valores religiosos, sociais e políticos menos importantes, apoiando-se mais nos valores econômicos e estéticos. As perguntas foram respondidas da seguinte maneira: há congruência entre os valores que dominam os alunos de Design Industrial e Design Gráfico com seu perfil de treinamento, isso é favorável para os tempos atuais de trânsito para a síndrome de Blade Runner.

Introduction

The professional field of designers in the industrial and graphic field, with the fourth industrial revolution (RI), is transforming rapidly; demand designers prepared in processes, systems and organizations developed with new technologies and new materials. This historical moment for some is a transition towards the hybrid world of human nature / technological organisms (Velázquez, 2009, p.579). For others it means the beginning of the reign of robots (Braidotti, 2015, p.10) and for some more the end of the human (Yehya, 2017, p.1).

The nomenclatures vary in the prediction of the future, the certain thing is that at present the social relations between humans are unthinkable without the mediation of the technological devices. Equally, the professional world can not be thought without intelligent technologies. Today a lib-tech capitalism rules (Navajas, 2016, p.61), dominated by the second era of machines (Brynojolfsson and McAfee, 2016, p.123). The professional demand of designers shoots up; virtual designers, bio-tech designers, symbolic designers, among others, are quoted with high salaries. This technological-industrial dynamism contrasts with the heavy machinery of academic training. The institutions of higher

education that train designers change slowly, so there is a gap in professional training. The study plans, many of the times, correspond to the second and third industrial revolution, which little by little become obsolete. This motivates to question what are the personal values of the students of industrial design and graphic design regarding the appreciation towards their degree in this era of the Blade Runner syndrome and what values dominate the students when adapting to the profession they study.

To answer these questions, we chose among several instruments [1] that measure the Values Study values proposed by Allport, et al. (2001), because it is a study that combines two essential characteristics to answer the questions: it was designed for university students and is an instrument that measures interests and basic motives of the personality based on the ideal types of Spranger (1960; 1966), own for the professions. Relating the questions to the chosen instrument, the objective was to carry out a comparative study of personal valuation attitudes among students of industrial design and graphic design, with respect to their degree, from the ideal types of Spranger (theoretical, economic, aesthetic, social, political and religious) that are incorporated into the features of Allport.

The Values Study of Allport has been worked in different university areas of different countries. González (2014) carried out a comparative analysis of the values between administration and accounting students, with which he identified that the dominant value was the economic one, this may be explained by the nature of the degree. Prieto, Canales, Jiménez, Esparza, and Rodríguez (2015) studied the human values of physicians in professional training and concluded that the dominant interest in the personality of these students was the theoretical one and the one with the lowest score was the religious ; results probably influenced by the very nature of the medical profession, which is more rationalist than religious. Pedroza (2015) studied the dominant interests of the personality in architecture students and found that the prevailing valuation attitudes were theoretical, economic and aesthetic, and the least chosen were political, social and religious; it can be deduced that the dominant values are in tune with the professional training of the architect who are, in essence, form (aesthetics), content (theory) and financing (economic). García (2015) addressed the dominant values in students of the Degree in Management of the

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[1] Álvarez (2007) y Chávez (2011)

Urban Work (APOU). In this case the dominant value was the theoretical one for men and women, the politician for men and the social for women; There is a certain relationship between the results of the analysis and the profile of the degree.

In the studies cited, there is a constant: there is a relationship between the profile of the bachelor's degrees and the dominant personality values of the students. For example: those of accounting and administration are inclined by the economic value, those of medicine prefer the theoretical value, those of architecture, the aesthetic value is of their preference and those of administration of the urban work opt for the theoretical, political and social values. . If so, the assumption is made that industrial design students prefer economic value and students of graphic design aesthetic value, according to the profile of their degrees. It is considered that these types of preferences of personality values still correspond to the second and third industrial revolutions. If the result were consistent with the Fourth Industrial Revolution, the dominant values of the personality of the students of industrial design and graphic design would be both (the economic and the aesthetic), because it would mean that in their preference scales and in the context of their Professional training would have incorporated the inquiry and innovation of a practical education that meets the needs of the forms.

Method

Participants

For the study, students of different semesters of the Industrial Design and Graphic Design degrees of the Autonomous University of the State of Mexico were selected, in order to have a panoramic view of each one. The selection maintained the inclusion criteria because they considered students of both sexes.[2] The total number of students that were applied to the Allport Values Study were 201. The distribution by degree was as follows:

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[2] Un comentario que se recibió por parte de los estudiantes fue que el cuestionario debía abrirse a diversas opciones de identidad sexogenérica, porque no se reducía a hombres y mujeres, consideración que ya fue tomada en cuenta para otros instrumentos que se aplicarán en el futuro.

Industrial design: 77 in total, 41 (53.2%) women and 37 (46.8%) men. The average age of the participants was 20, ranging from 18 to 28 years.

Graphic design: 124 in total, 88 (71%) women and 36 (29%) men. The average age of the students was 21, ranging from 18 to 25 years.

Instrument

As already mentioned, the Values Study was used. A Scale for the Measurement of the Dominant Interests of the Personality of Allport. The first reprint (June 21, 2013) of the second edition in Spanish of 2001 was applied (corresponding to the third edition in English). It is a scale based on the ideal types[3] of men of Spranger, the authors of the scale value it in the following way:

> The Values Study aims to measure the relative importance of six interests or basic motives in the personality: theoretical, economic, aesthetic, social, political and religious. The classification is based directly on the work of Eduard Spranger called Types of Men, a brilliant work that defines the perspective that the personalities of men can be better known through a study of their values or Valuing attitudes. Since it is undesirable that those who take the test know too much in advance about this theoretical basis, any mention or discussion of these six values should be defined until the test has been taken. (Allport, *et al.*, 2001, p.1).

Each of the ideal types maintains a main interest: the theoretician, the discovery by the truth; the economic, the useful; the aesthetic, the form and the harmony; the social, the love for people; the politician, the power, and the religious, the unity to understand the cosmos as a whole. Table 1 shows more features of these ideal types:

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[3] Tipo ideal significa que un hombre determinado aparece en combinación con todos los valores, no quiere decir que pertenezca exclusivamente a uno u otro de los valores.

Table 1. Tipos ideales de Spranger.

Tipos ideales	Características
Teórico	Su principal interés es el **descubrimiento de la verdad**. -Actitud cognitiva. -Investiga identidades y diferencias. -Solo trata de **observar y razonar**. -Sus intereses son **empíricos, críticos y racionales**. -Frecuentemente es un intelectual **científico o filósofo**. -Su principal meta es **ordenar y sistematizar su conocimiento**.
Económico	Se principal interés es aquello que es **útil**. -Interés en la **satisfacción de necesidades** corporales (autopreservación). -Interés en asuntos prácticos de los **negocios** (**producción**, **comercialización** y **consumo de bienes**, **desarrollo de crédito** y **acumulación de riqueza tangible**). -Sujeto totalmente **práctico** y **negociante**.
Estético	Su principal valor es la **forma** y la **armonía**. **-**Cada experiencia individual se juzga desde la perspectiva de la **elegancia**, **simetría** o **buena forma**. **-**Considera a la vida como una procesión de acontecimientos. -Es estético si encuentra su principal interés en los **episodios artísticos de la vida**.
Social	Su principal valor es el **amor por las personas**. **-**Lo que se mide en el estudio de valores es el **aspecto altruista o filantrópico del amor**. -El hombre social estima a otras personas como fines, por tanto, es **amable, compasivo y generoso**.
Político	Su interés primordialmente es el **poder**. **-**Es **decidido** y **resuelto**, son **líderes**.
Religioso	El principal valor del hombre religioso es la **unidad.** -Es místico y busca **comprender el cosmos como un todo**. -Algunos hombres de este tipo son **"místicos inmanentes"**, es decir, encuentran su experiencia

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	religiosa en la **afirmación de la vida y la participación activa en ésta.**
	-"El **místico trascendental"** busca unirse con una realidad más elevada al **retraerse de la vida; es ascético** y **encuentra la experiencia de unidad a través de la negación de sí mismo y de la meditación.**

Fuente: Pedroza, R. (2016)[4]

The scale is divided into two parts as follows: "The test consists of several questions, based on a variety of family situations, for which two alternative answers are given in part I and four in part II. In total there are 120 responses, 20 of which refer to each of the six values "(Allport, et al., 2001, p.1).

Process

The scope of this work is limited by the type of research that was carried out. It is an exploratory research whose depth was to identify the dominant values of students of industrial design and graphic design in the second era of machines, where the trend is the intensive use of digital technologies. The decision to apply the Values Study was because it interested to know the values in the process of professional training, in this case of two degrees that can be considered as part of the professions of the future. An integral procedure for the exploratory study was designed:

- The applicants of the Values Study were trained to familiarize themselves with this and had the necessary knowledge to resolve doubts at the time of application.

- A mapping of the student population was made, selecting the sample by installments and taking care that students from different semesters participated. In addition, the recommendation of Allport, et al was taken into account: "The Valuation Study is applied mainly in people who have the desire to cooperate with the examiner, in order to know more about their interests and values. In situations where subjects are not motivated to get an honest picture of themselves, examiners must, of course, be cautious in interpreting the results or, better yet, not using the test "(Allport, et al., 2001 , p.19).

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[4] La tabla en el documento de referencia esta escrita en inglés, la traducción es propia.

- We proceeded to the concentration and processing of the data based on the technical recommendations of the Values Study.

For the interpretation of the data we worked with the tables provided by Allport, et al. One was to compute the answers (see table 2), another to illustrate the profiles of the values (see table 3), one more to interpret the data (see table 4). The three tables are presented:

Table 2. Hoja de puntuaciones del Estudio de Valores.

Totales en cada página	Teórico	Económico	Estético	Social	Político	Religioso	La suma de las tres puntuaciones para cada hilera debe ser igual a la cifra que se proporciona en esta columna
Parte I Página 2	(R)	(S)	(T)	(X)	(Y)	(Z)	24
Página 3	(Z)	(Y)	(X)	(T)	(S)	(R)	24
Página 4	(X)	(R)	(Z)	(S)	(T)	(Y)	21
Página 5	(S)	(X)	(Y)	(R)	(Z)	(T)	21
Parte II Página 8	(Y)	(T)	(S)	(Z)	(R)	(X)	60
Página 9	(T)	(Z)	(R)	(Y)	(X)	(S)	50
Página 10	(R)	(S)	(T)	(X)	(Y)	(Z)	40
Total							240
Cifras de corrección	+2*	-1	+4	-2*	+2	-5	
Total Final							240

Fuente: Allport, *et al.* (2001)

Each questionnaire was tabulated based on the previous table, then proceeded to establish the profiles of values based on the following table:

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Table 3. Perfil de valores.

Fuente: *Ibidem.*

Finally, for the interpretation, the criteria of the present table were applied:

Table 4. Valores para la interpretación.

VALORES	SEXO	ALTO SOBRESALIENTE	ALTO	BAJO	BAJO SOBRESALIENTE
Teórico	H	>54	54-49	39-34	<34
	M	>45	45-41	31-26	<26
Económico	H	>53	53-48	37-32	<32
	M	>48	48-43	33-28	<28
Estético	H	>47	47-41	29-24	<24
	M	>54	54-48	37-31	<31
Social	H	>47	47-42	32-28	<28
	M	>51	51-47	37-33	<33
Político	H	>52	52-47	38-34	<34
	M	>46	46-42	34-29	<29
Religioso	H	>51	51-44	32-26	<26
	M	>56	56-50	37-31	<31

Fuente: *Ibidem*

Results

In both bachelor's degrees, women predominate, especially in graphic design, as evidenced by graph 1:

Gráfica 1. Alumnos por género.
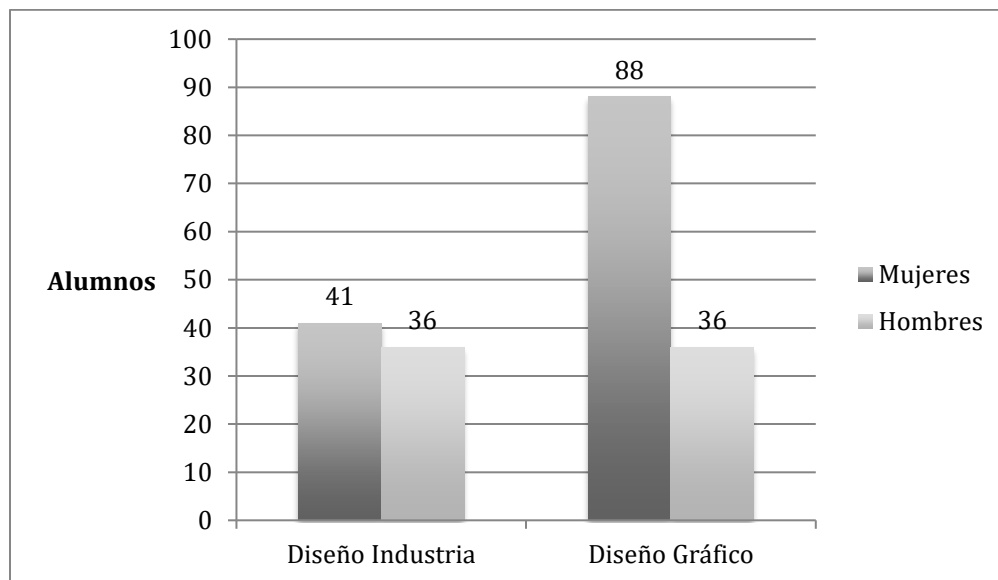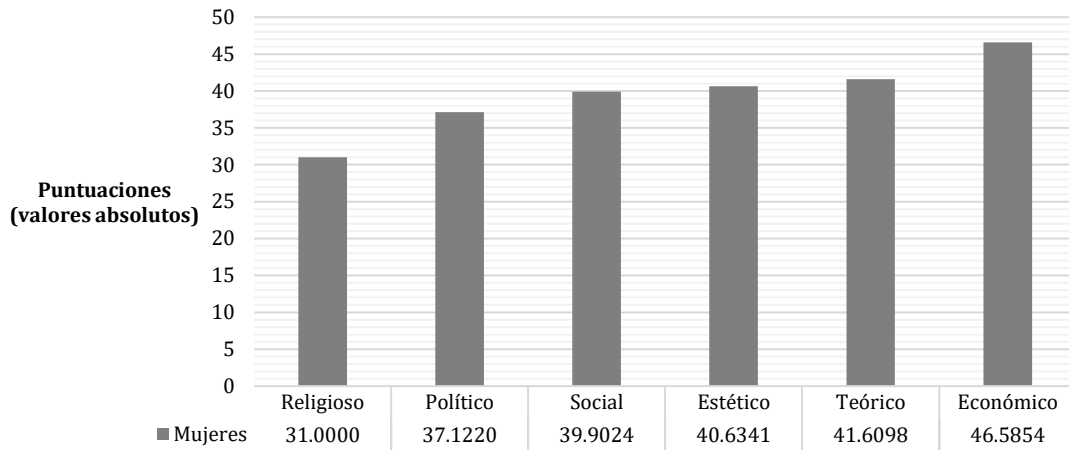

Fuente: elaboración propia.

The feminization of enrollment is explained by the trend in higher education. What is striking is that, before, the participation of men in the degree in industrial design was greater.

The results are presented in two parts: the first part describes the average value of the dominant values in men and women; in the second part the scores by class, basing the interpretation in table 3 (described above).
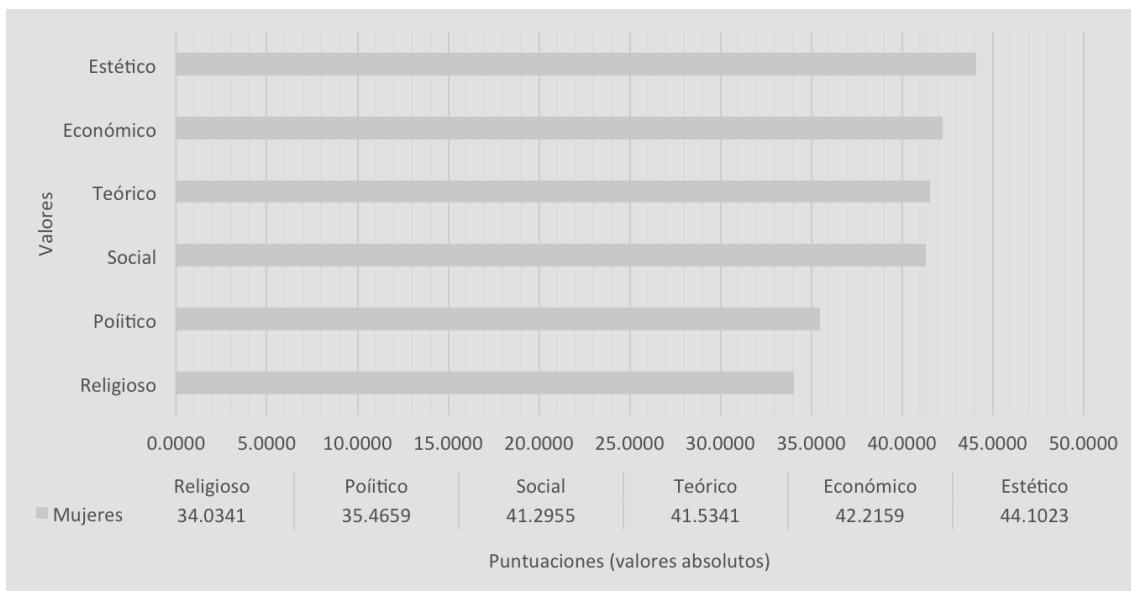
Interpretation based on average values

In the average value it was found that there is no coincidence of the dominant value in women. The above can be seen in the two following graphs 2 and 3, which record the results of the two degrees:

Gráfica 2. Diseño industrial: mujeres.

	Religioso	Político	Social	Estético	Teórico	Económico
■ Mujeres	31.0000	37.1220	39.9024	40.6341	41.6098	46.5854

Fuente: elaboración propia.

Gráfica 3. Diseño gráfico: mujeres.

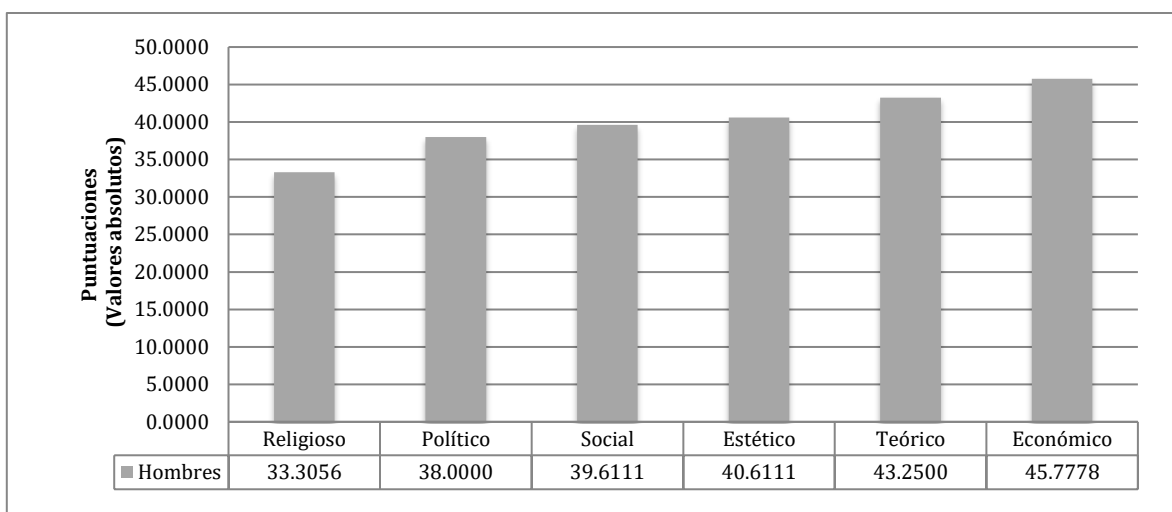|	Religioso	Poíitico	Social	Teórico	Económico	Estético
■ Mujeres	34.0341	35.4659	41.2955	41.5341	42.2159	44.1023

Puntuaciones (valores absolutos)

Fuente: elaboración propia.

Women of industrial design are inclined to economic value, so useful. His interest is the utilitarian objects, very linked to the graduation profile of the degree, which is to train in object design skills, practical objects that satisfy the consumer's need. Another detail is that the women of this degree are trained to intervene in the production, marketing and consumption of goods; they are practical women.

Graphic design women are inclined towards aesthetic value. They are interested in form and harmony, which are related to elegance and symmetry. This goes hand in hand with the graduation profile of his degree, which forms for creativity and art (without becoming artists). Graphic designers are interested in beauty and aesthetic value, women industrial designers are interested in well-being and economic value.

The coincidence between the women of both degrees is that they have no dominant interest in religion or politics; they are values with very low scores in their assessment. This means distancing from the transcendental mysticism and power. In the case of men, we did not find significant contrasts between the women of both degrees, as the following graphs 4 and 5 show:

Gráfica 4. Diseño industrial: hombres.

	Religioso	Político	Social	Estético	Teórico	Económico
■ Hombres	33.3056	38.0000	39.6111	40.6111	43.2500	45.7778

Fuente: elaboración propia.

Gráfica 5. Diseño gráfico: hombres.

	Religioso	Poítico	Social	Teórico	Estético	Económico
Hombres	30.1944	37.1389	38.8611	42.5833	42.9444	45.6389

Puntuaciones (valores absolutos)
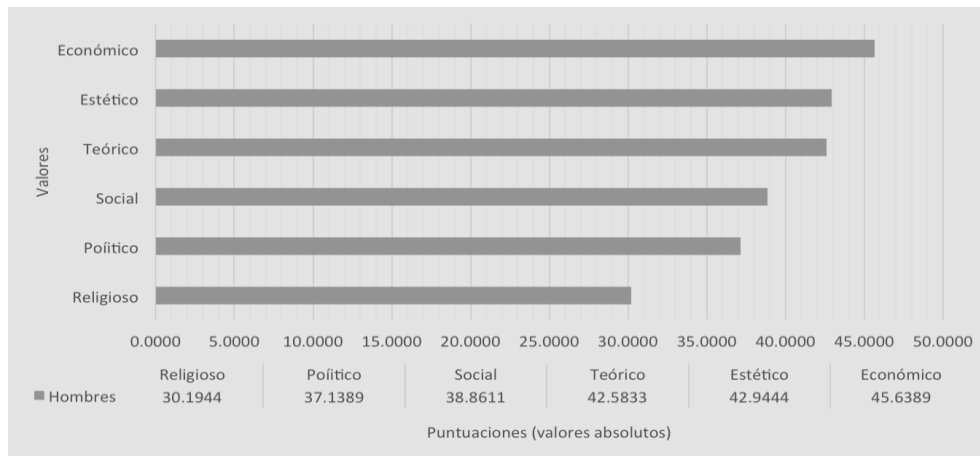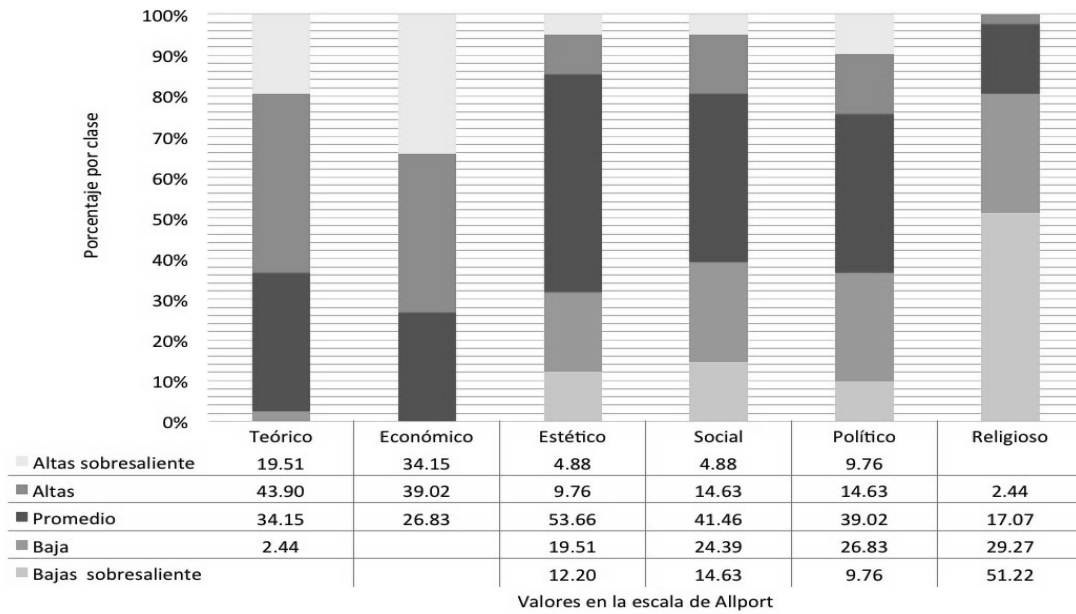
Fuente: elaboración propia.

In both bachelor's degrees men are inclined towards economic value. As Allport, et al. Point out, the people in whom the economic dominates consider that the not applied knowledge is a waste. In this case, the opinion of the students coincides. They are interested in the aesthetic as long as it has an economic benefit, and tend to value beauty as luxury. We can cite the words of Allport, et al., For economic value: "In some cases, it can be said that the economic man has religion as worship for money. However, in others, he may venerate the traditional God, but he is inclined to consider it as a giver of gifts, wealth, prosperity and other tangible blessings "(2001, p.2).

Interpretation based on the scores by class

The interpretation at this point focuses on the contrast between high and low outstanding scores. First, in graphs 6 and 7, we register what happens in the women of the two undergraduate studies:
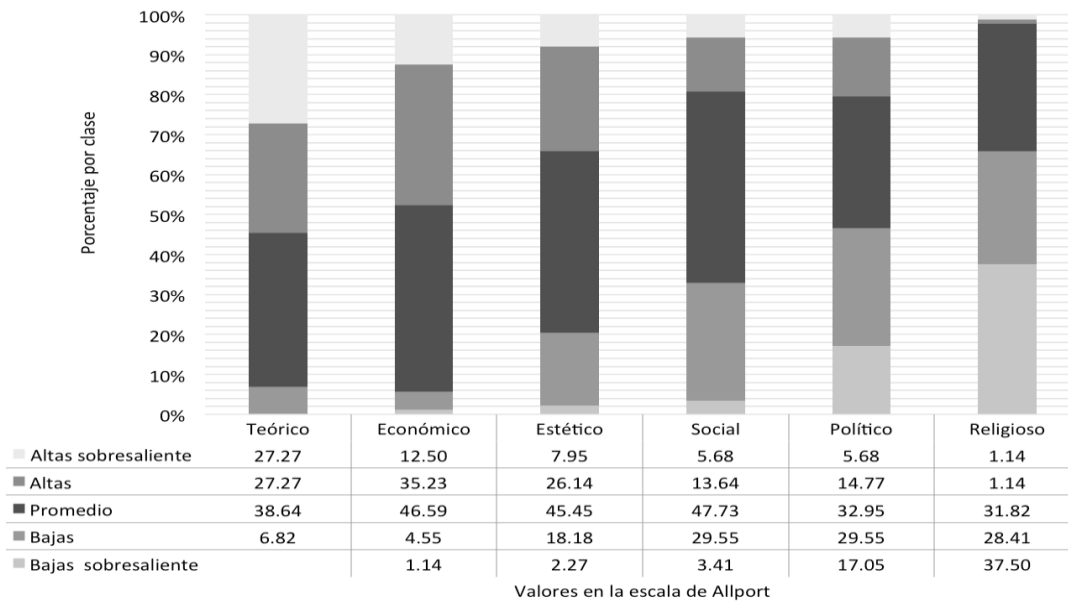
Gráfica 6. Diseño industrial: puntuaciones por clase (mujeres).

	Teórico	Económico	Estético	Social	Político	Religioso
Altas sobresaliente	19.51	34.15	4.88	4.88	9.76	
Altas	43.90	39.02	9.76	14.63	14.63	2.44
Promedio	34.15	26.83	53.66	41.46	39.02	17.07
Baja	2.44		19.51	24.39	26.83	29.27
Bajas sobresaliente			12.20	14.63	9.76	51.22

Valores en la escala de Allport

Fuente: elaboración propia

Gráfica 7. Diseño gráfico: puntuaciones por clase (mujeres).

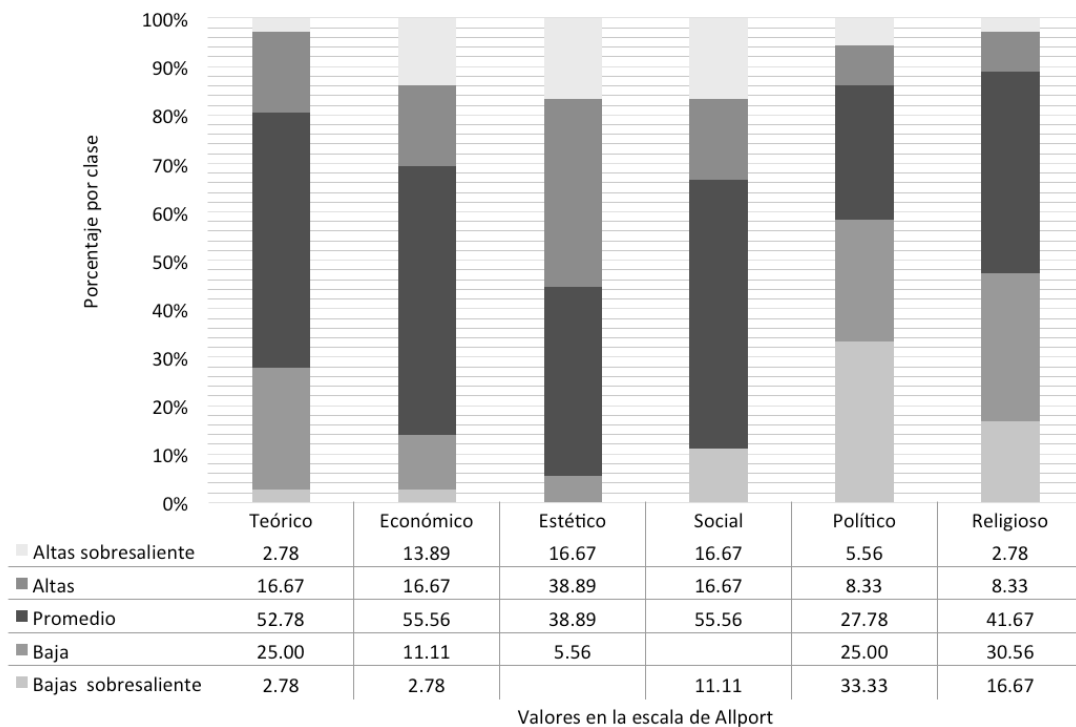|	Teórico	Económico	Estético	Social	Político	Religioso
Altas sobresaliente	27.27	12.50	7.95	5.68	5.68	1.14
Altas	27.27	35.23	26.14	13.64	14.77	1.14
Promedio	38.64	46.59	45.45	47.73	32.95	31.82
Bajas	6.82	4.55	18.18	29.55	29.55	28.41
Bajas sobresaliente		1.14	2.27	3.41	17.05	37.50

Valores en la escala de Allport

Fuente: elaboración propia.

There are differences between the average value and the scores per class in industrial design women, because in the high score the theoretical value stands out instead of the economic value, which was the dominant in the average score. In women of graphic design the aesthetic value is maintained in both scores.
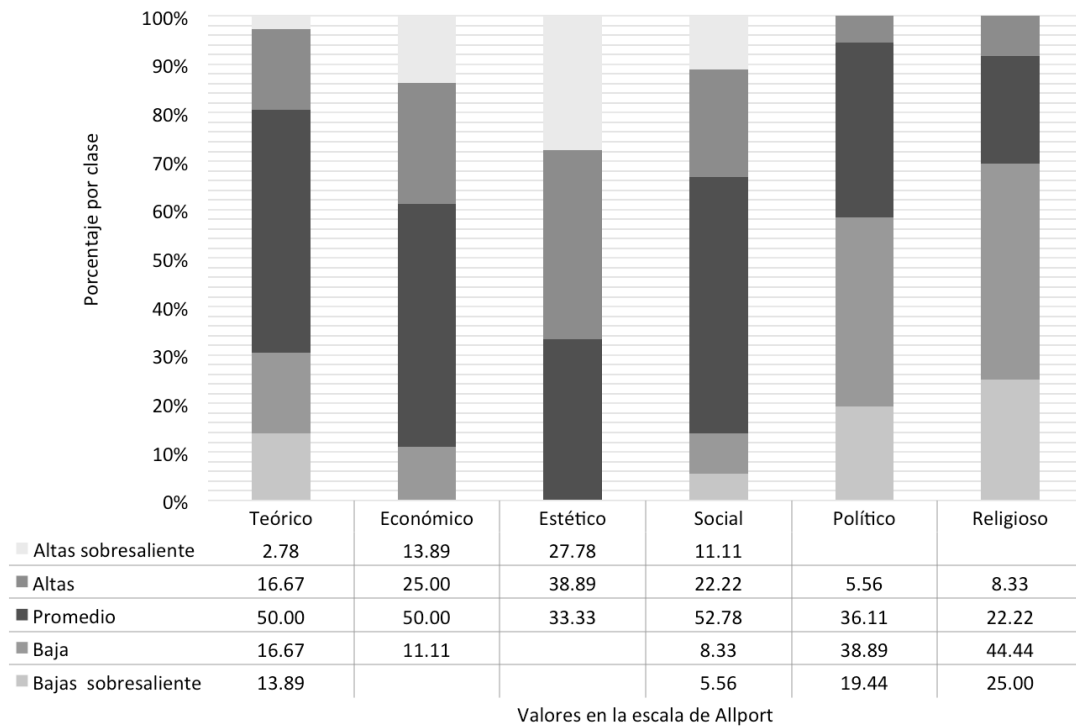
In the case of men, there are some changes between the average score and the outstanding high score, as shown in figures 8 and 9 below:

Gráfica 8. Diseño industrial: puntuación por clase (hombres).

	Teórico	Económico	Estético	Social	Político	Religioso
Altas sobresaliente	2.78	13.89	16.67	16.67	5.56	2.78
Altas	16.67	16.67	38.89	16.67	8.33	8.33
Promedio	52.78	55.56	38.89	55.56	27.78	41.67
Baja	25.00	11.11	5.56		25.00	30.56
Bajas sobresaliente	2.78	2.78		11.11	33.33	16.67

Valores en la escala de Allport

Fuente: elaboración propia.

Gráfica 9. Diseño gráfico: puntuación por clase (hombres).

	Teórico	Económico	Estético	Social	Político	Religioso
Altas sobresaliente	2.78	13.89	27.78	11.11		
Altas	16.67	25.00	38.89	22.22	5.56	8.33
Promedio	50.00	50.00	33.33	52.78	36.11	22.22
Baja	16.67	11.11		8.33	38.89	44.44
Bajas sobresaliente	13.89			5.56	19.44	25.00

Valores en la escala de Allport

Fuente: Elaboración propia

There is a change between the average score with the outstanding high score in industrial design men. The first was the economic and now the aesthetic. There was also change in men's graphic design. Now the highest score value was the aesthetic one. If we consider both scores, the average and the high outstanding, the economic and aesthetic values are the predominant ones. These values are associated with the profile of the designer's profession: useful and artistic knowledge.

Discussion and Conclusions

The knowledge on which the two degrees are based is practical, useful and artistic knowledge. These types of knowledge are combined in the object, systems and processes design. For this reason, the professional training of the designer contributes to the Fourth Industrial Revolution (4RI). That is, you love degrees are necessary in the current technological changes. This leads to a conclusion based on the results obtained, that the students of the industrial design and graphic design degrees share the same dominant values of the personality that are reflected in their interests for the aesthetic, the practical and the economic. It is necessary to eliminate the blurred borders of these two degrees and only have a Bachelor of Design.

The Bachelor in Design would focus on a profile that today is positioned within the professions of the future, because its field of performance is directly linked to new technologies and new materials. The production in the Fourth Industrial Revolution covers a wide range of possibilities in the design and construction of various artifacts, together with additives that improve human capabilities: humanoids, robots, biorobots, cyborgs, androids, and so on. The tasks of the designer for the manufacture of these organisms, systems and processes are based on two essential axes: practical and artistic.

The fact that the dominant values of industrial design and graphic design are economic and aesthetic is considered a guarantee for the changes that must be made in the professional training of the designer. These values should be encouraged because they are associated with the usefulness, form and harmony of the designer's work in the design and production of technologies that respond to consumer needs.

The questions of this study are answered with the mentioned findings:

- Gender is not decisive in the appreciation of the values of professional training by students; No differences were found between men and women.
- The dominant values of men and women in the age of intelligent machines are complementary and form part of the performance profile and the discharge profile.
- The unit of the industrial design and graphic design degrees is possible because the same values are shared in both degrees.

- There is an innate correspondence between the profiles of the design professions studied and the global trend of the Fourth Industrial Revolution.
- The economic and aesthetic values, by which the students of industrial design and graphic design are inclined, will remain in the future because they are essential to the professional performance of the designer.
- The designer is the professional of the future.

A problem that has to be solved from the dominant values in the students of the two bachelor's degrees is that the practical is really linked to the artistic from the functionality of the objects, processes and systems, since it is currently a problem that the functionality of the objects in the design is determined by the economic part. This problem in everyday life is that there are artistic designs of objects, processes and systems, because the marketing of the attractive is promoted, but in use they are short-lived objects, or they end up being decorative objects. For this reason, in the Fourth Industrial Revolution, in the case of robots, humanoids and cyborgs, it is necessary to attend to functionality, operability and service, because we are talking about a new type of industrial needs.

The values of the designer, the aesthetic and the practical, are part of their identity, they have been present in the first, second and third industrial revolutions. Now, in the thresholds of the Fourth Industrial Revolution its permanence is observed, this is another conclusion that is derived from the results found. It can be said that there is an identity of the design profession that resides in its social sense of applicability and socialization of an exprofeso knowledge for the creation of new technological artifacts and new designs of processes and systems.

A fundamental challenge of the student of design, which is not new, but it is necessary to redouble efforts for its solution, is the conjunction of new materials with new technologies. Advances have been made at the laboratory level, the challenge is to bring them to reality. An example is the exhibition and use of robots, which are usually used in areas of the laboratory, exhibition and automated activities. However, outside of these scenarios, it still fails; It takes more than 20 years of research the design of a robot that responds to social and natural conditions in movements, tasks and actions, and is not yet fully resolved. It is not yet possible to reproduce human movements, such as walking, or

simple activities that can be executed. Therefore, another conclusion is that the designer has to design the hard and soft technology that solves the slopes, which represents the opportunity to take to another level the practical value of their profession, while endowing it with identity.

With regard to the artistic, it has to be thought, as Allport points out in its Values Study, based on the practical, not the other way around. That is to say that the aesthetic must be understood by functionality, not by beauty in the abstract. This means a qualitative leap in the identity of the designer in the Fourth Industrial Revolution. This is one more conclusion, because the idea of beauty in the performance of the designer has to be part of the practical knowledge in the realization of the functionality of objects, processes and systems. Finally, it is insisted that design is a profession of the future because it articulates the practical with the aesthetic in the innovation of new technical, technological and service artifacts.

Bibliography

Allport, G., Vernon, P., y Lindzey, G. (2001). *Estudio de* Valores. Ciudad de México: El manual Moderno.

Ávarez, J. (2007). Test axiológico. Un instrumento para detectar valores. En *Revista Portuguesa de Pedagogía*, 41 (1), 157-177.

Braidotti, R. (2015). *Lo posthumano*. Barcelona: Gedisa.

Brynjolfsson, E. y McAffe, A. (2016). *La segunda era de las máquinas. Trabajo, progreso y prosperidad en una época de brillantes tecnologías.* Buenos Aires: Temas Grupo Editorial.

Chávez, P. (2011). Perfil de los valores en estudiantes de licenciatura de la Universidad de los Llanos. En *Aletheia. Revista Electrónica de desarrollo Humano, Educativo y Social Contemporáneo*, *3*(2), 46-69.

García, I. (2015). *Valores dominantes de la personalidad. Los estudiantes de la Facultad de Arquitectura y Diseño de la Universidad Autónoma del Estado de México*. (Tesis Doctoral para obtener el Grado en Educación, no publicada). UAEM. México.

González, E. (2014). Análisis comparativo de desarrollo de valores en estudiantes de administración y contabilidad pertenecientes a nivel académico de licenciatura y maestría. En M. Ramos (eds.), *Educación*, 130-139. México: Handbook/ECORFAN.

Navajas, S. (2016). *El hombre tecnológico y el síndrome Blade Runner. En la era del biorobot.* Madrid: Editorial Berenice.

Pedroza, R. (2015). Intereses de la personalidad en estudiantes de arquitectura (Consideraciones para la práctica). En *Revista Iberiamericana para la Investigación y el Desarrollo Educativo*, *5*(10), 457-471.

_____ (2016). Personality Dominant Values in Graphic Desing Students in Their Educational Practice. En *Higher Education Studies*, *6*(5), 101-109.

Prieto, S., Canales, M., Jiménez, C., Esparza, R., y Rodríguez, L. (2015). Perfil de valores humanos de médicos en formación profesional. En *Revista en Investigación Médica*, *4*(16), 216-222.

Spranger, E. (1960). *Educador nato*. Buenos Aires: Kapeluz.

_____ (1966). *Formas de vida*. Madrid: Editorial Castillo.

Velázquez, H. (2009). Thanshumanismo, libertad e identidad humana. En *Thémata Revista de Filosofía*, (4), 577-590. Recuperado de http://institucional.us.es/revistas/themata/41/36velazquez.pdf

Yehya, N. (2017). El fin de lo humano. Apocalipsis tecnológicos y gozosos. En *Revista de la Universidad de México*. Recuperado de https://www.revistadelauniversidad.mx/articles/b8dc852c-8aeb-47c1-bfee-af98a9ae8d3d/el-fin-de-lo-humano.