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Reflection on the trainer competence in contemporary pedagogical practice

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Abstract
This work will provide some guidelines in the perception of active teachers in the face of current technological advances. Ambition is to re-emphasize a little more on the concretization applications of teaching-learning and to promote the requirement of a serious study in the understanding and acceptance of the necessary change responding to the need of mankind. All citizens deserve a good education and adapted well also to their times. Through this reflection, we bring not only the theories related to the posture of a trainer / mediator, but also suitable material contributing to modern teaching practice.

Keywords: art of teaching, pedagogical modernization, techno-didactics, social regulation system

Introduction

Starting from the appropriate psychology to the learner's conception, the context of a good transmission is based on the spiritual, socio-cultural, physiological and psychological dimensions such as the opening of consciousness, the surpassing of oneself, the adaptation to the environment…, resulting in the direction of lived experiences. In the teaching profession, we can read a lot of books, consult the researcher's writings or great thinkers and often we say that we are aware, we are informed and that have mastered the teaching art. However, This is not enough to make us a good teacher or an expert in the teaching profession. Certainly, we have learned a lot of theoretical and notional knowledges, and in this way, we have built up over the years a great baggage of theoretical and conceptual knowledges, but this baggage never transforms us into a good pedagogue (Noiseux, 2016). However, to have this title, one must still live in experiential reality, experience this baggage and deduce the ideal meaning in the social dimension. With to these experiences, notional knowledge becomes experiential knowledge and, following pedagogical and didactic experiences that we live with our learners, this knowledge would transform into existential knowledge in lived experience, and this is the beginning of a knowledge integrated which defines a fusion between the body, the spirit and the heart in the lived experience with the science knowledge. The quality of teaching staff is one the major concerns of the modern knowledge society by appealing to morality, deontology and professional ethics. The educational purpose in its democratic form requires specific, disciplinary and psychosocial skills of the stakeholders to give meaning and orientation to the interventions so that we can really respond to the school missions: to instruct, socialize and qualify.
We are in the 21st century, the era plays a key role in the cognitive system development in humans. We should also choose material that is suitable and well adapted to the times in which we live in order to provide an answer to the concretization of applications in the teaching-learning of sciences in the contemporary era.

Context and problematics

Since 2016, the success rate of student teachers at ENSET has stagnated around 44%, the choice of students pursuing production mechanics, automobile mechanics and metal structures represents only 11% on average of the admitted population in the second year (Table. 1).

Table 1: Number of student teachers by academic year: 1st year (preparatory year / common core), 2nd year of mechanical engineering (production and automotive) and 2nd year of steel structure engineering

University years	2016-2017	2017-2018	2018-2019	2019-2020
Preparatory year / common core (1st year)	241	266	298	302
Production/automotive mechanics (2nd year)	19	13	8	20
Metallic structures (2nd year)	8	11	9	12

Source: Direction of the École Normale Supérieure pour l'Enseignement Technique-ENSET, Antsiranana University, Madagascar.

The choice of students is oriented as much towards the department of mathematics and computer science, and it seemed more in the computer science course. ENSET has four specializations (civil engineering and metal structures, mechanical engineering, electrical engineering and mathematical and computer engineering) and eight

courses, two of which per specialization. Among the existing Courses, that of metal structures seems the youngest (less than five years of existence), but why these incidents, the mechanics loses its value? Are the construction, architecture or large structure declined with regard to the social dimension? This requires reflection on the trainers' skills in their interventions, on the dynamic learning structure in modern times and the skills architecture to be developed to better meet the needs not only of the parity of student teachers by course, but also to the character socio-emotional of the learning device to offer the pleasure and love of learning to the citizens of today and tomorrow (UNESCO, 2015, Rev 2017).

Technical drawing is one of the disciplines causing strong reluctance in student choice. The latter are informed and reluctant towards courses based on designs and constructions since the technical drawing remains constantly present until the end of these courses. Technical drawing is a universal language of technicians, it represents as a liaison body of all technological disciplines at the same level as mathematics for scientific disciplines. This observation is the effect of a poor techno-scientific literacy caused by the impertinence of the scientific culture of the pupils in the previous classes which affects not only Madagascar, but also the education system on a planetary scale.

Our ambition is to want to bring an element of answer through a tool making it possible to better concretize the direction of intervention and interaction in the teaching-learning of the technological sciences which articulates on a spatial representation of a system semi- concrete, digital and recreational through the computer.

1. Sense of intervention and art mastery

Teaching is an art not only of communication, but also of time, and constantly seeks a place guaranteed by an institution which has received from its authorities the mission of transmitting intellectual, social and cultural heritage (Le Du, 2006). Education always needs an institution that can exclude from the place criteria that have no legitimacy, such as race, wealth, strength, sex or power, because the value of these criteria does not bring nothing to the intended end of the school and as well as the means of implementation to achieve this end. In this respect, the teaching staff is much more than an agent of the institution according to Péguy (1993), it is also a representative of humanity. The teacher is the representative of a small part of the world, and for this reason he is allowed to speak, since teaching is a complex activity with the aim of leading to the higher forms of the world, which is the only issue allowing to value the meaning of human work (Emmanuel Levinas, 2001).

The educational worker should act from the heart in his desire to transmit the legacies of human life. As Erikson (1971), quoted by Prairat, said that if man needs to teach, it is not only out of concern for those who need this teaching, nor out of a desire to affirm his own identity, but because the facts only remain alive if we talk about them, logic if we demonstrate it and the truth if we profess it (Prairat, 2019).

2. Rules and regulation modes in the human activities

Man develops through rules that seem acceptable, livable and collectively modifiable over time. The modern knowledge society is concerned with the relevance of the training and intervening personnel, because the school or even other modern public or private institutions require a large part of their professional competence, by appealing to ethics or the other social regulation forms. Educational staff should refer not only to the philosophical conception of the question, but also to the pedagogical dimension which clarifies professional practice in their action. In a rather philosophical vision, obeying the regulations to the letter does not mean that the person is competent in his profession. This attitude still requires a professional ethic that would remain as a beacon, collegial recognition and reflection on the meaning of work and the purpose of human actions (Desaulniers & Jutras, 2016), without forgetting the missions of the school evoked by the international education policy.

From the point of view of the professional teacher relationship and its specific ethics, Jeffrey (2015) mentioned the judgments of the Supreme Court of major countries such as Canada and the United States recommend that teachers remain teachers, even outside school, they must have a benchmark behavior and a clean criminal record.

Education constantly remains a public service and a public good as well, and it is addressed to all, because without it, nothing can develop. It also requires an exclusion of all forms of social discrimination, so that we can give a relevant sense of moral and human value.

With this in mind, a teacher should be up to it, to better understand the true meaning of regulations, codes and value systems, and to follow them in a collective consent to lead the life of man in a more stable, friendly environment and democratic.

3. Professional trend, movement and technological evolution

We are in the 21st century, the world has changed and modern societies require another form of skill to better develop in their time. We have mentioned that education is not only an art of communication, but also of time. In this paragraph, we will address the reason for a necessary change in educational activities and also provide some reference frameworks to illuminate the meaning of change in the face of the current technological movement and evolution. We emphasize the significant difference between a conventional and digital approach to the teaching of technological sciences after observing samples in a learning context within an ENSET (École Normale Supérieure pour l'Enseignement Technique) in Madagascar.

1. Argument

Technological evolution has changed the way we see things, communicate, work and live differently. Computer science is becoming a universal basis of modern society, it seems that all disciplines should undeniably align themselves with this organization mode. An author said the computer is no longer an auxiliary of the hand which is limited to a field of application, but also of the mind, since it is at the same time a means of training, a tool or auxiliary of thought and action (Pair, 1987). Many authors deal with the cognitive development problems not only with the use of digital technology, but also through another perspective such as the integration of games into learning sequences. Play is an important activity in the development of the being, and this has been well observed during the different human civilizations (Haight *et al.,* 1999). The game is also a communication, interaction, pleasure mode and human development and many other animal species (Burghardt, 2005) cited by (Romero *et al*., 2017). Without the presence of the game, it is impossible to have a good active and reasonable man in his midst. In this perception, we want to combine the usual learning sequences with computer science, and also introduce a playful aspect that is related to the game, to respond to the desire of the subject and to make the activity more recreational, since the game would remain always a mode of socialization of several species.

2. Theoretical frame

Ludic teaching-learning is a deliberate choice of educational strategy. This strategy supports the diversity of learners. Learning by the game develops an educational differentiation that meets the need for learning. This approach highlights a development of competence in the new era with the existence of new technology (Gardner, 2006; Bachy, 2007).

The integration of a recreational aspect into the activities seems necessary to make the tasks more fun. The game gives the pleasure of learning and it differs from other strategies by its playful intention which makes the learning experience more affective. Csikszentmihaly (1991) mentioned that the optimal experience is the phase of the mental state reached by an individual when he is completely immersed in what he is doing. This individual takes in hand the feeling of his total commitment to his activities and his successes as well. Felder and Blent (2009), have defined that learning through play is an active learning strategy and that learners should be directors and main actors in their learning through tools (computer, tablet, smartphone, etc.) which illuminates them the most in the contemporary world, and this perception was articulated with the reason of Eison and Bonwell (1993). With reference to the playful aspects of games, technological development encuroages us to integrate computers into our activities in synergy with games in order to highlight the socio-cultural framework of the learner during the development of their competence and that this is valid in all human activities in the era of the 21st century.

The overly theoretical educational dimension no longer interests learners. They need to learn by referring to reality or to the objects that surround them in their daily life (Juuti K. *et al.,* 2010). The omnipresence of digital technology in human activities leads us to reflect a little more on how to act and teach a discipline that meets the socio-cultural demand of our era from a technocratic, didactic and democratic angle. This dimension is interested in the historical evolution of a discipline so that we can see the heuristic meaning and draw a conclusion on the real need for it in the face of technological developments.

Verillon, (1996) said if we really want to promote the appropriation of the scientific concept of a discipline, it is necessary that trainers master the foundations of familiar theories and as well as its historical values so that they can invest in their sequence a technological design approach to initiate a link between science and technology. In addition, Annie Bessot (2009) mentioned in her treatise on geometry and the building trade that construction tasks depend on reading the plan and this must be done in the workshops to give meaning to it. Other authors such as Rabardel (1989) and Fassina (1973), worked on the transposition of geometric knowledge which is based on a reinterpretation of the results by referring to piagetian works on the representation of spatial objects. The authors conclude with two strategies (figurative and operational) and reconfirm these conceptual aspects leading to the discernment and identification of the object production by the subject. The use of the semiotic dimension influencing the geometric and technical characteristics of the object is strongly requested to provide clarification on the representations of the semiotic variables (signifiers and signified) of the instrument in its technological aspects. Experimental work can be set up through technical drawing: conception, exploration, presumption and construction, but this depends on specific knowledge and domain (Chaachoua, 1997). Author confirmed the existence of the double function of drawing in solving the problem of plane geometry by citing Bkouche (1983). Chaachoua also proposed to study the role of a computer environment linked to the profession of geometric construction. It is a spatial and computerized geometric model favoring the widening of the fields of interpretation and its relationship with the design. Author requested a caution and consideration of the interface perfection from the point of view of the internal universe during the choice of the learning simulator, otherwise this choice could lead the learners into another obstacle caused by the impertinence of the interface, it is a computer transposition (Balacheff, 1994).

The technical drawing presents many design bases and is used primarily for the various construction operations. However, IT still opens a new field that allows us to make our activities more concrete through various applications.

Computer Aided Design (CAD) status offers a systemic representation of an object before it was born. CAD will not only be able to transform an object in a realistic way, but it will also undergo powerful simulation, parametric calculations and even manage massive data in a whole of the compiled system. If the representation

of the object appears in a concrete way, the errors are less frequent and will be translated into representative competences according to the request or the objectives to be reached being articulated on the configuration of the spatial aspects of space object (Piaget *et al*., 1956; Shepard *et al*., 1971). CAD transposes evolutionary technology into the world of design with many actors (researchers, designers, engineers, architects, etc.) in their professions (Tourpe, 2004). IT must be visible in all human interventions, as Pair (1987) said that the computer is no longer limited to a simple domain. In this view, Davinia (2008) had made her activities highly affective by using a digital learning object representation environment. The author used CAD software to create a three-dimensional object in the digital space contributing to the learning of technical drawing and the result seems satisfactory. With regard to all these references, the conceptual aspect of Davinia responds pertinently the co-creative, emotional and socio-cultural dimensions of the learning code and the strategy of modern science teaching through digital technology and play. Following this approach, our ambition is to want to verify this perception and also the reason for the investigation.

3. Methodology

In this paragraph, we recall an alliance between actors in the field and a community of support researchers to better contribute to the ideology advocated by John Dewey. This media conception often intervenes in the model or the research-action typology in order to find a linking body of the conclusion of research in education and in educational activities. Many authors have addressed this linkage problem (Asbury, 1975; Farell, 1970; Brown, 1976; Avanzini, 1978) and they have suggested that actors in the field should be informed and supported to understand problematic incidents related to teaching practice. In this paper, we deal with the case of the functionalist intervention of action research, which relies on a pragmatic type of action in the hope of having a more significant change in the learning system. Regarding the methodological process, we offer a comparison between samples of different classes and levels in learning contexts. The work is based on two approaches with the aim of referring to the mixed research typology that is often advocated by its qualitative and quantitative nature. The first is based on reflections, exchanges and interviews between peers (technicians/persons in charge of the discipline: technical drawing) and certain numbers of learners as well, like an inductive holistic approach with the aim of having qualitative data that materializes the situation in the direct understanding of the phenomena. After the exchanges carried out (Madagascar / Canada), the outline of the ideas that emerged can be summarized in five areas: relevance and congruence of content/programmes; insufficient practices; need for the modernization of practices; integration of technology in teaching-learning and; knowledge updates for trainers/mediators. After reviewing the ideas emerged semantically, the most striking and iterative ones are: the need to modernize practices and the use of technology in educational activities.

The second approach is based on a hypothetical deductive model in the interest of having quantitative data (direct observation of learners in a learning context). In this process, we have a logbook for the follow-up of the elements (individuals) in the samples during the observations (production, acquisition, time allocated…), and the names of the students are kept anonymous to preserve their personal rights. In our case, the processing of quantitative data is based on a parametric test called the t test or Student's test, which is suitable for a series whose mean and variance are known. We test the variables according to the three approaches (conventional, by mediation and by a digital recreational device), but the conventional mode of teaching-learning remains as a witness of verification of the level of significance of two other approaches. The purpose of this test is to verify the consistency or not of the didactic tool proposed so that we can make a decision and really know the need for the learning system in the digital age. This device highlights the value and meaning of techno-didactics contributing to the technocratic organization of the pedagogical grain inducing a recreational aspect that will develop a self-commitment behavior of the population itself (Canissius and Anne, 2020).

From a statistical point of view, given two samples of size n_1 and n_2, and that they were taken from the same population with respect to the variable studied and these two samples having been taken independently, we establish two assumptions:

H0: null hypothesis, corresponds to the equality of the means, the difference of which, D=0;

Ha: alternative hypothesis, corresponds to the difference of means, D≠0.

We opt for the XLstat software for the processing of the data collected during the observations because of its simplicity and the power of the algorithm. The creation of the digital teaching-learning device was however carried out with the CAD simulators/software available in our laboratory (Topsolid and Solidwork).

Results comparison, discussion and validation of perception

The objective of this comparison is to see the significant effect of the learning device that we would like to bring to the teaching-learning of sciences insofar as to increase a little more the sense of interaction. Student performance was observed according to three modes of intervention in the first year, against two modes in the second year. The word "before" on the graphs indicates the mode or the conventional aspect of the pedagogical approach used in the activities in which all the subgroups (table. 2) are concerned before the testing of the new device.

Table 2: Number of learners in groups and sub-groups of the first year (2016-2017).

Groups	**GR1**			**GR2**		
Sub-groupes	Gr11	Gr12	Gr13	Gr21	Gr22	Gr23
Number	40	40	40	41	40	40
Total (n)	241					

Source: Direction of the École Normale Supérieure pour l'Enseignement Technique, Antsiranana University, Madagascar

The word "during", only for the samples of the first year, designates the sampling phase using a mediation approach which is articulated on overabundance of tasks, adjustment of theorems, apprehension of definitions, demystification of laws..., this interval represents a transition phase which seems important, since it describes the presence or not of the variables (grades and production time of the learners) or performance of the elements in the samples. In this part, we have not only adopted the conventional characteristic, but we have also integrated a media intervention to confirm or not to one of the issues highlighted during the discussions with many internal and external, national and international actors. In these figures, we also find the word "after", this word designates the sampling phase during the implementation of the new learning tool which is based on three-dimensional modeling using computer-aided design software based on a preliminary digital presentation of the entire system, its function and the roles of each of the parts that compose it to make not only the pedagogical grains intelligible, but also to give a little more meaning to the content and as well as its transposition in the face of technological advances.

Note functions look different than time distributions of productions. There is still a gap between the conventional model and the mediated model, but the effect of interventions during the second phase of sampling seems reluctant in all samples.

We offer twenty elements per subgroup to verify the causality of the approaches discussed. We only present in this paper, an extract of the variable's evolution with subgroups 13 and 22 (Gr13 and Gr22) for the first year, and the entire population for the case of the second year (metal structures). The evolution of the variables before and during the experimentation process sometimes presents itself in an alternative and tangential way and their meanings seem reluctant to the extent of maintaining or rejecting the initial hypothesis. Some elements are within the optimal time (25 minutes), the case of learner numbers 5 and 15 in figure 1.a, but their scores (on a 20-point scale) visibly dropped after completion mediation, and similarly the case of learner's numbers 6 and 10 in figure 2.a.

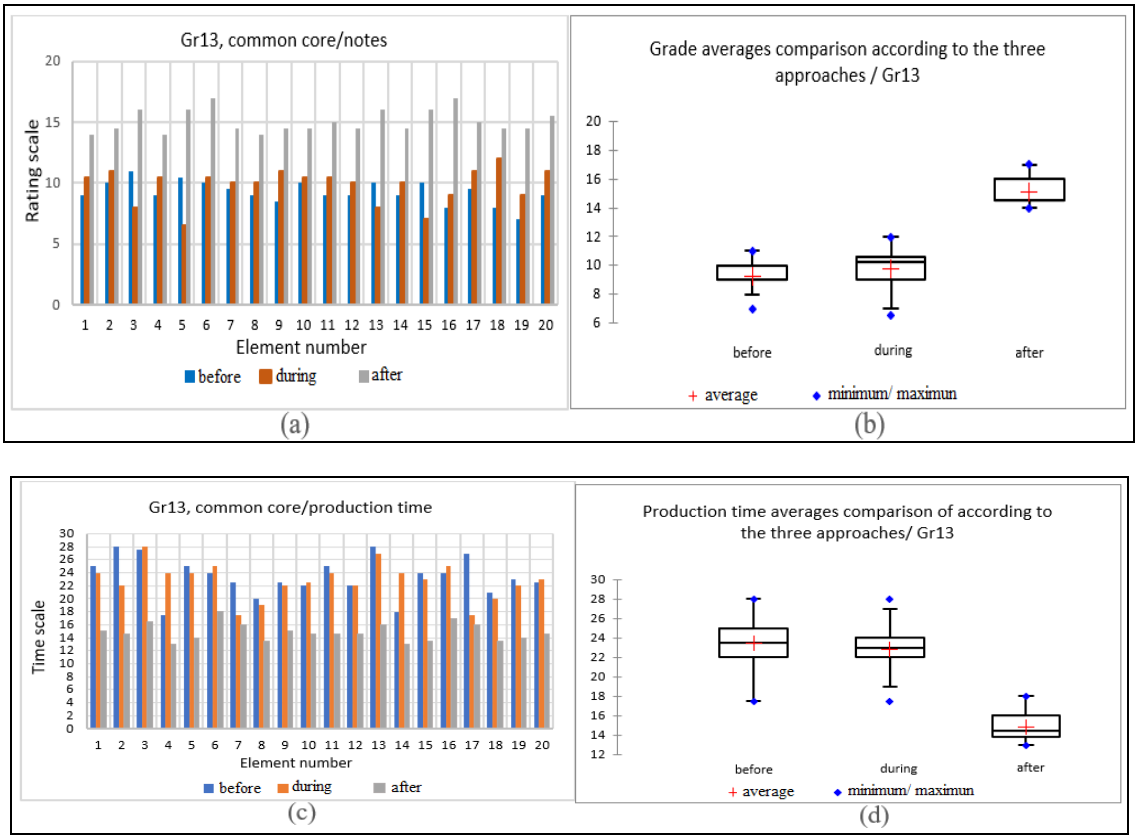

Fig 1: Variations of notes and production times for the elements of the Gr13 subgroup (a): grades according to learner numbers; (b): scores comparison for the three approaches(c): time as a function of learner numbers; (d): time comparison for the three approaches.

Given this observation, and despite the magnitude of the number of tests carried out, we can only offer an extract of the result to show and confirm our deduction towards the samples. In this presentation, let us take the case of the notes of subgroup 13 (Gr13) deducing the rejection of the second phase of sampling which is of no interest from the point of view of the student's performance (figures 1.b).

1. Excerpt from the result on the scores distribution for sub-group 13 (Gr13)
Two independent samples t-test / Two-tailed test,
Significance level (%): 5
Assumed difference, D: 0
95% confidence interval around the difference of the means
Variance of the populations for the t-test: Assume equality.

Table 3

Statistical	***Before***	***During***	***After***
Observations number	20	20	20
Minimum	7,0000	6,5000	14,0000
Maximum	11,0000	12,0000	17,0000
Amplitude	4,0000	5,5000	3,0000
1st Quartile	9,0000	9,0000	14,5000
Median	9,0000	10,2500	14,5000
3rd Quartile	10,0000	10,6250	16,0000
Mean	9,2500	9,8000	15,0750
Variance(n)	0,8375	1,9850	0,8569
Standard deviation (n)	0,9152	1,4089	0,9257
Standard deviation of the mean	0,2099	0,3232	0,2124
Lower terminal average (95%)	8,8106	9,1235	14,6305
Upper terminal average (95%)	9,6894	10,4765	15,5195
Variance standard deviation	0,2860	0,6779	0,2926

Table 4: Results of normality tests (condition to be fulfilled before the t-test)

Tests	**Parameters**	**Before**	**During**	**After**
Shapiro-Wilk	W	0,9467	0,5000	0,8518
	p-value	0,3198	0,2384	0,0572
	Alpha	0,05	0,05	0,05
Jarque-Bera	JB (Observed value)	0,5967	2,8010	2,2869
	JB (Critical Value)	5,9915	5,9915	5,9915
	DDL	2	2	2
	p-value	0,7420	0,2465	0,3187
	Alpha	0,05	0,05	0,05

Test interpretation
H0: The variable from which the sample comes follows a normal distribution;
Ha: The variable from which the sample comes does not follow a normal distribution.

Since the values of the calculated p-value test statistic are greater than the threshold significance level alpha=0.05, we cannot reject the null hypothesis H0. The risk of rejecting the H0 when it is true is 31.39%. Therefore, H0 is retained, since the normality condition is verified. Sometimes, we come across a series that does not follow a normal distribution, and as n<30, we cautiously used a non-parametric test called the Kolmogorov-Smirnov test to check the difference in distribution of the series tested and that also responds to the recommendation of the many theories (Labarere, 2010; Ingrand, 2018; Jarque *et al.*, 1987; et Bera, Anil *et al.*, 1981).

Student Test result

Difference	0,6500
t (Observed value)	0,7181
|t| (Critical value)	2,0244
DDL	38
p-value (two-sided)	0,4771
alpha	0,05

Fig 2: Test between samples before and during

Test interpretation
H0: The difference between the means is equal to 0,
Ha: The difference between the means is different from 0.

Since the calculated p-value test statistic is greater than the threshold significance level alpha=0.05, we cannot reject the null hypothesis H0. The risk of rejecting the null hypothesis when it is true is less than 47.71%. This result leads us to reject the mediation approach since there is no significant change between the average scores.

Difference	-5,8250
t (Observed value)	-19,5060
|t| (Critical value)	2,0244
DDL	38
p-value (two-sided)	< 0,0001
alpha	0,05

Fig 3: Test between samples before and after

Test interpretation
For the same hypothesis of H0 and Ha, the calculated p-value is lower than the alpha threshold significance level, the null hypothesis must be rejected and the alternative hypothesis retained. The risk of rejecting the null hypothesis is less than 0.01%. Therefore, this result confirms a significant change in the samples observed after the implementation of the new didactic tool (figures 1 and 2).

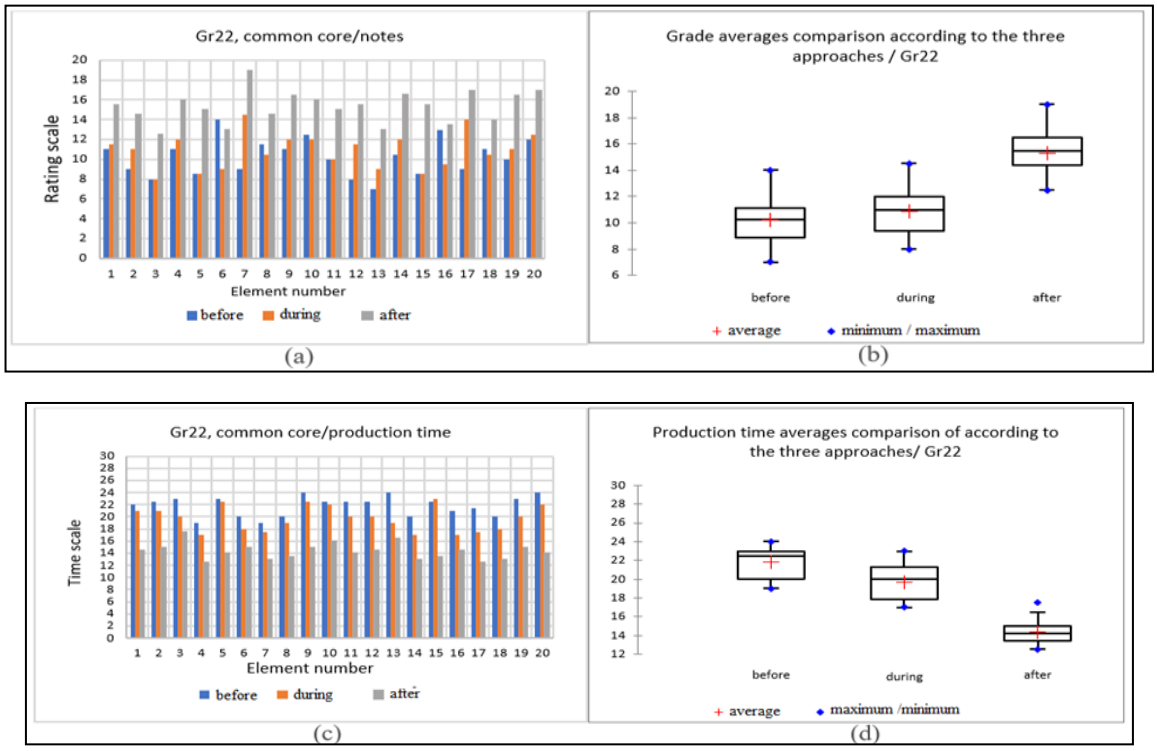

Fig 4: Variations of notes and production times for the elements of the Gr22 subgroup (a): grades according to learner numbers; (b): scores comparison for the three approaches (c): time as a function of learner numbers; (d): time comparison for the three approaches.

In the light of this perspective, as we have already mentioned, we also applied this process with the second-year student teachers in metal structures. During assessments, the mark scale is still set at 20 points, but the maximum processing time goes up to 90 minutes. In this case, we have approached two approaches and this is always articulated first, by a conventional mode, since it is known and requested throughout the history of education, but time changes and it seems that these learners are asking for another model that is consistent with the world in which they currently live. The mediation approach is removed from the process, it contributes uncertainly and reluctantly according to its causality to the parent population previously treated: case of the first year.
In addition, we observe a great performance between the two variables after the use of the digital device and this will better meet certain criteria in engineering training: temporality (figures 3.c and 3.d) and quality (figures 3.a and 3.b).

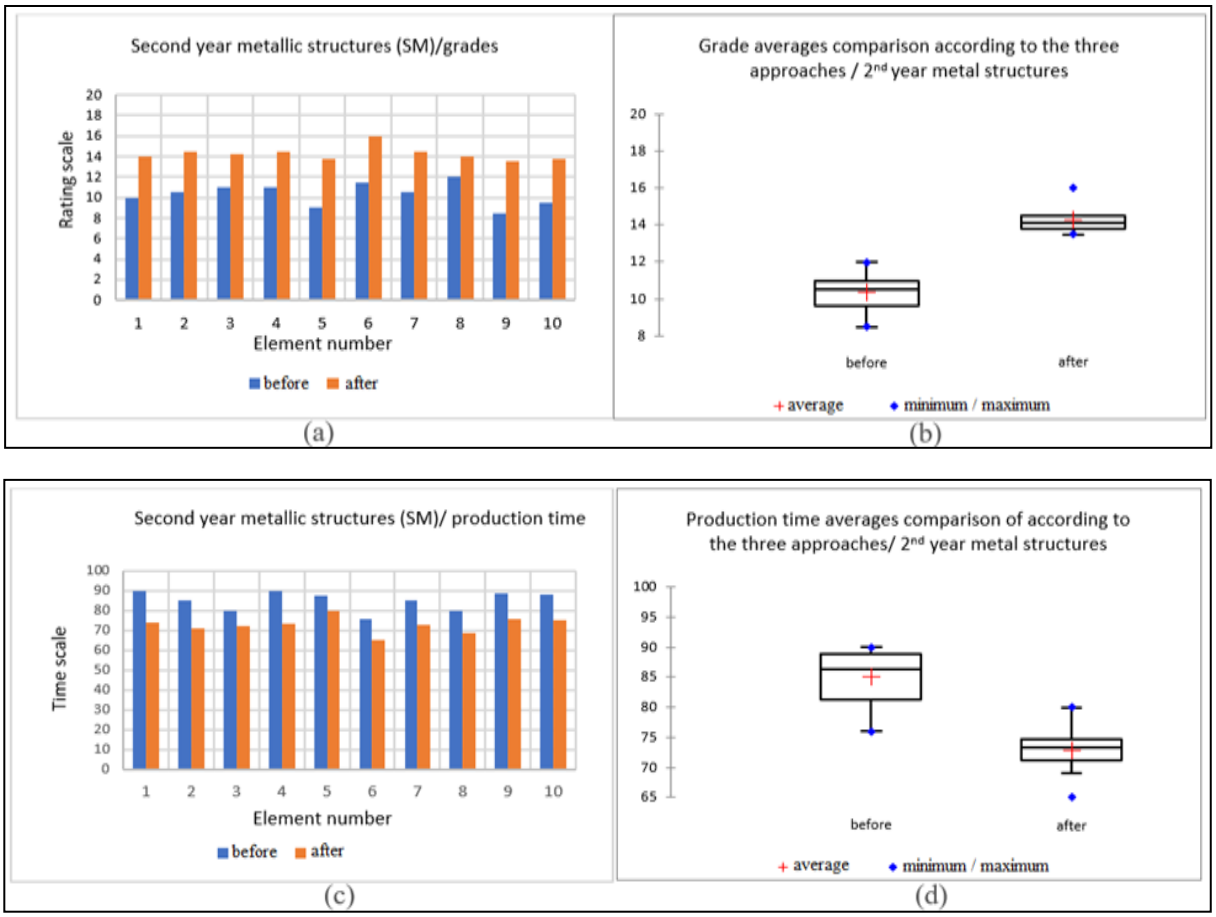

Fig 5: Variations of notes and production times for the elements of the 2nd year of Metallic Structures (a): grades according to learner numbers; (b): scores comparison for the two approaches (c): time as a function of learner numbers; (d): time comparison for the two approaches.

We see the birth of a confidence climate and assurance between the learners and the trainer, this climate brings us a more significant result in the process of behavioral development which is part of a cognitive current modeled following the movement and the technological evolution.
The device regulates the progression of grades and the regression of production time and this contributes to 25% of the performance of both individual and collective students.

Conclusion and perspective

If we want to live properly in this world, to live together in a well-shared world, and to live in a world that will outlive us, we should think about the temporal dimension that will influence the system of regulation of all human activities. Le Du (2006) said that teaching is an art of time and resides in a legitimate institution and accepted by societies.
In this work, we bring some regulations, codes and didactic strategies of the teaching profession in the hope of having a more significant result in the educational system. We want to highlight that school is not a domestic or political space, but it is an intermediate, transitional place, of discovery and experience so that citizens can properly prepare their futures and develop their knowledge existential so that they survive in a regulated, loyal and sustainable way. An educator, say in modern times, should be able to transpose not only the system of social regulation, but also the material used during their intervention according to its times and contextual variabilities. We focus a little more on the era, since each generation has its own way seeing the world. Currently, what illuminates the generation of the 21st century is computing. Why and when will educators actually fit into this system? The education policy often in the countries of the South does not allow educators to combine pedagogy with the movement and technological evolution. The absence of the means, certainly, one of the blocking factors and also technophobia, but it depends on the vanity and the desire for change of each one. An educator will constantly remain a leader committed to building knowledge for the development of humanity. With regard to this postulate, we have initiated research contributing to the brakes and blocking factors in the technological sciences learning, which revolves around an improvement in the performance of students in technical drawing. We refer to the Davinia for the recreational aspect it brought to its students. In reference to this perception, we increased the degree of interactivity of the system by combining the learning chain with the game as a linking organ between the sequences. We saw a birth of a cooperation climat and trust between the learners during the sequence, since the game is a universal human activity most important to the development of the human being and his learning as well (Haight *et al.*, 1999). The game presents an essential part of our socialization modes, we

all played while we were little and many others still continue to play in adulthood, hence the recognition of all, the game remains constantly as an activity essential to human development.
In short, educational success in modern times hinges not only on the mastery of the subject taught, nor on the relevance or congruence program, but also depends on the social regulation system, technological development and the ability to choose a recreational liaison and also transferable to other related technological disciplines.

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