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Journal of Teaching and Educational Research

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The works must be unpublished and refer to topics of methodology, sociology of education, language and culture, history of education, adult education, language science, compared education, special education and other topics related to Humanities and Behavioral Sciences

Presentation of the content

In the first article we present *The human development of the student and the pedagogical discourse in the (upper) secondary education level*, by MUÑOZ-LÓPEZ, Temístocles, RAMOS-JAUBERT, Rocío Isabel, ESPERICUETA-MEDINA, Marta Nieves and LUJÁN-PEÑA, Silvia, with adscription in the Universidad Autónoma de Coahuila, in the next article we present *A look at the didactic triad in music from general didactics*, by JUAN-CARVAJAL, Dargen Tania, RODRÍGUEZ-JUAN, Arién, MORALES, Federico and BARAJAS, Jorge Antonio, with adscription in the Universidad de las Artes and Universidad Autónoma de Zacatecas; in the next article we present *Amazement as a necessary element for a comprehensive formation*, by NIEVES-CHÁVEZ, Mayra Araceli & ORTEGA-MARTÍNEZ, María Cristina, with adscription in the Universidad Autónom de Querétaro, in the next article we present, *Validation of a survey to contrast online education during the COVID-19 pandemic and face-to-face pre-pandemic education*, by ORTIZ-SÁNCHEZ, Pedro Alfonso Guadal, SÁNCHEZ-ITURBE, Patricia Gpe. and ORTIZ-Y-OJEDA, Pedro T., with adscription in the Instituto Tecnológico de Mérida and Instituto Tecnológico de Tuxtla Gutiérrez.

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The human development of the student and the pedagogical discourse in the (upper) secondary education level

El desarrollo humano del estudiante y el discurso pedagógico en el nivel medio Superior

MUÑOZ-LÓPEZ, Temístocles†*, RAMOS-JAUBERT, Rocío Isabel, ESPERICUETA-MEDINA, Marta Nieves and LUJÁN-PEÑA, Silvia

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Abstract

A diagnostic study was carried out with the aim of find the relationship between the topic of human development as a fundamental theme in education, and the pedagogical discourse of the teacher in the system of Colegio de Bachilleres of the state of Zacatecas (Upper secondary school). The Methodology consisted of creating an instrument with 150 variables, answered by a calculated sample of 224 teachers from different schools of system. The variables were treated and selected by Factor Analysis, with which they obtained 34 that characterize the dominant teaching practice. The results were reorganized looking for the what, how and for what of human development-oriented education, organized in the underlying pedagogical discourse obtained on Student-Centered Education. The main contribution of this study is that it provides empirical evidence on this type of education that by its actuality tends to be dominant and, shows its main attributes in the What, its methodological norms in the How and its Ends in the For What.

Human development, Centered in student education, Pedagogical discourse

Resumen

Se realizó un estudio diagnóstico con el Objetivo de analizar la relación entre el tópico de gran actualidad del Desarrollo humano como un tema fundamental en educación, y el Discurso pedagógico del docente del sistema de Colegios de Bachilleres del estado de Zacatecas. La Metodología consistió en crear un instrumento con 150 variables, contestado por una muestra calculada de 224 docentes de diferentes planteles. Las variables fueron tratadas y seleccionadas por Análisis factorial, con lo que obtuvieron 34 que caracterizan la práctica docente dominante. Los resultados se reorganizaron buscando el que, el cómo y el para qué de la educación orientada al desarrollo humano, organizada en el discurso pedagógico subyacente obtenido sobre la Educación Centrada en el Estudiante. La contribución principal de este estudio es que aporta evidencia empírica sobre este tipo de educación que por su actualidad tiende a ser dominante y, muestra sus atributos principales en el Qué, sus normas metodológicas en el Cómo y sus Fines en el Para Qué

Desarrollo humano, Educación centrada en el estudiante, Discurso pedagógico

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Introduction

Development is a process of qualitative transformation of natural potentialities, in relation to the conditions of the environment where this change occurs, thus, Human Development refers to the deployment of the innate dispositions of each person, both biological, social and psychological. The Dictionary of Etymologies of Chili (De Chile. & Net, 2021), indicates that the word development is composed with the prefix *des-* (inversion of an action) and *arrollo*, of wrapping or winding, so the term is a derivation of unwinding. Thus, development would be defined as the consequence of de-wrapping, discovering, removing the envelope. The word Development comes from unfolding what is in roll; which comes from the Latin *rutulus* (small wheel), and from the Latin broken (wheel); the formation would be *dis-rolar* (extend what was rolled over).

In Abbagnano's Dictionary of Philosophy, we find that the concept Development is referred to as the movement towards the better, even though this notion has its precedent in the Aristotelian concept of movement and its closest synonym is evolution. Hegel categorizes it by explaining it with historical, progressive, and philosophical nuances, where development presupposes what it is, that is, the end towards which it moves and the beginning or cause of itself (Abbagnano 1963, p. 306).

The philosophical conception of Abbagnano refers that to define the concept of man (gr. *άνθρωπος*), definitions are usually taken that use the confrontation between man and God, his self-conception of his Being as a God and an animal endowed with reasoning, a being with intuition, and an intelligence endowed or served by organs, (Abbagnano 1963, p. 622).

Already in the time of Cicero of Varro the word *humanitas* meant the education of man as such, what the Greeks called *paideia*, and were recognized in the "fine arts" the disciplines that form man by being proper to the same man, (Abbagnano 1963, p. 630).

It would be considered then, that human development according to these two definitions is a) the movement towards the best of a being endowed with intuition and intelligence b) that make up his capacities and abilities to self-integrate, self-conceptualize and self-direct to a continuous improvement.

In relation to the concept of human development, man is never something, but is always transforming into something, until he reaches fullness with the flowering of all his capacities. Thus, education and human development are intimately linked, as they are virtualized to each other by considering the potentialization of all human capacities; it is an idea acrisolated by Aristotle, who considered that fullness was reached with the flowering of human capacities and, associated consciousness and its processes, to the part or function of the soul associated with rationality; to the point of questioning one's existence. And he goes on to explain, in the case of Human Development that (S. Boisier, 2003, which refers to J. Stiglitz, 2000: 101 and E. Sommer, 1996) man is seen, along with its associated phenomena, simultaneously as a multidimensional, multi-tapic, and multi-level being, as a recent product of evolution that, due to its phylogenetic tendency to the development of the central nervous system, it culminates until today in the development of abstract thinking and on a higher level in metacognition.

Human Development is understood, in a broad sense, as the concern for the study of the conditions that favor human progress and well-being throughout its history. Its object of study acquires relevance from the mid-twentieth century, more specifically in the field of Economics. (Aznar Mínguet & Barrón Ruiz 2017, p. 27).

As Rosales mentions in his proposal for measuring human development UNDP (1990), the concept is defined as a process by which people's opportunities are expanded; these opportunities are diverse and can change over time, but the most essential for any level of development are a long and healthy life, access to education and the resources to enjoy a decent standard of living; other opportunities that individuals value are political, economic and social freedoms, respect for human rights, the possibility of being creative and productive, self-respect, among others. (Rosales 2017, p. 66).

The evolution of the term Human Development has been considered as an ethical proposal, focusing in a transversal way on the multiple dimensions of it and advocating cooperation and interdisciplinary and intercultural dialogue. (AZNAR Mínguet Pilar and Barrón Ruíz 2017, p. 25).

The very concept of human development is oriented towards sustainability because it integrates education; and it is significant to us because human development refers to civic, academic, professional and labor training oriented to collective well-being (quality of life) as is the case of organizations and institutions dedicated to the production and transfer of knowledge (García-Lirios 2019, p. 28).

They assure that the current way in which human development is perceived must have limits in the comfort of a high demand for resources and subjective well-being; and that it cannot ignore the needs of future species (Carreón et al., 2017), (García-Lirios 2019, p. 30). In this sense, the most advanced citizens develop self-government, self-security focused on self-defense, self-management focused on austerity and self-administration supported by the trial of successes and mistakes. It is a process in which an emotional system of information processing prevails over a system of rationality (Sandoval et al., 2017).

According to the biological sense lately there are tendencies to appreciate human evolution at levels integrated and articulated with emerging visions that make mention of innovative constructs such as *integrons*, humanistic psychology, *evo-devo*, (from the evolutionary biology of development), which supposes a change in the perception of the evolutionary process.

For the concept seen from the stages of cognitive development considered as the bases of evolutionary psychology, which are the prenatal stage, the first steps, early childhood, intermediate childhood, adolescence, early adulthood, intermediate adulthood, late adulthood. And within the axes of human development, it lists four perspectives the nature and evolution of matter; individual ontogeny, dimensions and dispositions as personal assets to human development.

Doing is more important biologically, more fundamental and ancient than reflecting on what we do; idea that is based on the psychic and intellectual development of man in the sensorimotor, preoperative phases, concrete operations and formal operations, recognizing according to humanist psychology the need for civic harmony and coexistence.

The scientific contribution of Konrad Lorenz, founder of Ethology and Nobel Prize in Medicine, which ensures that the brain has evolved and that it has three components that were emerging and overlapping one on top of the other, which has been given the name of triune brain. The archipálio, paleopálio, neopálio, three biological computers each with "their own peculiar forms of intelligence, subjectivity, sense of time and space, memory, motor skills and other functions and that paradoxically, these three "layers" develop, in turn one on the other in the fetus, during embryonic development (ontogeny). (Rodríguez 2019 p. 103)

The development of the neo-cortex then, facilitated the man, his adaptation to the physical and social environment as a product of a more complex brain, which is educated from a multidisciplinary perspective; In short, then, emotional barriers, feelings and learning are inseparable. Fostering a pleasant, harmonious and emotionally warm psycho-affective climate that fosters an effective teacher-student interaction, and student-students will contribute to a better teaching-learning process.

This is precisely the theme of the study, to analyze the relationship between Emotions, Human Development and the Pedagogical Discourse of the Teacher from multiple perspectives.

In the social sense, the concept of human development that Morales gives us testifies that the problems facing the world today, referring to the Covid-19 pandemic, have questioned the most recent advances of all kinds (scientific, technological and sociocultural), and that human development has appeared as an undeniable possibility to accommodate meanings such as quality of life, integral well-being, among others, that have been diluted in the face of the multidimensional cracks of Covid-19. (Morales 2020, p. 1).

It ensures that for human development these are times of adjustments, of replacing thought patterns and of replacing new practices based on innovation; experiment with various alternatives and ways to teach, learn, and solve problems (Op. Cit., p. 8). In times of chaos and social breakdown, psychological education adheres as an ally of academic training, which makes it possible to intelligently address the challenges imposed on us, and to cope with the management of coping skills, reflective processes, the disposition of dialogic reason, creativity and critical awareness (Op. Cit., p.9).

From another point of view, sustainable human development for the improvement of the quality of life, socially speaking, propose that selfish interests give way to those of general well-being, to confirm that both cognitive, behavioral and emotional well-being capacities must be immersed in the concept of quality of life (Muñoz López, 2019,p. 19 et seed).

Psychologically, the manifestation of changes in adolescence remains a watershed in the human development of any person, both physical and psychological; the integral health of adolescents must be of interest to all of us in the State, the educational and social community, the family and the adolescent himself. Between confusion and consolidation of his personality. One of the irreplaceable challenges in the training of professionals is the multidimensional psychological well-being, meanwhile, Carol Ryff and Corey Lee Keyes cited in Sandoval; they define psychological well-being as a subjective perception, a state or feeling. In addition, the psychological well-being model proposes a structure of 6 factors or dimensions of well-being, self-acceptance, positive relationships, mastery of the environment, autonomy, purpose in life and personal growth; and this requires a pedagogical exercise away from the replication of traditional formats. (Sandoval Barrientos et al. 2017, p. 261).

As for the social aspect of human development, Sarmiento and Yáñez share with us that the different contexts favor focusing development towards the differentiation of contexts with the wisdom that this implies, which will allow us to establish educational purposes in a clearer way. (Sarmiento-López & Yáñez-Canal 2019, p. 175 and 176).

Given the above, the driving force of Human Development can be provided "from the outside" by education, which today is the privileged field of teachers. Thus, the scientific theory and practice of education is pedagogy, also known as reflective teaching practice.

The Pedagogical concept is understood by its origin from gr. παιδαγωγικός paidagōgikós or gr. παιδαγωγία paidagōgía that uses a preferential speech as a set of words with logical and grammatical coherence with those expressed from ancient Greece in the formation of the child to make man a free being, that is, teach virtue.

The key proposals on the current duty of an educator are framed in the cognitive and emotional development, learning, teaching and how it must be their professional development so that they have the skills to respond correctly to the pedagogical demands of their intervention contexts. (Jacobo García 2019, p. 17). From the pedagogical speech, Katarina Tomaszewski, United Nations rapporteur for Education, warns that "The control of vocabulary is a weapon, it is not a matter of style." The same can be observed in the classroom, when trying to judge the condition of students in restricted material situations, rather than their potential. (Gonzales et al., 2017, p. 153). Thus, cultural transmission is a pedagogical matter; because similar activities are carried out in their practice, which make up the substance of identity, to explore culture is to explore pedagogy, because through these practices and their intrinsic forms and languages, models of life are transmitted, one learns to act as a member of a social group, adopts ways of thinking competences, beliefs, behaviors, ways and values, which constitute the substrate of identity. (Díaz Villa 2018, p. 21).

The research, the study, the analysis of the pedagogical discourse in favor of an exact and precise description of the sociocultural baggage that surrounds the pedagogical discourse. In the first place, the author assures that the pedagogical discourse was approached from its ideological function, and thus guided the later linguistic studies, focused on the links between teaching and ideology. (Tosi 2017, p. 5).

The other contributions in this regard of pedagogical discourse zigzagged between the ideas that the school is a reproducer of the dominant ideology, the pedagogical discourse a ritualization of speech, a seat of cultural reproduction, a base of guidelines, the distribution and regulation of knowledge in society, the recontextualization of other discourses, is an ideological charge of certain expressions, are certain discursive constructs, is authoritarian, a legitimate school knowledge and an apparent neutrality non-existent; also a principle of reorganization of other knowledge, a specific discursiveness in school texts from the perspective of systemic and critical linguistics. (Tosi 2017, p. 5 1 2s.) .

When speaking in public there is an emotional physical manifestation of the connections between mind and body that will take years of research (Mujica Johnson 2018, p. 402). In this sense, and according to these contributions, we can infer that the requirements of learning and therefore of school language, derived from the pedagogical discourse, is especially characteristic for each period of the biological – cognitive – psychic development of the student; having acquired the competence helps to achieve the goals that will be presented during the next life cycle. Knowledge is related to cognitive development, it is the process by which we learn to use memory, language, perception, problem solving and planning, the human being learns through experience.

Regarding the pedagogical discourse we speak, sometimes, of an authoritarian communication between teacher and students, since the information transmitted by the teacher adopts the scientific form, a fact that legitimizes his condition as an announcer and relegates the student to the position of interlocutor. This irreversibility is based on the control of the polysemy of the curricular contents, which avoids surprises, doubts or unassisted questions. Knowledge is presented, in this way, as a complete and validated product. (Dvoskin 2021, p. 32). Pedagogical discourse depends on certain characteristic pedagogical methods that regulate this type of model are constant evaluation, indication, control of reading, and cathedric classes (Giroux, 1997/2003) cited in (Dvoskin 2021, p. 31).

According to the authors of human development, the discourse in education should be more directed to the reflection on the biodiversity of situations that are generating the scarcity of resources; one should speak of macro market isolated from the social contract, asocial, or without social contract, they affirm; biology speaks of development as the deployment of their potential capabilities, they coincide, for which it is necessary to provide favorable conditions, they reoffend; it is not possible to conceive of a development model that is based exclusively on material accumulation and economic growth, at the expense of the wealth and sustainability of the environment and nature, and that does not take into account the free exercise of human capacities and potentialities, they assert. (Fuertes Grábalos et al. 2018, p. 93).

On the other hand, Vygotsky's contribution of the nearby development zone and the term scaffolding, recognize language as the instrument in which words begin to be emotional; they then go on to distinguish concrete objects, and finally take their abstract meaning, which according to the theory of linguistic codes are linked to the stages of human development (L. Sesento 2017, p. 2.).

With regard to cognitivism, it is explained that the child in the process of language acquisition requires the interaction of cognitive bases such as heredity, maturation, experience and above all social interaction. (Rubén Congo Maldonado & Santiesteban 2018, p. 155 ers.) . therefore the pedagogical discourse, refunctionalizes, recontextualizes, or redefines reason, fact, truth, consciousness, language and is what allows the experience of the subject to be rewritten and inscribed in practices, which by becoming dominant legitimize and distribute identities, positions and belongings, and maintain their solid or weak differences; the pedagogical discourse has its own limits and forms in closure and openness; and it is there that its constituent power is reproduced or transformed, which defines fields, approaches, perspectives or disciplines, and it is in this sense that it establishes limits in accordance with voices and interests that potentiate it; which generates the variation or social change that characterize it in such a way that any content is susceptible to pedagogization, Says. (Díaz Villa 2018, p. 21).

Considering the above we wonder about the relationship between 3 axes of analysis, the topic of great topicality of Emotions, a fundamental topic in education that is the Human Development and the pedagogical Discourse of the teacher in this system.

Methodology

The study was carried out in the system of High Schools of the state of Zacatecas with a sample of 221 teachers (Isaac and William, 1996) selected at random to support by the State General Directorate of schools.

We took 3 axes of analysis on the topic of great topicality of Emotions, a fundamental topic in education that is Human development and the pedagogical discourse of the teacher in this system.

151 variables were obtained according to the scientific articles of the references, to teachers and managers, with which a questionnaire applied online was constructed, and which were subject to review with descriptive statistics and selection through Factor Analysis, after which they were plotted for reading.

The variables were selected considering that the main applications of factor analysis techniques are: (1) to reduce the number of variables and (2) to detect the structure of the relationships between the variables, that is, to classify the variables. Thus, factor analysis is applied in this case as a method of detection of data reduction or exploratory structure (Statistica 7.0). Electronic Manual, 2016). According to this, the number of variables was reduced by considering only those of factor 1 that concentrates the greatest variability because it constitutes the dominant practice in teachers.

The CENEVAL guidelines (Zamora Muñoz et al., 2010) served to determine the significant factorial load, depending on the sample size, using statistical power studies (based on Hair et al., 1999) indicate that the factorial load at a significance level of 0.05, a power of 80% and the standard errors supposedly twice as large as the conventional correlation coefficients, result in 0.35 and 0.40 for samples of 250 and 200 respectively, so that for 224 cases 0.375 value was selected.

Results

The instrument test yielded a Cronbach's alpha of 0.981608, due to a high intercorrelation of the variables.

The descriptive statistics of the total variables showed a great consistency with their Z values greater than 1.96, so they all entered the Factor Analysis that selected the resulting 34, among which there was no signalectic (identifier variables of the subject) nor the Emotion Axis, including with better values (58% of variables of the Human Development Axis were included) See Table 1.

	Study Vars.	Selected Vars.	% of Axis
Signalectic	5	0	0
Emotions	28	0	0
Hum. Dev.	50	30	58.00
Ped. Discourse	68	4	4.41
Total	151	34	

Table 1 The variables selected were 34 out of 151, mainly in the Human Development axis

The 34 variables obtained configures a student-centered teaching Table 2.

Variables	F. Load.
44. I recognize that human development can be fostered as an inherent capacity, quality or ability of each person	0.44
46. I admit that the concept of development implies a dynamic of transformation	0.42
48. I recognize that education and human development are significantly linked	0.43
49. I consider the possibility that he will be seen as a multidimensional, multietapic and multilevel being, as a product of his evolution	0.42
50. I understand that human development includes the study of biological relationships that occur between species and is known as evolution	0.44
51. I accept that with education the human being can optimize his development	0.55
53. I affirm that education is a process by which people's opportunities are expanded	0.50
55. I accept that human development and education provide opportunities for individuals who value their political, economic and social freedom	0.41
56. I know, observe and value the human rights of students, including education for human development	0.54
57. I support the possibility of being creative, productive and self-respecting, among others, as qualities of human development	0.56
58. As part of human development, I intend to show educational advances of my students with a more integral position	0.55

59. I accept that human development requires ethics to lead education	0.51
60. As an education professional, I can promote human development by having a position of cooperation and dialogue in my work environment, in an interdisciplinary and intercultural way	0.57
61. From my educational work I can promote quality education for human development	0.64
62. I understand that civic, academic and labor training can be oriented from human development	0.62
65. I am able to promote the desire to achieve better standards of living, including innovative concepts of human development	0.53
66. I can consider the stages of cognitive development as the basis of evolutionary psychology, and include them in my pedagogical work	0.58
67. I perceive and learn that, from the stages of human development, adolescence requires gradual learning and specialized attention	0.43
68. I understand and attend, to the best of my ability, the physical and biological evolutionary characteristics of adolescents in education	0.51
69. I assimilate and accept the possibility of educating from an interdisciplinary perspective, proposed by integral human development	0.58
70. I understand and enable the inclusion of meanings such as quality of life, integral well-being and ecological civility in my daily teaching practice	0.62
72. I identify and persist in being an effective motivator, able to drive the flow of energy towards common achievements	0.51
73. I intelligently address the challenges from the management of current competencies with a vision towards better human development	0.39
75. I agree and approve that it is possible to improve human capacities with education, and improve the quality of life among other aspects	0.58
76. I understand and accept that cognitive, behavioral and emotional well-being abilities are essential for quality of life	0.55
78. I recognize that self-acceptance, relationships, positive, mastery of the environment, autonomy, life purpose and personal growth, are psychological bases of learning and strengthen development	0.51
79. I observe and respect that the adolescent student undergoes a process of personalization towards adulthood	0.55
81. I explore and adapt to the obvious particularities of the context	0.51
82. It is likely that I will be able to include human development goals in my educational work	0.52
83. I specify particular obligations and according to the context	0.50
84. It is clear to me that human development is implicit in teaching and learning	0.59
93. I identify pedagogy as the scientific theory and practice of education	0.44

104. I think I can reflect on the use of school language	0.39
126. The human being learns through experience and follows a process that involves using memory, a specific language, perception, problem solving and planning	0.48
Expl.Var	14.52
Prp.Totl	0.10

Table 2 Variables selected in the analysis and their weight or factorial loadings

Reordering the variables, we can infer that the student-centered in Human Development practiced by the teachers of this research has as bases a Characterization of the education they impart (the what), the way in which they do it (the How), and their orientations (for what).

This gives us the underlying discourse of Student-Centered Education that is mentioned below.

The Statements of the teachers regarding their teaching practice allow to locate their projection to an education centered on the student (the What), so it characterizes it stating: I know, observe and value the human rights of students, among them, education for human development and I consider the possibility that the student is seen as a multidimensional, multitopic and multilevel being, as a product of its evolution, so that I understand and attend, to the extent of my possibilities, the physical and biological evolutionary characteristics of the adolescent in education, so that to admit that human development can be promoted as a capacity, quality or inherent ability of each person. Also, to accept that with education the human being can optimize his development, so I identify the pedagogy as the theory and scientific practice of education and me it is clear that human development is implicit in teaching and learning because the concept of development implies a dynamic of transformation that requires ethics to lead education. In addition, I consider the stages of cognitive development as the basis of evolutionary psychology, and include them in my pedagogical work, and I adapt to the obvious particularities of the context, so that I can probably include human development objectives in my educational work because I know that education and human development are significantly linked.

The Process of Human Development (The How) for its analysis is included in the study of biological relationships that occur between species and is known as evolution, so I support the possibility of being creative, productive and self-respected, among others, as qualities of human development and, I propose to show educational advances of my students with a more integral position, since I can promote human development by having a position of cooperation and dialogue in my work environment, in an interdisciplinary and intercultural way, because understand that civic, academic and labor training can be oriented from human development since I assimilate and accept the possibility of educating from an interdisciplinary perspective, proposed by integral human development, with the inclusion of meanings such as quality of life, integral well-being and ecological civility in my daily teaching practice, with which I identify and persist in being an effective motivator, able to boost the flow of energy towards common achievements. This is because I believe and approve that it is possible to improve human capacities with education and improve the quality of life, among other aspects. I also recognize that self-acceptance, relationships, positive, mastery of the environment, autonomy, purpose of life and personal growth, are psychological bases of learning and strengthen development so I specify particular obligations and according to the context with my students and Consider that I can reflect on the use of school language, because the human being learns through experience and follows a process that involves using memory, a specific language, perception, problem solving and planning.

Finally, the ends that teachers seek (The Why) refer as teachers that: I affirm that education is a process by which people's opportunities are expanded, that human development and education provide opportunities to individuals who value their political, economic and social freedom, that from my educational action I can promote quality education for human development and so able to promote the desire to achieve better standards of living, including innovative concepts of human development.

Therefore, perceive and learn, that of the stages of human development, adolescence requires a gradual learning and specialized attention, on board intelligently the challenges from the management of current competencies with vision towards a better human development, understand and accept that cognitive, behavioral and emotional well-being abilities are essential for the quality of life and observed and respect that the adolescent student go through a process of personalization towards adulthood.

Conclusions

The process of working with long-text variables, written as statements, is complicated, especially when there are quantitative treatments of the data. For the case of the present study, the population of teachers represented in the sample had a great similarity in their opinions, as shown in Cronbach's Alpha, which was very high denoting high intercorrelation. However, it was possible to obtain results that allow us to abstract and denote the perspective of the teachers of upper secondary education of the different campuses of the College of bachelors of the state of Zacatecas.

Apparently, it has not permeated the idea of studying and using emotions as a didactic resource in teachers, as expected after a year and a half of pandemic and online classes, taking into account that it was also a very prolific topic, which however did not have the statistical significance in this study. However, the research strongly denoted that the selected variables correspond mainly to the Human Development Axis, which implies the underlying discourse of Student-Centered Education.

The results were organized the significant texts selected by the factor analysis and in them it is clearly manifested that the teachers understand the original approach of the integral reform of upper secondary education that was oriented to take the student and his learning processes as the nucleus of the educational formation of the young people. The ordering of the final texts, separated into 3 groups, which, the how and for what of education oriented to human development, gave us a clear sample of the great coherence that exists in the apparent variability of separated teachers in all the campuses of the State.

This is how the underlying pedagogical structure was obtained through factor analysis, presented in the Results, and which can be taken as a univocal statement of teachers regarding Student-Centered Education to promote their Human Development.

Annexes

Annex 1. Variables by Axis

EMOTIONS AXIS

7. I generally express and allow students to express emotions in class.
8. I perceive and understand the emotional reactions of my students.
9. I notice and accept the involuntary emotional reactions of students in class.
10. I observe and promote the bio-psycho-social potentialities of each student.
11. In the face of emotions expressed in class I react in a conscious and controlled way.
12. I maintain a firm but open stance to the emotional expressions of my students.
13. I receive the proposals and academic contributions of the students in a manifestly enthusiastic way.
14. I understand and attend to the positive or negative emotions of students in tune with the rules of my institution.
15. I am able to tolerate an emotional moment in class without deviating from the subject.
16. I know how to handle a contradictory dialogue without falling into a discussion.
17. I can identify traits of intelligence and emotionality in students that express their motivation in class.
18. Start the class with the necessary emotive expressions to encourage interest in the topic.
19. I adapt to an emotional environment with ease and take advantage of it to guide the class theme.
20. I distinguish and channel an academic situation with emotional attachment.
21. I turn emotional attachment into an opportunity to channel the student with the competent institution.
22. During school interaction with students I avoid replacing the place of a family member and retain my position as a teacher.
23. I believe that good mental health is necessary to perform teaching work.
24. I understand that human development entails the evolution of skills, including emotional skills.
25. I analyze and accept that one of the characteristics of the adolescent is that he can have spontaneous and frequent emotional reactions.
26. I understand that fundamental reactions to survival are emotional actions.
27. I understand that the hypothalamus generates emotions in the individual that are survival to flee or fight when he feels threatened.
28. I recognize that emotions manifest themselves physically and it is important to identify them.
29. I distinguish the classification of emotions and resort to the necessary ones in classes.
30. I need to know the categorization of combined emotions.
31. I identify and analyze one's emotions better through behavioral parameters.
32. I approve and testify that it is possible to have control of emotions.
33. I intend to consider the emotions in my teaching my own and those of the students.
34. I agree that before each learning there is an emotion.

Human development axis

35. The concept of human development is defined and I understand.

36. I understand the elements, characteristics and effects of "developing" or "developing" in human beings in the educational field.
37. I recognize that, among the aspects of human development, one is the trend towards better living standards through the economy.
38. I accept that he is a being with a rational nature.
39. I know that human development implies an awareness of the progress of cognitive, behavioral, and emotional competencies.
40. For my classes I try and apply various alternatives and ways to teach, learn and solve problems.
41. I agree that adolescence is a relevant stage of human development, so the management of coping skills and reflective processes are basic, in each pedagogical intervention.
42. I believe that human development can rely on creativity and critical awareness, as aspects to improve the assertiveness of its actions and meet its objectives.
43. I affirm that the goal, the end or the goal of human development is comprehensive progress.
44. I recognize that human development can be fostered as a capacity, quality or ability inherent in each person.
45. I believe that the human development of adolescents can enhance all their abilities.
46. I admit that the concept of development implies a dynamic of transformation.
47. I understand the idea that he is never something, but is always transforming into something.
48. I recognize that education and human development are significantly linked.
49. I consider the possibility that he will be seen as a multidimensional, multietapic and multilevel being, as a product of his evolution.
50. I understand that human development includes the study of biological relationships that occur between species and is known as evolution.
51. I accept that with education the human being can optimize his development.
52. I seek to study the conditions that favor human progress and well-being.
53. I affirm that education is a process by which people's opportunities are expanded.
54. I believe that human development and education enable a long, healthy, and able life to have the resources and the enjoyment of a good standard of living.
55. I accept that human development and education provide opportunities for individuals who value their political, economic and social freedom.
56. I know, observe and value the human rights of students, including human development education.
57. I support the possibility of being creative, productive and self-respecting, among others, as qualities of human development.
58. As part of human development, I intend to show educational advances of my students with a more integral position.
59. I accept that human development requires ethics to lead education.
60. As an education professional, I can promote human development by having a position of cooperation and dialogue in my work environment, in an interdisciplinary and intercultural way.
61. From my educational work I can promote quality education for human development.
62. I understand that civic, academic and labor training can be oriented from human development.
63. I recognize that the convenience of a high social demand for resources and subjective well-being may ignore the future needs of biological species and the environment.

64. I accept the possibility of forming a more advanced citizenry, with self-government, self-security focused on self-defense, self-management focused on austerity and self-administration supported by.
65. I am able to promote the desire to achieve better standards of living, including innovative concepts of human development.
66. I can consider the stages of cognitive development as the basis of evolutionary psychology and include them in my pedagogical work.
67. I perceive and learn that, from the stages of human development, adolescence requires gradual learning and specialized attention.
68. I understand and attend, to the best of my ability, the physical and biological evolutionary characteristics of adolescents in education.
69. I assimilate and accept the possibility of educating from an interdisciplinary perspective, proposed by integral human development.
70. I understand and enable the inclusion of meanings such as quality of life, integral well-being and ecological civility in my daily teaching practice.
71. I know and change old molds of thought and replace them with innovative practices.
72. I identify myself and persist in being an effective motivator, able to drive the flow of energy towards common achievements.
73. I intelligently address the challenges from the management of current competencies with a vision towards better human development.
74. I can predispose myself to achieve my goals with more assertive actions in each pedagogical intervention.
75. I agree and approve that it is possible to improve human capacities with education, improve the quality of life among other aspects.
76. I understand and accept that cognitive, behavioral and emotional well-being abilities are essential for quality of life.
77. I discover and understand that psychological well-being in learning is seen as a subjective perception, a state of mind or a feeling.
78. I recognize that self-acceptance, relationships, positive, mastery of the environment, autonomy, life purpose and personal growth, are psychological bases of learning and strengthen development.
79. I observe and respect that the adolescent student undergoes a process of personalization towards adulthood.
80. I recognize that it is difficult to subject the learning process to universal principles.
81. I explore and adapt to the obvious particularities of the context.
82. It is likely that I will be able to include human development goals in my educational work.
83. I specify particular obligations and according to the context.
84. It is clear to me that human development is implicit in teaching and learning.
- Pedagogical discourse axis**
85. I think and endorse that pedagogical discourse is the rational skill with which some arguments are expressed or related.
86. Pedagogical discourse requires a communicative faculty.
87. The pedagogical discourse is formed by a reflection, a series of words and reasoned phrases.
88. Pedagogical discourse is a logical and coherent reasoning or exposition on some subject, which is read or pronounced in public.
89. Pedagogical discourse is a perspective that contains a thesis or point of view.

90. Pedagogical discourse is a characteristic way of raising an issue, a series of statements that constitute an educational message.
91. I consider that pedagogical discourse is language in action, textual units that run in an educational path from one part to another on a given subject.
92. I consider that pedagogical discourse is relative to pedagogy; clearly exposed and serves to educate or teach.
93. I identify pedagogy as the scientific theory and practice of education.
94. I gather that pedagogy is reflective teaching practice.
95. I promote pedagogical discourse as an ability to generate learning and educate, as qualities of pedagogy.
96. I support the definition that speech is a series of words and ideas with logical and grammatical coherence, with which one expresses what one feels or thinks.
97. I assume that the basic intention of pedagogy is the formation of the Self, and how to make it a good and just being.
98. I agree with the idea that pedagogical discourse helps the understanding of social life, and human behavior.
99. I think that pedagogical discourse can be a reflection that promotes empowerment.
100. The pedagogical discourse gives balance, and certainty to the teacher before really critical moments.
101. Pedagogical discourse promotes an education with social justice and connection with the community.
102. I think that pedagogical discourse can be a socio-critical reflection.
103. The inclusion of socio-emotional education in the pedagogical discourse contains proposals to learn to act as a member of a social group and are key to the duty of an educator.
104. I think I can reflect on the use of school language.
105. I agree with the idea that the control of vocabulary in pedagogical discourse is a matter of style.
106. I think that cultural transmission is a pedagogical discourse to give identity.
107. I observe when there is a connection between pedagogy and culture.
108. I approve that pedagogy adopts ways of thinking competences, beliefs, behaviors, ways and values, which constitute the core of identity.
109. It is clear to me that pedagogical discourse is an accurate and accurate description of the sociocultural experience.
110. I conceive that pedagogical discourse can contain an ideological function in education.
111. Pedagogical discourse can be a ritualization of speech or a seat of cultural reproduction.
112. I agree that the pedagogical discourse tends to be a basis of guidelines, as well as the distribution and regulation of knowledge in society.
113. I conceive of pedagogical discourse as the recontextualization of other discourses.
114. I analyze the pedagogical discourse with an ideological charge of certain expressions.
115. I agree that pedagogical discourse can include authoritarian constructs.
116. I accept that pedagogical discourse appears as legitimate school knowledge.
117. I evaluate the pedagogical discourse as a principle of reorganization of other knowledge.
118. I judge the specific wording in school textbooks from a systemic and critical perspective.

119. Reasoning the reactive way of a physical manifestation, as connections between mind and body, when expressing a pedagogical discourse.
120. I differentiate learning processes and interaction between the individual and his or her environment.
121. I value the obsolescence of the pedagogical discourse that I have used in the last 20.
122. I find that my pedagogical discourse coincides with the cognitive stages of the human being and its characteristics, from adolescence to adulthood.
123. I assume that pedagogical discourse correlates with the psychic and intellectual development of the adolescent.
124. I understand and refer that the requirements of learning, such as school language are derived from pedagogical discourse.
125. I believe that having acquired a competence in the student helps him to achieve the goals that will be presented during the next life cycle.
126. The human being learns through experience and follows a process that involves using memory, a specific language, perception, problem solving and planning.
127. The pedagogical discourse of the teacher adopts a scientific form, which legitimizes his condition as an announcer and can relegate the student as an interlocutor.
128. I criticize the polysemy of the curricular contents, since it removes the novelty avoids surprises, and doubts or questions are raised without answers.
129. I recognize that knowledge, as a complete and validated product, loses novelty and diminishes interest in the audience.
130. I see that the pedagogical discourse can give total authority to the teacher and disables any action of the student, what is more, minimizes it, cancels it.
131. I agree that class communication can become a circular discourse.
132. I note that the information transmitted in education is shown as a legitimized knowledge, which presupposes the veracity of the object of study without the need to justify it.
133. I believe that knowledge can be confused with authority, since the student plays a role as an inanimate recipient.
134. I note that the educator is the one who transmits or deposits content in the student, but the reverse process never occurs.
135. I attribute that the characteristic pedagogical methods that regulate the authoritarian model are constant evaluation, indication, control of reading, and professorial classes.
136. I assure you that there has been a lack of in-depth reflection on what is intended to be formed through education.
137. I think that we have taken our traditional practices for granted, and we have spread a somewhat incongruous pedagogical discourse.
138. I perceive that, according to the authors of human development, the discourse in education should be more directed to reflection on biodiversity.
139. I have observed that the pedagogical discourse influences the deployment of the potential capacities of the student, for which it is necessary to provide favorable conditions.
140. I propose that the pedagogical discourse seeks to limit material accumulation and economic growth, at the expense of the richness and sustainability of the environment and nature.
141. I appreciate that the pedagogical discourse takes into account the free exercise of human capacities and potentialities.

142. I approve that language, as a psychological instrument, can be considered the most useful material in training through education.
143. I suppose words start out as emotional; they then go on to distinguish concrete objects, and finally take their abstract meaning.
144. I assure you that language is the most important instrument of thought.
145. I believe that thought and language are interrelated, and are different in origin and different in their development.
146. Language, in addition to being a means of generating thought, is also the source of thought because it has a regulative function, which can coordinate, establish and facilitate other forms of competition.
147. I consider that the adolescent in the process of language acquisition requires the interaction of cognitive bases such as heredity, maturation, experience and above all social interaction.
148. I consider and refer that pedagogical discourse, refunctionalizes, recontextualizes, or redefines the student's forms of reasoning.
149. I think that pedagogical discourse has its own limits and forms of closure and openness, and that is where its educational power is reproduced or transformed.
150. I think that pedagogical discourse defines fields, approaches, perspectives or disciplines.
151. Social variation or change characterizes pedagogical discourse in such a way that any content is capable of being pedagogized.

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A look at the didactic triad in music from general didactics

Una mirada hacia la triada didáctica en la música desde la didáctica general

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Abstract

Regardless of the existence of a music didactics, in music teaching adaptations are distinguished that show the relationship of this specific didactics with its predecessor, general didactics. This fosters the quality of the class during the comprehensive training of the musician. The attention to the theoretical references from this branch of knowledge, with a generalizing view towards different disciplines present in the training of the musician for professional purposes, led to the realization of this work whose objective is: to recapitulate on the presence of the components of the didactic triad and its interaction in the teaching-learning process in academic music teaching. Basically, a synthesis of different ideas about the didactic concept is presented, which show its enrichment from pedagogical practice and a set of theoretical references is enunciated that led to the visibility of the didactic triad, applied in various teaching disciplines musical.

General didactics, Objective, Content, Teaching-learning method

Resumen

Independientemente de la existencia de una didáctica de la música, en la enseñanza musical se distinguen adecuaciones que evidencian la relación de esta didáctica específica con su predecesora, la didáctica general. Ello propicia la calidad de la clase durante la formación integral del músico. La atención a los referentes teóricos desde esta rama del saber, con una mirada generalizadora hacia diferentes disciplinas presentes en la formación del músico con fines profesionistas propició la realización de este trabajo que tiene por objetivo: recapitular sobre la presencia de los componentes de la triada didáctica y su interacción en el proceso de enseñanza-aprendizaje en la enseñanza musical académica. En lo fundamental, se presenta una síntesis de diferentes ideas sobre el concepto didáctica, que muestran su enriquecimiento a partir de la práctica pedagógica y se enuncia un conjunto de referentes teóricos que propiciaron la visibilidad de la triada didáctica, aplicada en diversas disciplinas de la enseñanza musical.

Didáctica general, Objetivo, Contenido, Método de enseñanza-aprendizaje

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Introduction

The different times and cultures that frame social development have had their impact on didactics, which led to it being recognized from different latitudes as the art of teaching, methodology to teach and instruct, science of the direction of the teaching-learning process, theory general teaching, methodology or technique, among others.

In the history of Didactics, the theologian, philosopher and pedagogue Juan Amos Comenius (1592-1670) is recorded as the founder of the theory of teaching by instituting it as a universal method where the teaching method is distinguished as the main axis. His contributions constitute the foundation and promotion of the school organization, as well as the support of the teaching methods for the sciences, the arts and the letters. As requirements he stated the provision of books and instruments, the need for the understanding and use of adequate sources, an organizational structure of the disciplines, and the use of examples that support the rules of the pedagogical process.

The didactic conception of it is supported by nature. He defends the ideas of teaching to think, and teaching everyone all things, which is evidenced by his work *Didactica Magna*, which saw the light for the first time in 1630 and which to this day opens a space for reflection on these issues. In its pages there are various theses that constitute a foundation for the development of teaching (Comenio, 2014), such as:

The art of teaching requires nothing more than an ingenious arrangement of time, objects, and method. (p. 87)

The teaching of art (given the model, material and tools) requires three conditions: 1. Fair use. 2. Wise direction. 3. Frequent exercise. That is, where and how each requirement is to be used for the disciple to learn; and while they are used, he must be directed so that he does not make a mistake in the operation and correct him if he did. And finally, that he does not stop erring and correcting his error until he comes to act with certainty and ease without any error. (p. 152)

What is to be done must be learned by doing. (p.152)

The purpose and object of the common school is that all youth between the ages of six and twelve (or thirteen), be instructed in everything whose usefulness encompasses the entire life. (p. 204)

Exercises should begin with the rudiments, not the serious work. (p. 153)

His theory constitutes the genesis of Didactics as a branch of knowledge that is based on pedagogical work, cultural heritage and social, scientific and technological development.

Although the term "didactics" is familiar to teachers, the idea or conception that we have about it is very varied. Proof of this is observed in the literature where it is classified as: science, technology, methodology, theory, art, among others (Fuentes, 2000; Ginoris, 2009; Verona, 2015). Álvarez de Zayas (1999), in his book *The school in life. Didactics*, expresses:

The science that studies the teaching-educational process is called didactics, that is, while Pedagogy studies all kinds of formative process in its different manifestations, didactics attends only to the most systemic, organized and efficient process, which is carried out on theoretical foundations and by specialized professional staff: teachers. Consequently, didactics is a branch of pedagogy. (p. 14)

In this conception, it specifies the science character of didactics, its theoretical support, object of study and the presence of some of the protagonists who dynamize the process.

If we accept that all science results from the intellectual elaboration and practice of men, which is a synthesis of their knowledge about the world and that it arises from the joint and creative activity of individuals in society (Fuentes, 2009), then didactics is a living science, which has been enriched and developed in teaching practice and that the daily and personalized performance of teachers and students causes its improvement in accordance with the context in which the process takes place.

Being a branch of Pedagogical Sciences, didactics shares its laws. The first, the school in life, enunciates the interdependence between the object of education and society. In their interaction, both undergo transformations: society when receiving solutions to the problems attributed to the school, and the latter, due to the impact of scientific-technical development when adapting and taking proactive attitudes that allow it to be inserted effectively in society.

The second, the relationship between teaching and education; represents the internal interaction of the process and is manifested in the way in which the objective, the content, the method, the means, the organizational forms, the evaluation, the teacher, the student and the group are articulated, taking into account the personal example, values, norms of coexistence, respect, care for the environment, as educational elements not always explicitly stated in the programs of the disciplines.

It is precisely this law that motivates the analysis of one of the most controversial aspects in publications on didactics: its object. Students of the subject declare a historical sequence of their object of study that is shown as: teaching, learning, teaching and learning processes, the educational process, the teaching-learning process, or the curriculum (Abreu, Rhea, Arciniegas, & Rosero, 2018). Such diversity manifests the dynamic interaction between society and the school, its evolution according to the context, culture and the theoretical references that underpin each position.

We identify the object of study of didactics, in the teaching-learning process as a unique process that dialectically relates both in an educational context interacting with other social phenomena, which is based on the articulation of its internal components to respond to the social dynamics. From this position, and according to the teacher-researcher Roa (2014) we observe that, in the teachers' referents, in addition to the theory established for the exercise of their profession, traditions, customs, experiences and the cultural range of the environment in which it has developed on which "it builds its own perceptions, its worldviews, factors that configure its personal and professional identity" (p.178).

The realization of the dialectical relationship manifested in the teaching-learning process, in the field of action of a specific discipline, allows to base the idea of the existence of special didactics from practice. In this regard, the researchers Herrero and Valdés (2020) argue that General Didactics offers the teacher the theoretical foundations to guide and make their educational practice more efficient, while the special disciplines are at a level of development from which they provide distinctive elements from their own experience, but they should not neglect their relationship with Pedagogical Sciences and General Didactics "because you can run the risk of losing the general theoretical foundations of the teaching-learning process" (p. 10). From that position they emphasize:

Finally, it can be affirmed without a doubt that General Didactics continues to be the theoretical base from which Special Didactics are nourished, and although it is necessary to approach the qualities and procedures of a discipline, Pedagogical Sciences and Didactics will always be in a position to facilitate the theoretical and methodological support to achieve this approach. (p. 11)

With what has been said so far, we can start a reflection on the behavior of the components of the teaching-learning process that make up the didactic triad in music, based on a theoretical conception from the general didactics in which they are identified as components of the process from teaching-learning to the objective, the content, the methods, the means, the organizational forms, the evaluation, the teacher, the student and the group.

The didactic triad in music

The relationship between these components is manifested, fundamentally, during the preparation and development of the class. In this regard, we would like to emphasize that, although there are different didactic or methodological models and strategies that indicate the aspects to take into account during the preparation and implementation of the teaching activity, we are of the opinion that there are no unique recipes for the preparation of the given class that, for this, it is necessary to bear in mind the particularities of the protagonists of the process, including the teachers, the students and the group.

From the systematization of the theoretical references, a consensus is perceived regarding the didactic triad, known by various authors as the relationship of three of the categories of didactics that become components of the teaching-learning process: the objective, the content and the method.

The objective constitutes the guiding category as it is the guiding element of the process. For its formulation, it will be taken into account that it will depend on the student and that they must be understandable, measurable, and achievable. These are a logical derivation of the objectives declared in the professional model, which indicates that all disciplines respond to an explicit general objective in the study plan of the career, which is materialized in the class according to the requirements and characteristics specific to the subject in question.

For example, a particularity in the teaching of music is its individualized nature in some subjects, this presupposes that, when formulating the objective of the topic, it will be taken into account that students learn in different ways and with different rhythms, which alerts on the materialization of the didactic principle of affordability. That is, regardless of whether the ability to be achieved will be in correspondence with the level achieved, its statement will envision the necessary dosage of activities for each student in correspondence with the speed of learning, the development of skills, the attitude towards exercise and knowledge acquired.

However, in other subjects, such as chamber music or choral singing, the principle of collectivism in learning is emphasized, so that the conditions are created for the organized and active exercise of the students. The collective work becomes the driving force behind the zone of proximal development of each student, so that potential progress is achieved that gives way to other more complex activities, as noted by the researcher Verona (2015), in her study on the didactics of chamber music, who considers the group as the fundamental cell and estimates that the degree of satisfaction of the objectives will depend on its stability and cohesion. "The Chamber Music teacher must master certain group dynamics, which facilitate the development of the group" (p. 38).

There is a systemic relationship between the objective, the content and the teaching-learning method (hereinafter method); At the top, the objective is placed as a guiding element that conditions the content and predicts the method; what is evidenced from the correct formulation of the objective. For example, the teacher-researcher Sarango (2015) states among the objectives of the study of Solfeggio the "mentally determine the height of the notes in a piece of music that is being read for the first time..." (p.29) and as it can be observed it is enunciates what to teach-learn «determine the height of the notes» and envisions a way (the how) to do it «sight reading».

In summary, to elaborate the objective we must observe the thematic axis expressed in the training objective declared in the study plan, the role of the subject in the student's training, the level at which it is, the interaction with other disciplines, the characteristics of the student and the context in which the process takes place, as well as the theoretical references that support it.

The objective specifies the content to be taught-learned. This covers, first of all, the knowledge system, say facts, theories, laws and concepts. When studying a musical work, the student must characterize the environment and the content during the performances, as well as the technical problems that are solved with its execution, which offers them tools to appreciate the relationship of the composition with the technique of an instrument.

Another source of content is the mode of action system, which includes operations, habits, actions and abilities. In this sense, we can cite as an example the reflection of the musicologist and teacher Carlo Delfrati that appears in the LEEME magazine in 2009, on the skills -viewed in the development of capacities- that the student must achieve:

Will the student come to recognize only with his ear the tonality to which he has modulated the piece? Here is, among others, an example of the level of complexity: it has not been said that three years of musical education can bring our student to this level ... will you be able to recognize, for example, when the work modulates the dominant and when the subdominant? ... Can you recognize the tonic in a piece you hear? There is no limit to progression or regression in skill programming; as there is no limit in the subsequent segmentation of the capacities, between one and another of the levels reached, or that can be thought about. Whatever the attainable level, be it at the end of the middle school or the course of high composition, the principle that I try to outline is that of the importance of auditory, perceptual work. The ability to vocally read the staff cannot be taken away from this priority of the ear. (p. 90).

A third aspect of the content is constituted from the experiences of the creative activity, the motor source of the development of theories that emanate from the personalized performance and the interaction between the subjects in a context and historical-concrete moment.

From this perspective, the execution of a musical work can be achieved on the basis of a previous performance that defines technical elements such as fingering, tuning, expression or spirituality. Likewise, the experience favors the identification of those aspects that allow communication with the public, say preferences, demands, behavior, possibility of understanding. Based on his experience, the teacher can select the musical piece, within the wealth of works accumulated by humanity, that is adapted to the characteristics of the student according to his level, development and personality.

On the other hand, the study of the roots and culture of a country, particularly in music, for example, melodic or rhythmic aspects, have served as the basis for the creation of new works (Echeverri, 2014) by becoming the content of the songs theoretical disciplines.

With regard to chamber music, in the words of Sara Verona (2015), knowledge about musical aspects typical of group performance are tuning, articulation, collective sound, gestures and polyphonic hearing.

To close this reflection on the content we refer to the system of norms and relationships that conform to reality, with oneself and with others. This theoretical wealth is manifested in a particular way in the different disciplines that impact on the training of the musician.

The training of a music professional implies a historical process of appropriation of culture, the development of specific skills identified in a broad sense with the reading of scores, their execution, the management of the aspects of phrasing, rhythm and meter, of the tuning; analysis, creativity, improvisation, argumentation ... and recognition of works, styles and periods, among other aspects (Juan-Carvajal & Vdovina, 2020, p. 57).

The system of norms and relationships in the content is manifested both in the interaction between the teacher, the student and the group with reality and in the appreciation that takes place in the interdisciplinary nature of Music Didactics. Said with the words of Echeverri (2014), the temporal relationship between composition and coding in the score is not linear or unidirectional, it offers the possibility of reviewing and correcting, contrary to improvisation, which refers to a spontaneous reaction in time real, where it is not possible to review what has already been executed.

As a culmination of the reflection on the content, it can be stated that it varies in correspondence with the role of the discipline in the training of the professional and the scientific and technological development achieved by society.

The way that teachers, students and the group use in their interaction to achieve the objective is recognized as the method. This includes, in general, a series of actions or procedures that facilitate the work of the protagonists of the process (Zilberstein, 2020). Its execution considers the observation of the other components of the teaching-learning process to organize the activity, and the search for frank, open and respectful communication between the subjects, which encourages the motivation for action based on the fulfillment of the objectives.

During the selection of the appropriate methods for an activity, a careful analysis of the planned objectives, mastery of the content, knowledge of the available means, the conditions in which the activity will take place and its nature, as well as the type of relationship that will be carried out, is required. It is desired to establish between the protagonists of the process. Likewise, it must be borne in mind that the method compiles "the experience of great teachers who have validated them for years in the exercise of the profession" (Juan-Carvajal & Juan-Carvajal, 2015, p. 12) and that it may contain techniques, procedures and / or strategies. Its richness, structure, particularity and systemic character favor the way in which we interact from the different disciplines.

In his research on didactics in chamber music, Verona (2015) recounts the experience accumulated by the teachers who formed the theory that supports the practical and methodological application in this area, and the transformations that are distinguished as a consequence of the contributions they made. In his opinion, with Jackes-Dalcroze (1865-1950), in the first decade of the last century, a new era in music pedagogy began, where active and experimental musical teaching was defended, memorization, mechanical practice was rejected and repetitive, detached from all experience, "the starting point of its methods is to awaken the interest and curiosity of the student" (p. 28).

Regarding the teaching of the instrument, the doctors of Arts in Sciences Juan-Carvajal and Vdovina (2020) emphasize that the main task of the teaching methodology is "... to find the laws of psycho-physiological activities; artistic and conceptual that allow ensuring the best way to touch and understand the works" (p. 57). They argue that this leads to the fulfillment of the final objective of the interpreter: interaction with the public, and that for this the characterization of the student is fundamental, taking into account, at first, the musical ear, the quality of the tuning, the attention and the memory.

Similarly, the musician Rolando David Ramos (2021) exposes the relevance of the roots and musical tradition in the practice of the instrument.

It is important to emphasize that the appropriation of traditional Colombian music allows the instrumental technique to be developed from a perspective closer to the performer, in order to internalize the knowledge and put it in function of a more appropriate performance, which is later reflected in the musical performance. (p.1)

Regarding Solfeggio, according to Hudson (2015), there are multiple trends; some take musical traditions into account; while others experiment with information and communication technologies (ICT) on the basis of interactive laboratories that offer alternatives for reading and listening training.

However, the dynamics of practice continue to impact the harmonic articulation of the components of the teaching-learning process within the didactic design. The context in which this process has developed in the last year, as a result of the Covid-19 Pandemic, has transformed the teaching modalities in many universities and, therefore, the methods have had to vary in their systemic relationship, reorganizing according to the potentialities offered by technology and the particularities of the students and the context.

Another example of the relationship of the method with the objective and the educational context is distinguished in the dichotomy of musical teaching for educational purposes and for professional purposes. In the first, the methodological strategies in a general way emphasize cooperation and the development of values, all the resources of interpretation require the intervention of the teacher, the learning of various instruments is favored and the teaching of singing is prioritized along with others artistic manifestation.

In the second, particular strategies are offered in correspondence with the characteristics of the discipline. Solfeggio, for example, according to Hudson (2015), integrates three fundamental aspects that converge with a systemic character: solfeggio, auditory training and applied theory. The work is aimed at developing skills that will be demonstrated in the classroom and in musical practice.

Conclusions

By way of conclusion, those who subscribe agree that there is a systemic relationship between Pedagogical Sciences, General Didactics and specific didactics that favors their enrichment and encourages the foundation of actions for the development with quality of the teaching-educational process.

For its part, the harmonic articulation between the components of the teaching-learning process, taking the objective as the guiding category, as it is the guiding element of the process, ensures quality in the training process of the music professional.

This is conditioned by attention to the personal characteristics of the student, the group and the teacher himself, as well as attention to the objective declared in the professional model and the context in which the process takes place, all of which constitute essential elements for the organization of teaching activity.

Regarding the didactic triad, the objectives, content and teaching-learning methods by their nature and structure, differ for each theoretical discipline, bearing in mind the role it plays in the training of the professional, the modes of action, the culture, and the context in which the process takes place. However, its systematicity shows the necessary interdisciplinary relationship for the integral formation of the musician.

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Amazement as a necessary element for a comprehensive formation

El asombro como elemento necesario para la formación integral

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Abstract

We will talk about the systematization of the educational experiences in amazement didactics in the Autonomous University of Querétaro. The objective is to comprehend how a comprehensive formation is achieved on the participants in the classrooms based on amazement didactics. The classes were imparted under the didactic strategies of theater, clown, and magic with the goal of fostering amazement in social encounters. The sessions were registered in a class journal. The systematization process consisted of answering the question: How does amazement contribute to the comprehensive formation of the involved in the educational process of the university classroom. The focus of the systematization was thoughtful, it sought to explain how a happy environment was created in the classes. The systematization process was used in the classes at the end of the school year 2020-1. Amazement uses laughter, looks, silence, and thoughtfulness that wakes up the creativity, foster trust, and create bonds of love, as well as the curiosity to learn in virtual environments in the confinement period brought by the health emergency. This was one of the results found, as well as recognizing that recognition makes us exist and motivates us to be more, humanizes us, achieving a comprehensive education, originating from a participative process that leads to the harmonious development attending all the dimensions of the person, such as the cognitive, affective, community, ethic, cultural for the full humanization of the person, from amazement strategies that lead to think and act from other possibilities.

Amazement, Happy environment, Comprehensive formation

Resumen

Se hablará sobre la sistematización de experiencias educativas en didácticas del asombro, en la Universidad Autónoma de Querétaro. El objetivo es comprender cómo a partir de didácticas del asombro se logra la formación integral de las y los participantes en las aulas. Las clases se realizaron bajo la estrategia didáctica del teatro, clown y magia con la finalidad de promover el asombro en el encuentro social. Las sesiones se registraron en un diario de clase, el proceso de sistematización consistió en responder a la pregunta ¿cómo el asombro contribuye a la formación integral de las y los involucrados en el acto educativo del aula universitaria? El enfoque de la sistematización fue reflexivo, se buscó explicar cómo se construyó el ambiente felicitario en las clases. Al final del curso escolar 2020-1 se trabajó en los grupos el proceso de sistematización. El asombro lleva risas, miradas, silencios, reflexiones que logran despertar la creatividad, fomentar la confianza, y crear lazos amorosos, así como la curiosidad por aprender en los entornos virtuales en el tiempo de confinamiento por la emergencia sanitaria, esto fue uno de los resultados encontrados, así como reconocer que sentirnos mirados nos hace existir y motivarnos a ser más, nos humaniza, logrando una educación integral, a partir de un proceso participativo que lleva al desarrollo armónico atendiendo todas las dimensiones de la persona como es lo cognitivo, afectivo, comunitario, ético, cultural para la plena humanización de la persona, a partir de estrategias asombrosas que llevan a pensar y actuar desde otras posibilidades.

Asombro, Ambiente felicitario, Educación integral

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Introduction

1. From the problem of distance to the need to look at ourselves again. By way of introduction

The health emergency caused by Covid-19 took us back to the private space, the classroom was moved to the house, and a new way of being a teacher and learner began. The displacement brought with it an unprecedented social distancing, we stopped looking directly into each other's eyes, hugging each other, feeling the proximity of the other, experiencing sensations and feelings in a common space, the possibility of feeling complicity and company in being, as well as educating ourselves in everyday interactions was limited. With this we understood that the school is not the physical place, the walls, the benches, or the chalkboards and markers, but rather the agents who intervene, professors, male and female students. At the same time, it is not only that, but it goes further and the process of education is found in the interaction, the relationships that are established between them.

The distancing, with the passing of time, had effects such as the feeling of feeling isolated, of a general fatigue due to overexposure to the screens, of being oblivious to the other and what happens outside our homes, education as an act of Self-awareness and acting in the world was slowed down, because education is an eminently social act that requires social relationships. How to educate comprehensively on screens? How to weave the fragmented social bond? The didactics and pedagogy had to be questioned.

The conditions in which teaching is carried out in times of Covid-19 invite us to rethink what and how we teach, from imagining how we want to live this time of distancing and what we want to build post-pandemic from the educational act. In person, it was possible to see their reactions to various events, the ways of relating to colleagues, intuiting their emotional states, sharing the vision of the world, in the virtual all this is clouded, screens and microphones turned off do not fully reveal realities, or do it in a more blurred way.

They led us to think more about a self-absorption, wrapped in the one or in the myself, perhaps in the most familiar and intimate but detached from the other that at the same time builds us and makes us know ourselves, recognize ourselves, in the absence of the other as a retributive mirror we remain like that image without reflection that can absorb us or make us lose ourselves, just like Narcissus drowned in his immobile image because it does not come from the interaction with the other.

How can we re-focus on ourselves and ourselves in an integral way? Education is a relationship between teacher and student, it is paying attention to today to build tomorrow, looking at ourselves and understanding ourselves is going beyond transmitting knowledge, it is forming people, creating community. Teachers must accompany and lead the person to more, for this we must attend to the characteristics and dynamism of the person and respond to it to welcome the other, and entering with this is a movement of generous donation among the actors of the educational act, a possible way out was to educate from amazement, to fall in love with ourselves and with the other, with the world, by looking to grow as people in an integral way.

This document is an exercise in the systematization of educational work on the virtual screen, based on a didactics of amazement to promote comprehensive training and the curiosity to continue learning in a time of uncertainty and social fatigue. The objective is to explain how didactic strategies that invite to imagine, to live the surprise of the present moment favor the knowledge of oneself and of the other, to make a leap towards humanization that allows the transcendence of existence.

Learning to amaze ourselves in order to recognize ourselves: theoretical approach

Teaching work needs to clarify a transcendent purpose, a why to educate, and to propose a how to educate, which is didactics.

On the need for conscience: comprehensive education

The transcendent aim is to attend to the integral or holistic formation of the students, not to leave aside the dimensions, that the knowledge they learn acquires understanding and meaning to transcend the everyday in the personal, social and community context (González, 2008).

Educate from experiences in a dialectical way, what a way that each day is more than it is today. The need to return to oneself and to be able to re-form the collective calls for a holistic education because it is the way to become aware of oneself, to look again at oneself and look at ourselves to act and transform the world from loving relationships with oneself, the other and the world in its entirety, appealing to the totality of being and in harmony with what surrounds it (González, 2008 and Gallegos 1999). It is not the mere learning of data, information, or reflection on this, it is an education to know how to do, but also to know how to live, in community. Knowledge that is learned and does not transform the community ends up not being valuable.

What is desired is that the students achieve a vision of full consciousness, which allows the understanding of existence and for this it is necessary to work on the conceptual knowledge that revives their attention to reality and knowledge, as well as their memory and will. Experiential knowledge is needed such as creative, artistic and aesthetic processes that lead to awakening the sensory, the power to taste the world in all its contradictions to promote the wisdom of life from integrating reason and subjectivity, sanity with loquacious. Subjectivity is the way to meet oneself, with the other and their world from looking at oneself and looking at ourselves, expanding their consciousness and knowing themselves alive and in loving company, from creative work and imagination (González, 2008 and Gallegos 1999). Holistic education aims to awaken sensitivity, creativity and hope for the transcendence of existence from considering the different knowledge that coexists in the person, for such teaching work a didactics is required that recovers some principles of holistic or integral education such as human development, recovery of experience, the multiple paths to obtain knowledge, an environment of freedom and joy in harmony with oneself, the other and their environment (González, 2008).

Didactics

Didactics is a teaching knowledge, a what and how I want to do it, which is born from experience. Knowing that it is born from the reflection of doing and that is why the path that is traveled to further the teaching practice. The didactics gives meaning to the work in the classroom (Díaz, 2009). On didactics falls the responsibility to meet specific demands of training and teaching, at this time of confinement it is still a priority to put the person at the center, attend to comprehensive training and therefore, a didactics that recovers the sense of the human, feel accompanied, looked at, listened to and reestablish the social bond. By recognizing the need to humanize, it is possible to establish a theoretical guide that allows taking a position before the social problems of the teaching and training spaces and that from how I teach a solution is given from the reflection of a teaching project (Camillioni, 2007). Teachers take a position on how to teach to respond to what happens in the social environment, a position that is born from the reflection of teaching knowledge, didactics is what makes educational work appropriate to social ills.

Didactics of wonder

Education is an eminently social task and therefore relational, it is given from coexistence, to educate is to teach to coexist (Maturana, 1996), and for coexistence it is necessary to look and become aware of existence, that is the First task in teaching, learning to look, know how to accompany and discover everything that is and can become in each student. A look that enables trust, tenderness, the security in which you can grow together.

Provoking a loving and hopeful look is possible from amazement, looking at the everyday as if it were new, as if it were the first time, re-enchanting existence and finding the "wonderful" in the everyday, making a break from the routine so that what is born new (Chateau, 1966) teaching-learning to look at the world from the complex that brings in itself the contradiction, the striking, enigmatic and loquacious. It is becoming aware of existence.

Looking at what we always look at from another edge, from a cordial gaze that generates new encounters, from considering the opposites of reality, from experiencing joy in pain, silence in the bustle, hope in disappointment, these opposites that allow us to experience other possibilities is what triggers the astonishment (Chateau, 1966). Thinking and living in opposites, like a roller coaster ride, is what makes the world question and seek new possibilities of being in the world, it is right there where the veil of habit is torn and the world is reorganized and the dam is broken from disenchantment to start the new, taste the tenderness, trust, community, loving care and create new frames of social interaction with oneself, the other and the world. It is to reorganize the world from the social and individual conscience, in dialogue and trust.

Teaching-learning strategies from amazement

Teaching-learning strategies are actions to be followed to achieve objectives and attend the teaching-learning process, they are procedures to show and process academic content. They are bridges for mental processing to the student's attitudinal according to learning objective (Monereo, 1998). The strategies are general action programs with a specific action resource, which gives meaning to the teaching-learning task, these are chosen from the awareness of what is to be taught according to the learning situation and climate (Monereo, 1998).

Learning is an individual task but that occurs with the support of the collective, experiential learning, such as tenderness or joy, they need to go beyond routine, fear, loneliness and open up to love and trust, theater is a form to awaken the imagination, to stimulate the senses, to set the body in motion, as well as to empathize when it comes to interpreting the character, by putting oneself in the place of the other, unthinkable feelings, emotions, ideas and realities are experienced. The theater helps to feed creativity with the creation of characters, stories, stimulates concentration and understanding through dialogue, but also to look at what the other does to interpret messages, in the ways of expressing feelings. It is a strategy that stimulates the expression of the body, the affective in the empathy process, the cognitive when interpreting, the social because self-confidence is consolidated and ideas are socialized (Vittar, 2015).

Theater is building the world from the game of being what one is not, from a cognitive and sensory knowledge.

Magic as a didactic strategy breaks monotony and gives moments of astonishment, makes us believe that the impossible is possible, sows the illusion of creating new possibilities. It helps students to believe in their creative power, in their ability to start over, to reflect on possible ways, to investigate new paths, to move away from the known to explore the new. Magic makes the known look from the amazing, from hope, joy and creative and innovative expression of the world and from the person himself (Ruíz, 2013). To do a magic trick is to look at and create the world again. An action that favors concentration, memory, judgment, but also the sensory and therefore is integral.

Finally, the Clown is to narrate the tearing of life from the comic point of view, it shows us what we are fleeing from and reconciles us with a look and a laugh or complicit silence. The clown looks and makes us look, listen and be attentive to himself to recognize the interior and what is lived and thought is conscious presence, living the present moment from the pleasure, the internal joy that gives to put the right place in the painful life experience (Velásquez, 2019 and Dream, 2020). The clown is to take back the human essence and at the same time mirror the other, I look and they look at me, I listen and they listen to me and from laughter we build the new, we recognize what we like, yearn for and love. A holistic knowledge that favors the consciousness of being.

Steps taken: systematization of educational practices

Didactics is a teaching knowledge, which is born from the reflection of how to give meaning to educational practices, hence the need to systematize to improve and increase teaching knowledge, it is a way of interpreting the contexts in which the task of teaching is developed. teach, make a work proposal that responds to social needs (Camilloni, 2007). The systematization is a critical look at educational work to generate new knowledge, identify areas of opportunity, recover experience that achieve transcendent ends, because it is a knowledge that is born from community reflection (Jara, 2017).

The systematization approach was reflective, it sought to explain how the happy atmosphere was built in the classes, what actions and strategies helped to grow as a person and therefore have a better school environment. The task of systematizing the teaching practice began with: a) the elaboration of an educational program that would collect the needs of the students and the reflection of the previous semester that would serve for the elaboration of training objectives and if they were linked to the contents and activities of the program, 2) bibliography review, 3) be clear about the levels and moments of each astonishment activity to educate the gaze, 4) community reflection on how they lived the process that allowed or hindered a happy or joyful atmosphere in the classroom space.

Class diary

Methodological tool used to document the daily events of the class, all those situations that occurred during the teaching-learning process were recorded, description of the context and setting of the practices, of the teaching-learning sequences in space and time of the actors of the educational act (Zabalza, 2004). It was a tool that served to understand how the astonishment favored the creation of a festive atmosphere of trust and the desire to share in an integral way. Actions, topics addressed and daily learning were collected in the diary. The records were made in three groups with the same didactics of two different educational programs in health and education, the students corresponded to semesters of fourth and eighth semesters.

Analysis Categories

The categories were built from community reflection and from the one collected at the end of each class from the question, how does amazement build a happy environment for integral education?

The categories were:

- a) Gaze-silence-silence gaze.
- b) From gaze to love.
- c) Group consciousness.

Each category is a step in the educational process.

Results

The astonishment strategies bring with them the possibility of looking differently, alternately, and with it the experience of coexistence with oneself and the other from the love before the trial and establish empathic bonds to go through the experience of being alive in the company. It is possible to discover the being, to be able to be and from there transform an active process into integral education.

Look-silence-silence-look: to be

We arrived at a virtual class with different rhythms and eagerness, looking is not an easy job, the screen is our own reflection that clouds the presence of the other, in others we look by hierarchy as is the case of the person who teaches the class. "We feel like a group again when each one was giving a creative greeting with gestures, sounds and words looking at the camera, because we felt that we existed for the other one" one of the conclusions of how festive spaces were made, to watch we had to remain silent, a complicit silence waiting for a word and gesture.

Other moments that regained their gaze were "The moment of presenting the works with the puppets, we discovered creativity, skill, topic of interest and thinking about their effort to share something well done, led us to pay attention to their work, and then think in the same way they looked at us". The look requires silence, concentration on the gesture, movement, words, being amazed by the presence of the other. Learning is the need for silence to live a moment of encounter, silence is only possible in the liberation of time to concentrate on what appears in front of us.

For integral education, the first thing that should be favored is silence, as reflection, as an encounter that welcomes the presence of the other through looks, concentration in the present moment (González, 2008, and Le Bretón, 2016). "We have learned that they look at us to rate a job, well done or badly done, but when looking at it was to laugh at what the other did, surprise us at their occurrences and their work, and to make suggestions for improvement, it was to recognize that we have potential and we are growing, it motivated us to continue.

To look from amazement is to know that we can be more, to highlight the beauty that exists and to recognize that the more being has things to work on, but not from the judgment, but from the acceptance and judgment of itself in its proper measure.

Comprehensive education seeks to string together all the dimensions of the person, the gaze is the mirror where the essence of oneself is discovered, in silence it is reconnected with the interior and all the knowledge that is fragmented comes together and makes sense, a concept finds its usefulness in reality, a feeling clothes it with utopias, and a movement of the body awakens the transformation of itself and the world. Silence and gaze is the first step to knowing and recognizing the other through love, because they are the cradle of existence.

From the look to love: to be

After the look comes love "When we look to enjoy we find unimaginable things about the other, and then when others look at us and see beautiful things in one, we did not want to turn off the screen because we were enjoying a lot" Love is born of recognition, from amazement, from the uniqueness that leads to the desire to accompany and be accompanied, it is right here where the first sparks of conscience are born.

The feeling of being accompanied arises with a simple gesture that changes our lives, putting on a red nose leads to the openness of feeling and being in the world, such as spontaneity, curiosity, and living in the present. The use of putting on a red nose leads the game to disinhibit and let the authentic self emerge without judgment or prejudice. "The ritual of putting on our clown nose and committing ourselves to enjoy ourselves led us to investigate emotions, because we did not know what they were and how they manifest themselves, but the best thing was to laugh at seeing them act because something of that happened to us or had happened to us and to see the way out they gave him helped us to be creative in life or simply to enjoy what we are living". Love is born from amazement and from affirming ourselves, a congratulatory space that then gives way to internal dialogue to foster love in its proper measure. A red nose is a bridge for a small mask that makes breastplates fall, being hospitable to the other from the game without judging.

Recognizing that emotions make us do, say and think things from comedy and improvise life from laughter and play leads to a realization of who and how I am, it is the consciousness of oneself, of how I am in the here and now and with the reality that surrounds me. The other is a mirror of one's own reality and finding oneself in the same dilemmas of life fosters love, possibilities of meeting and learning to live together from acceptance (Maturana, 1996) and finding a sense of life and founding new habits of social interaction for growth, autonomy and interdependence (Patiño, 2010). Self-awareness is recognizing what I feel, think, do and want to do, to then be intention from a genuine interest. Artistic work emancipates and humanizes by reading and resignifying daily life (Gardner, 2011).

Social awareness: act

Comprehensive education goes beyond self-awareness, but appeals to social awareness, living from useful habits to others, being responsible for the common future "At the end we are left with the feeling of being a community, of having grown in confidence, to take care of what we say and do for the good of the group", is to grow not only in intelligence or knowledge but also in an affective way, to recognize that we feel involvement with each other and that for such reasons think about more transcendental things such as justice and justice. solidarity, that recognizing and living the feeling of love makes life happy because it injects hope, joy, trust. Comprehensive education is possible when we look at ourselves, and by looking at ourselves we recognize ourselves from compassion, to be aware of existence and recognize interdependence with others and through them we want to make life happy.

Considerations

Comprehensive education is an invitation to taste life in communion with oneself and with others, to recognize that we are thoughts, feelings and actions, that we humanize ourselves in coexistence. That which limits us to living flatly human in denying ourselves with the look, being afraid, competing with the other or envying, because they do not give way to knowing the beauty that is in each one of us, and only in the loving and empathetic look can there be acceptance of oneself and of the other.

Learning under this integral view occurs when we transform the gaze of ourselves and of what is external to us.

Simba and Mufasa's conversation from the Lion King reminds us of the mission of holistic education with the following dialogue: Mufasa: Simba, you have forgotten me. Simba: No, never that. Mufasa: You have forgotten who you are, therefore you have forgotten me. Look inside Simba. You are more than you are now. You must take your place in the cycle of life.

Education must be a reflection of what we think, desire, and express our opinion in order to be rethought, analyzed, questioned and rebuilt, to be more and better, to live again from joy and commitment.

The astonishment strategies modify the coexistence and the treatment with oneself for more loving and congratulatory experiences from academic reflection and sharing with the other for integral formation by questioning the thinking, feeling and acting from the contradiction of the moment to give feel and act, to give way to new constructions of knowledge and broaden the horizon of understanding the world (Litwin, 2013), to transform, or at least to rehearse new forms of relationship with the world, to live the tension, joy and possibility of experiencing forms alternates of being and achieving human development, this being a process of comprehensive humanizing and congratulatory training.

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Validation of a survey to contrast online education during the COVID-19 pandemic and face-to-face pre-pandemic education

Validación de una encuesta para contrastar la educación en línea durante la pandemia de COVID-19 y la educación presencial pre-pandemia

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Abstract

In order to develop quality pedagogical processes to alleviate the negative effects of the Cov19 pandemic, as the loss of interest in school subjects -caused by accessibility difficulties and lack of resources to purchase equipment and internet services, and to take advantage of the positive effects of online educational modality, as flexibility and housework, it is necessary to have valid and reliable instruments with which the information can be collected. This document presents the validation of a survey to contrast pre-pandemic online and face-to-face education. Beginning with the evaluation of the judgment of experts and teachers for preparation and proposal, which according to the methodology, was administered for a self-evaluation of university students in three areas of knowledge, and consisting of four different dimensions: attitudes during the Covid19 pandemic, applications of ICTs in education, problems when studying online, and exploration of face-to-face education The results show that it is a valid and reliable instrument to measure the four aspects described.

Resumen

Con el fin de desarrollar procesos pedagógicos de calidad para paliar los efectos negativos de la pandemia Cov19, como la pérdida de interés por las asignaturas escolares -provocada por dificultades de accesibilidad y falta de recursos para adquirir equipos y servicios de internet, y aprovechar los efectos positivos de La modalidad educativa en línea, como la flexibilidad y el trabajo del hogar, es necesario contar con instrumentos válidos y confiables con los que se pueda recolectar la información. Este documento presenta la validación de una encuesta para contrastar la educación pre-pandémica en línea y presencial. A partir de la evaluación del juicio de expertos y docentes para la preparación y propuesta, que de acuerdo con la metodología, se administró para una autoevaluación de los estudiantes universitarios en tres áreas de conocimiento, y que consta de cuatro dimensiones diferentes: actitudes durante la pandemia de Covid19. , aplicaciones de las TIC en la educación, problemas al estudiar en línea y exploración de la educación presencial Los resultados muestran que es un instrumento válido y confiable para medir los cuatro aspectos descritos.

COVID-19, On-line education, Face-to-face education

COVID-19, Educación en línea, Educación presencial

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Introduction

The validation of an instrument, survey or material of a research process is a necessary activity to ensure its reliability, to guarantee that its results are truthful (Segredo, Pérez and López, 2015; Hakspiel-Platas et al., 2016). This research tries to validate a survey of the academic body of researchers who authored this document, to know and evaluate the degree of correlation and reliability of it, which allows contrasting the opinions of students who were taking online education during the Covid19 pandemic, and the face-to-face education that they had prior the pandemic.

Many changes have been generated in all human activities due to Covid-19 (Mundial, 2020), among them, education has been particularly affected in terms of the need of taking online classes -mandatory distance education, to be able to achieve the expected learning, required by each educational level, becoming an emerging and alternative educational strategy chosen worldwide. UNESCO (2020) considers that approximately 91% of students (1.6 billion) are applying this educational modality, so that teachers and students still use different platforms and technological alternatives in a compulsory way, making a notable effort of all the stakeholders, to continue education during the global health crisis.

In Mexico, undoubtedly, the context that encompasses higher education students represents the sector in which, in pre-pandemic stages, some Communication and Information Technologies (ICTs) were already used, and there were already educational institutions with distance education programs, with digital platforms, computers, tablets, etc. (Cabero, 2000). Therefore, both students and teachers have used ICT's for distance classes. Due to the considerations above mentioned, and the condition of being people whose rank of age allows working in such a way, it could be considered that it is the sector of the population among those who could most easily adopt a virtual education.

However, and based on an experience of little more than a year, in some sectors of the population, ideas are emerging like encountering problems, questioning student performance, the way of evaluating, the favorable conditions or not of converting home into school, the lack of computer equipment, the need of using the same computer by multiple students at home, the educational quality, school dropout and even school failure. Other groups, on the contrary, endorse and support distance education, pointing out new opportunities in terms of time flexibility, economy, and space, the way and pace of learning, etc. In such a way, that there are those who agree and disagrees with continuing is this modality.

Therefore, this research it is mainly about validating a questionnaire by contrasting the ideas expressed by higher-level students who answered it. Once validated it will be applied, in a second stage, to know with certainty, the opinion and trends regarding to current expectations, when compared to traditional education prior to and during the pandemic. It will even be administered for the same purpose to teachers and administrators of the same educational institutions, expecting it turns out to be very interesting, by detecting which are the biggest questions in this regard. As well, as a part of an educational research project, to inquire or propose what are the reasons for the high degree of dropout and prevailing school backwardness.

Methodology

The objective of this work, as previously noted, is to validate an evaluation instrument to contrast online education during the Covid-19 pandemic and pre-pandemic face-to-face education, to later be administered to undergraduate students. The selected sample consisted of 246 students from the Departments of Biochemical Engineering, Electronic Engineering and Engineering in Computer Systems, of the Tecnológico Nacional de México (TecNM), Campus Tuxtla Gutiérrez and Campus Mérida respectively, of the total number of students who were considered as the target population. 91.87% (226 students) answered voluntarily, of which 58% are men and 42% are women aged between 19 and 24 years. To prepare the survey, approximately 48 questions were initially proposed, which a group of teachers with extensive experience in education, who agreed to participate by giving their opinion.

ORTIZ-SÁNCHEZ, Pedro Alfonso Guadal, SÁNCHEZ-ITURBE, Patricia Gpe. and ORTIZ-Y-OJEDA, Pedro T. Validation of a survey to contrast online education during the COVID-19 pandemic and face-to-face pre-pandemic education. Journal of Teaching and Educational Research. 2021

Each one of the opinions of the reviewers was taken into consideration, from which the initial questionnaire was obtained, refined to 45 questions, which were separated into the four dimensions mentioned above: 1) Attitudes during the Covid19 pandemic, 2) Applications of ICTs in education, 3) Problems when studying online during the pandemic, and 4) Exploration of face-to-face education.

An ordinal scale was chosen with a Likert-type assessment from 1 to 5, with 1 being the minimum value and 5 the maximum. The score indicates the student's opinion regarding each of the proposed questions. The scale considers from the degree of *Total disagreement* to *Total agreement*. For validation purposes, the survey was sent to the students through a virtual platform and they were given instructions for filling it out, requesting their objective, truthful and honest response. To analyze the results, the statistical program SPSS v23 was used to obtain the following indexes: Cronbach's alpha reliability index, for the total survey and for each of the dimensions considered. This was to know the correlation between the variables. The Bartlett's sphericity coefficient that allows knowing if the correlation matrix is an identity matrix, and this would allow deciding whether the model and the factor are adequate or not. Finally, the Kaiser-Meyer Olkin (KMO) sampling adequacy index, which tests whether the partial correlations between the variables are small (Gutiérrez and De la Vara, 2008). With the previous indexes, it was verified if the adequate correlation exists, to later apply a factorial analysis with the Varimax rotation method with Kaiser Normalization, studying the components of each of the questions that make up the four established dimensions.

Results

To respond to the objective of this research, the results obtained are analyzed below:

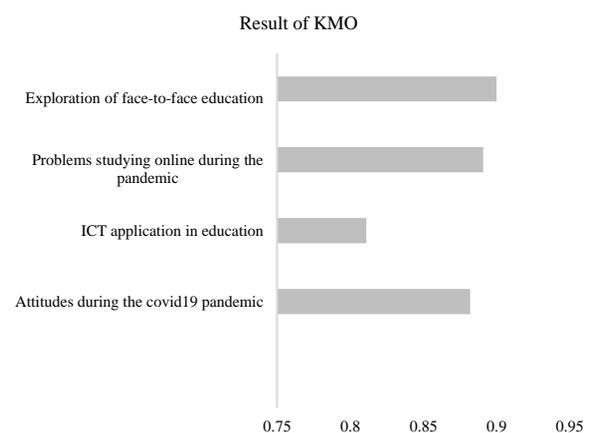
Reliability analysis

In the reliability analysis for the Validation of a survey to contrast online education during the Covid-19 pandemic and face-to-face education before the pandemic, the result obtained for the total items of the Cronbach's alpha value was 0.85, a value considered good.

The values observed in the dimensions also exceed the value of 0.8, being the value of attitudes 0.88, application of ICT 0.81, problems when studying online during the pandemic 0.89 and exploration of face-to-face education with 0.88. There are no significant changes to the suggested Cronbach's alpha value by removing any of the questions. It can be concluded that the result of the scales analyzed is reliable since the contribution of each item to its respective scale is acceptable in all cases.

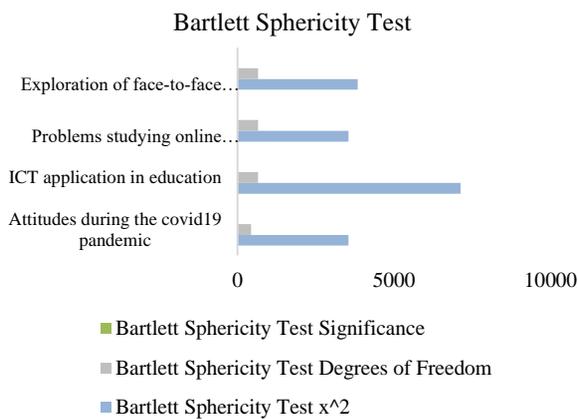
Validity analysis of the proposed questionnaire

To analyze the validity of the proposed questionnaire, a factorial analysis was carried out through the analysis of principal components with Varimax rotation. Prior to the factor analysis, the Bartlett's sphericity test was applied (for each of the components of the established dimensions, obtaining a significant $p < 0.001$). The KMO sample adequacy index was calculated, and the results obtained, for the total data was 0.884, and higher than 0.8 in all cases, which makes it possible to ensure that there is an adequate correlation, that is, the correlation matrix highlights the desired condition to carry out this analysis (see Graphics 1 and 2).



Graphic 1 Results of tests prior to factorial analysis, result of KMO

Source: Author's elaboration



Graphic 2 Results of prior test to factorial analysis, Bartlett sphericity test

Factorial analysis is relevant because it allows analyzing and verifying the one-dimensionality of the applied factors and is necessary to achieve the objective of this research (Lawley, 1971).

After performing an exploratory factorial analysis, forcing the number of factors to 9, one-dimensionality is reached with a high percentage of explained variance (68.746%), which confirms the validity of the test. When performing the principal components analysis (see table 2), the first factor saturates items 13 (attitudes), 37 (Problems when studying online), 39, 40, 41, 42, 43, 44 and 45 (Exploration of the face-to-face education), with these results it can be determined that the first factor consists of those items related to preference for face-to-face classes.

The second factor relates some aspects of particular interests of online education, with items 15,16,17,18, 23 and 25, all belonging to the dimension of use of ICTs in education. In factor 3, in which high saturation values appear, they are grouped: 1, 3, 7, 9, 11 (attitudes) and 27 (use of ICTs in education), it is a factor that relates personal considerations of online education. The fourth factor extracted, includes items related to financial and personal problems related to the equipment used for online education (29, 30, 31, 32, 33, 34, 35, and 36), which are located within the dimension Problems when studying online, in the survey, and for factor 5, items 5, 6, 8, 10 and 12 were grouped, related to the use of ICTs in face-to-face education.

In factor 6, the 4 items were grouped with a good degree of saturation: 20, 24, 26 and 28, that involve those aspects related to ICT’s preferences in face-to-face education, all located within the dimension of ICT’s use in education, while for 7, items 2 and 4 saturate, with these results. It can be said that this factor includes items related to attitudes that they have about face-to-face and online education. For factor 8 only contains item 38 that does emphasis on a recognition of distractors of classroom learning by the student. The last factor with the adequate saturation indexes are items 21 and 22, which both relate an outstanding and desired academic use of ICTs in consulting databases and digital libraries. The only item that was eliminated when doing an initial exploratory factorial analysis was 14, which was excluded and later reapplied the factorial analysis with the results shown. It is to be considered that, as shown in Table 1, all items have a high weight in the factor that were located, so it is decisive in the application.

In a statistical analysis of this nature, although the grouping criteria are not known, a relationship between items of the same factor is presumable, this is an important fact to be considered within the survey to achieve the objectives of the present educational research.

Factor related to	Question number in the questionnaire	Saturation value
1.- Preference for face-to-face classes.	42.	.880
	40.	.854
	45.	.825
	41.	.799
	44.	.752
	43.	.720
	39.	.622
	13.	.561
	37.	.553
2.- Particular interests for online education.	17.	.792
	15.	.741
	19.	.676
	23.	.614
	18.	.599
	16.	.569
3.- Personal Considerations of Online Education.	25.	.532
	1.	.740
	7.	.736
	3.	.707
	11.	.683
	9.	.682
4.- Financial and personal problems related to the equipment used for online education.	27.	.565
	29.	.804
	31.	.771
	32.	.723
	34.	.719
	36.	.672
	33.	.653
	35.	.631
30.	.555	

5.- The use of ICTs in face-to-face education.	12.	.650
	10.	.637
	6.	.590
	5.	.585
6.- ICT's preferences in face-to-face education.	8.	.546
	28.	.715
	26.	.673
	20.	.588
7.- Application of ICTs for learning.	24.	.494
	4.	.731
8.- Identification of face-to-face learning distractors.	2.	.592
	38.	.802
9.- Indistinct use of libraries and databases.	21.	.679
	22.	.654

Annexes

Questionnaire Questions to be validated, in order with Table 1.

Factor: 1.- Preference for face-to-face classes.

42. If they would allow me to choose, I prefer face-to-face classes.

40. I prefer face-to-face education because my learning is more effective.

45. Online education limits me to establishing relationships and situations of collaborative or cooperative learning as a part of face-to-face education.

41. Compared to online classes, I learn more in face-to-face classes.

44. I often feel uncomfortable in the home environment during online learning.

43. I feel dissatisfied with my progress with the online teaching that I am receiving.

39. Face-to-face education plays a fundamental role in the learning of all students.

13. Studying online does not allow me a proper learning.

37. During online education, the use and abuse of social networks is one of the main distractions to learning.

Factor: 2.- Particular interests for online education.

17. In online education I use web information search engines such as Google, Yahoo, Bing, etc.

15. In online education I frequently use basic programs such as Word, PowerPoint, Excel, etc.

19. In online education I frequently use different means of communication, for example email, forum, chat, video conferencing, etc.

23. In online education I review and use different tools to obtain topics to develop, for example, YouTube, Slideshare, Blogger, Wikispaces.

18. In face-to-face education, I used to use web-based information search engines such as Google, Yahoo, Bing, etc.

16. In face-to-face education, I frequently used to use basic programs such as Word, PowerPoint, Excel, etc.

25. In online education I frequently use spaces for social interaction, such as Facebook, hi5, Pinterest, Messenger, etc.

Factor: 3.-Personal considerations of online education

1. Online education has fostered my interest in teaching and learning processes.

7. Classes in online education have been improving as we incorporate and become familiar with ICTs.

3. Teachers use ICTs in online education to improve the quality of learning processes.

11. I like to use ICTs in online education to learn my school subjects.

9. ICTs in online education make it possible to achieve the desired competencies of each educational program.

27. In online education, I can easily use virtual teaching-learning platforms, such as Moodle, Classroom, etc.

Factor: 4.-Financial and personal problems related to the equipment used for online education.

29. I lack financial resources to have internet in my house.

31. I have Internet connection, but I do not have a PC.

32. To participate in class videoconferences, I frequently use my cell phone.

34. At home, there is only one computer available, and since we are several siblings, we have to share it for all school activities.

36 I live away the location of the school (or Campus) and sometimes there is no internet signal, so I often do not take classes.

33. Although I can use my cell phone to watch video conferences, I do not have a microphone to participate, answer or ask questions to resolve my doubts.

35. Due to work reasons, I do not have my time for virtual classes.

30. Although I have Internet connection, where I live, it often fails.

Factor: 5.-The use of ICTs in face-to-face education.

12. I like to use ICTs in face-to-face education to learn my school subjects.

10. ICTs in face-to-face education allowed me to achieve the expected competencies of each educational program.

6. It was necessary to incorporate ICTs even more in face-to-face education.

5. It was necessary to incorporate ICTs even more in online education.

8. Classes in face-to-face education improved as we incorporated and became familiar with ICTs.

Factor: 6.-ICT preferences in face-to-face education.

28. During face-to-face education, I could easily use virtual teaching-learning platforms, such as Moodle, Classroom, etc.

26. In face-to-face education, I frequently used to use spaces for social interaction, such as Facebook, hi5, Pinterest, Messenger, etc.

20. I have frequently used different means of communication in face-to-face education, for example, email, forum, chat, videoconference, etc.

24. In face-to-face education I reviewed and used different tools to obtain topics to be developed, for example, YouTube, Slideshare, Blogger, Wikispaces

Factor: 7.- Application of ICTs for learning.

4. Teachers used ICTs in face-to-face education to improve the quality of learning processes.

2. Face-to-face education fostered my interest in teaching and learning processes.

Factor: 8.-Identification of face-to-face learning distractors.

38. During face-to-face education, the use and abuse of social networks is one of the main distractions to learning.

Factor: 9.-Indistinct use of libraries and databases.

21. In online education, I frequently use libraries and digital databases.

22. In face-to-face education, I have frequently used libraries and digital databases.

Conclusions

It is necessary to carry out a careful analysis of the decisions to be made in the factorial analysis based on the objectives of the research, the variables and the relationships to be established between them, prior to the validation of a survey.

Recognizing that the Covid19 pandemic has generated transcendental changes in education and many other human activities, a survey is available for students of higher education that allows the analysis and contrast of online education during the Covid-19 pandemic and pre-pandemic face-to-face education, which has been validated according to established statistical criteria. This survey can continue to be improved, according to the nature and specific research objective that is desired. There is still little research carried out to the analysis of work relationships that are being presented in forced online education. For this research group, "it opens" a line of research, focused on the knowledge of some educational relationships developed because of confinement. The validated instrument could help to develop it. In summary, a questionnaire has been designed and validated that will allow to know different aspects of online education during the Covid-19 pandemic and face-to-face pre-pandemic education, with an acceptable internal reliability and consistency. It will allow as well reflecting on the possible causes of the high dropout and failure rates present in educational systems, which is the goal of this educational research project.

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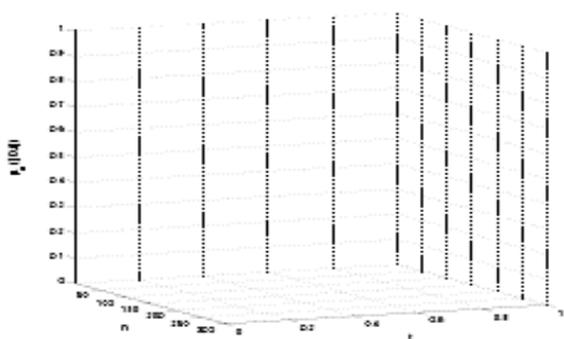
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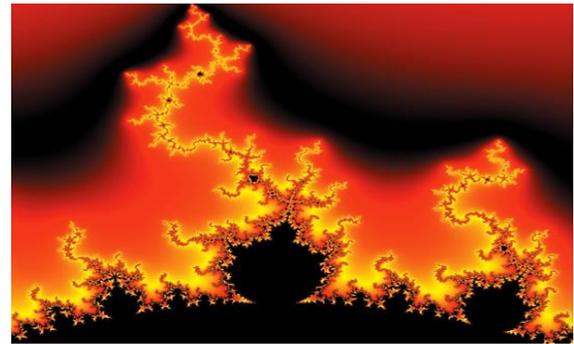


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