

Reflection and Impact of the Integration of New Technologies of Information and Communication on the Pedagogical Act

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Abstract – Information and communication technologies are present in all areas of social, cultural and economic life. These tools are now indispensable for successful social and professional integration. The reform of Moroccan secondary education marking the transition to the system of innovation and quality in 2002 is in line with the socio-cognitive learning process which requires schools to rethink the curriculum in terms of learning outcomes Training and not just in terms of disciplinary content. The results of the survey reveal that 57% of teachers surfed the internet two hours a day in the case of flap management, 24% are sailing every day, and 17% are never browsed on the internet.

The results of the survey reveal that 57% of teachers surfed the internet two hours a day in the case of flap management, 24% are sailing every day, and 17% are never browsed on the internet. Based on the analysis of the questionnaire and the observation carried out on the ground, several observations are necessary. Moreover, the proper appropriation of these new tools represents a real challenge for the Moroccan education system. Unaccompanied, equipment and training are not enough.

We found that only 66.5% of teachers received training in ICTs registered in the case of Kenitra management followed by the management of Salé with a percentage of 65.5%. For the mastery of the use of certain computer software. We found low teacher rates for the use of graphics, database and programming software with a rate of 33.50%, with a fairly high percentage of teachers having an average to good Use of spreadsheets, presentations.

Our study provides some thoughts on the uses of ICT in training in a public secondary school known by its staff. It highlights the lack of consideration of the contribution of ICTs in the definition of educational objectives in the different paths provided in the school and the lack of guidance and guidance for cross-curricular and disciplinary skills Of the pupil acquired by ICT in his or her personal sphere.

Keywords – ICTs, Learning process, Thinking and Impacts, Teaching Act.

I. INTRODUCTION

Information and communication technologies are present in all areas of social, cultural and economic life. These tools are now indispensable for successful social and professional integration. The question of whether or not this technology should be present in our schools no longer arises.

Indeed, school prepares the future of our children, the school must therefore take into account the evolutions of the society and integrate the ICST in its environment. Although there is still room for high-tech innovation, the time has come for the widespread use of ICST. Today, the question is why and how to make it effective tools to learn and to learn?

The Ministry of National Education makes the integration of ICST a priority, many teachers are still wondering what a computer can do well in the classroom. Even among the teachers convinced of the usefulness of the computer tool, the questions remain about the integration of ICST into everyday practice. Yet today, ICT has become an essential element in primary education.

According to the new official instructions, teachers must, on the one hand, integrate ICT into their method of learning and, on the other, emphasize learning and language proficiency. So why don't try to find a link between these two priorities of our learning?

Can the computer tool be a help to the mastery of the language? How can it be used in this precise perspective of language learning and, above all, what are the advantages of this in relation to more conventional teaching? Which organization should be set up? These are questions that I will try to answer in the first time. In a second step, to illustrate my point, I chose to carry out a project on language learning, and more specifically language levels, through the realization of a slideshow. This project makes it possible to highlight the advantages and disadvantages of the use of ICST in a pedagogical practice.

II. STUDY CONTEXT AND PROBLEMATIC

The reform of Moroccan secondary education marking the transition to the system of innovation and quality in 2002 is in line with the socio-cognitive learning process which requires schools to rethink the curriculum in terms of learning outcomes Training and not just in terms of disciplinary content. ICTs, in this context, are considered, in political discourse, as a driving force for improving training and anchoring the Moroccan school in its socio-economic world.

The national strategy for the integration of ICT in education identifies four main thrusts: digital resources and services, ICT training, IT infrastructure, promotion of scientific research and Of innovation (Labioui, et al., 2015).

After a decade of ICT experimentation, visible efforts in all Moroccan schools are concentrated on the development of vocational and technical training without paying as much attention to training and accompaniment of trainers, The development of digital resources and the strengthening of human resources through skills necessary for the successful integration of ICT into teaching practices.

In the context of the changes that have begun over the last decade or so, we are trying to resolve the following problem: how can the integration of ICT into training as a

commitment to a process of technical and pedagogical innovation Lead to changes in teaching / learning practices?

2. Methodology and protocols for pedagogical studies

2-1. The information system of the academy rabat-sale-kenitra

Education and training is one of Morocco's national priorities. Considered as a major stake for development, considerable efforts are deployed by the kingdom. As a result, major projects and reform projects are constantly being launched, as reflected in the National Charter for Education and Training under the aegis of COSEF (Special Commission for Education and Training) supplemented by the The 2009-2012 emergency program.

Despite the progress and progress made, the record of achievements remains mixed. Moreover, the strong will of the government under high royal instructions to face this challenge to encourage the renewal of the Education and Training System (SEF) and to strengthen its openness to society and its economic environment, Social and cultural development. In the same direction, the CSE (Superior Council of Education) was created as an institutional organ with a consultative vocation, presided over by His Majesty the King. This council supports the process of reforming the education-training system through ongoing monitoring and evaluation. It also monitors the application of the recommendations of the charter, pursues the reforms undertaken and proposes solutions.

2-2. Statistical studies of the regional academy (Rabat – Sale- Kenitra)

As part of the program to develop ICT in education, the Rabat Academy is particularly interested in training teachers to provide them with the necessary skills in order to optimize the use of new technologies acquired in recent years and to develop teaching methods.

This training project undertaken by the Academy aims at specific objectives such as:

- * Encourage the active participation of teachers in the integration of ICT in education,
- * Contribute to improving the quality of teaching and learning through the pedagogical exploitation of ICT,
- * Enable the appropriation of multimedia tools by teachers for effective classroom use.

To ensure the success of this major action carried out by AREF, a pilot ICTT training project involved hundreds of teachers from different specialties from each delegation.

This TICE training program is defined in 2 parts:

* Knowledge of the IT tool with international certification
ICDL

* Mastery of the didactic tool in a pedagogical context with
CTP certification

Table 1: Number of High School by Provincial Direction

province	Rural environment		Urban environment		Average (%)
	educational establishment	Rooms	educational establishment	Rooms	
Rabat	-	-	22	613	38.24
salé	1	10	33	848	53.52
kenitra	1	15	9	120	8.24

Table 2: Number of Secondary School Students Qualifying by Provincial Direction

province	Rural environment		Urban environment		Average (%)
	Girls	Boys	Girls	Boys	
Rabat	-	-	10572	9711	31.13
Salé	157	173	17232	15593	50.85
Kenitra	657	763	5147	6178	18.02

Table 3: Distribution of Secondary Education Teachers by Provincial Direction

province	Rural environment	Urban environment	Average (%)
Rabat	-	1173	34.60
Salé	21	1547	45.62
Kenitra	57	671	19.80

III. METHODOLOGY

3-1. Study Method

In the course of this study, a research method is imposed, according to GRAWITZ, "the research method is a set of operations by which a discipline seeks to attain the truths it pursues, demonstrates, verifies, Dictates in a concrete way to envisage research, but this in a more or less imperative, more or less precise, complete and systematized way".

In evoking the definition of N'da Paul, "we can indicate that the descriptive method consists in describing, naming or characterizing a phenomenon, situation or event so that it appears familiar".

3-2. Target population of the study

The population that is the subject of our study is the whole of high school pupils and teachers of secondary education qualifying, the following table shows the cities affected by the study.

Table 4: Number of participants in training of teaching units by provincial direction.

Provincial Direction	Number of students	Number of teachers
Rabat	54	50
Kénitra	62	46
Salé	58	52

-Application protocol of the study tool

We distributed the questionnaire on 90% of participants in MOS training directly face to face with a detailed

explanation of our study. The operation of the distribution and the collection of the results did during a period of 15 days.

- Knowledge and training of teachers in relation to ICTs

- Computers connected to the Internet: yes or no
- Internet browsing: never, two hours a day, every day
- Percentage of beneficiaries receiving ICT training: benefited, not benefited

-Teacher Competencies and Approaches to ICTs

- The degree of use of educational tools: never, low, medium, frequent
- Software mastery: no knowledge, beginner, average, good
- Multimedia rooms: available, not available
- Use of ICST in the classroom: yes, no
- Influence of ICT use on students: low, moderate, good

- Teachers' conception of remote ICT use

- Distance learning: benefits, not benefited
- Participation and creation of platforms: yes, I think, no

IV. RESULTS

4-1. Knowledge and training of teachers with regard to ICT

-Computers connected to the Internet

The Internet is not very developed in Moroccan schools. We recorded only 68% of computers connected to the Internet for all three directions. This is due in part to the low computerization of public secondary schools and the cost of Internet access that some of these schools can not afford.

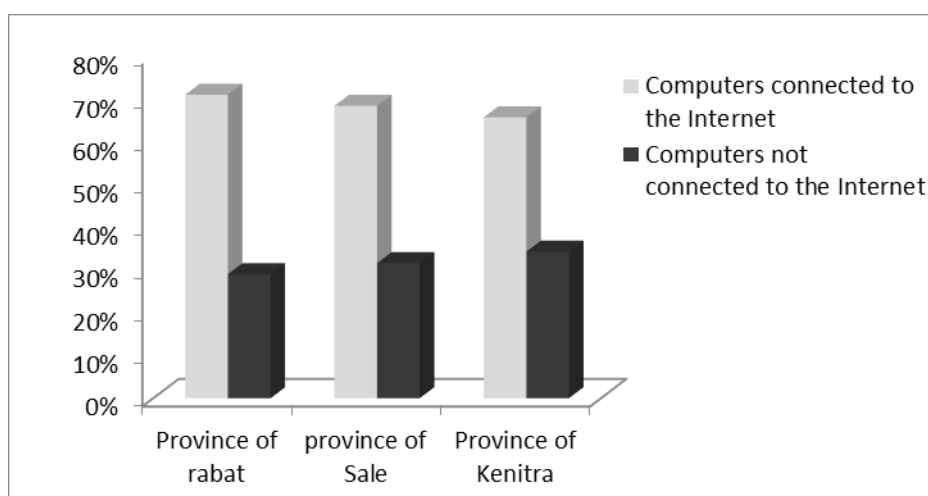


Fig.1: Percentage of computers connected to the Internet

- Internet browsing

Teachers who access the Internet from their mobile phones to computers do so in particular to visit websites and participate in social networks, download mobile applications, exchange text messages, consult their emails,

share Internet access and Use an application of a software. The results of the survey reveal that 57% of teachers surfed the internet two hours a day in the case of flap management, 24% are sailing everyday, and 17% are never browsed on the internet.

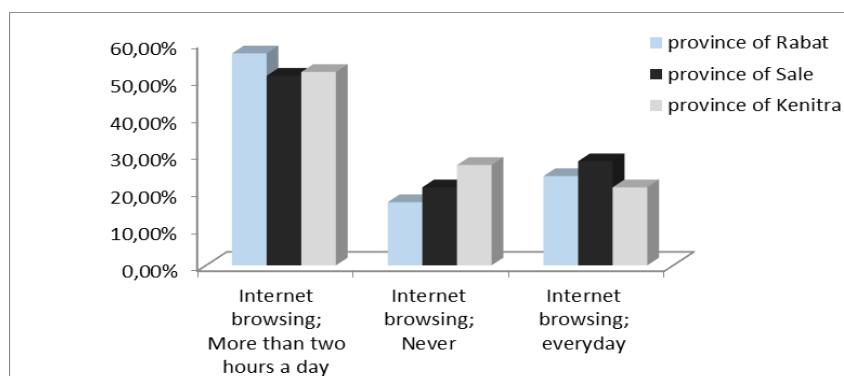


Fig. 2: navigation of teachers on the Internet

-Percentage of beneficiaries in ICT training

Based on the analysis of the questionnaire and the observation carried out on the ground, several observations are necessary. Moreover, the proper appropriation of these new tools represents a real challenge for the Moroccan

education system. Unaccompanied, equipment and training are not enough.

We found that only 66.5% of teachers benefited from ICT training registered in the case of Kenitra management followed by the management of Salé with a percentage of 65.5%.

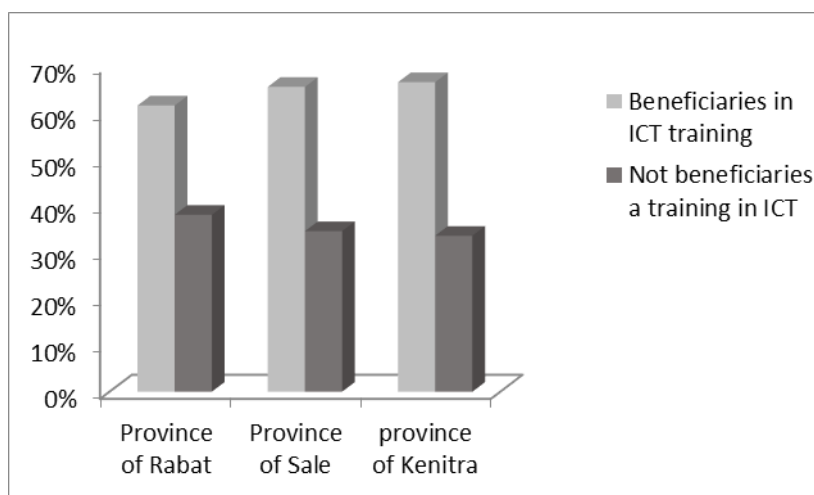


Fig. 3: Percentage of beneficiaries training in ICT for the three directions.

4-2. Teacher Competencies and Approaches to ICTs

- The degree of use of teaching tools

The use of ICT for pedagogical purposes does not mean that the computer or computer tools replace the teacher and that the course given to the students consists of a page-

screen parade. According to the results shown in Figure 4, most teachers report that the pedagogical tools are misused.

The results show low rates of use of teaching tools by teachers (27% of flap direction). Thus, only 40% of teachers use these tools in the case of kenitra direction.

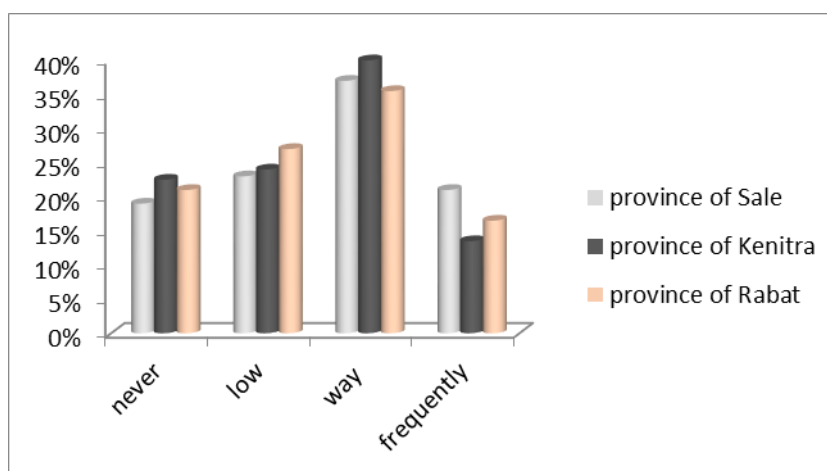


Fig. 4: Degree of use of pedagogical tools by teachers

- The degree of mastery of software

Figure 5 presents the results of the question on the control of the use of certain computer software. Based on

the results of the graph below, there are low rates of teachers for mastering the use of graphics, database and programming software with a rate of 33.50%. While a fairly

high percentage of teachers have an average to good level of use of spreadsheets, presentations and the internet recorded

in the case of Salé direction (16%).

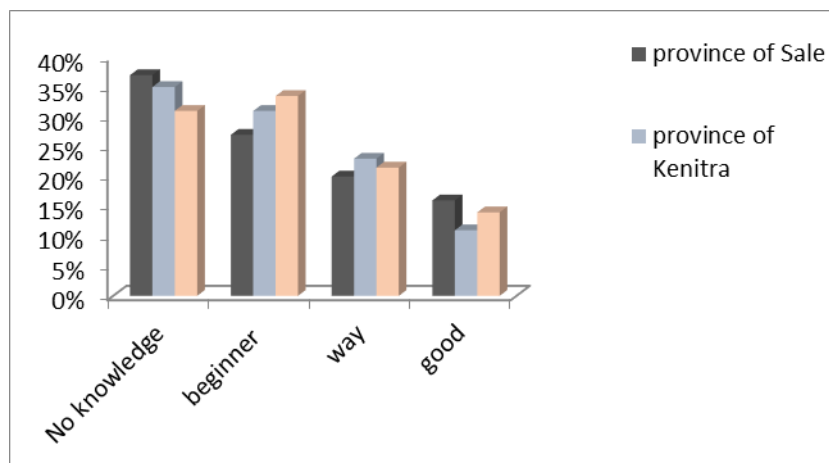


Fig. 5: Level of mastery of software by teachers

-The availability of the computer room

According to the results obtained, 72.50% of the teachers have a computer room in their establishments about kenitra direction. While 27.50% of establishments do not. On the other hand in the direction of flap one finds only

69% of the computer rooms available to use for a course integrated TICE.

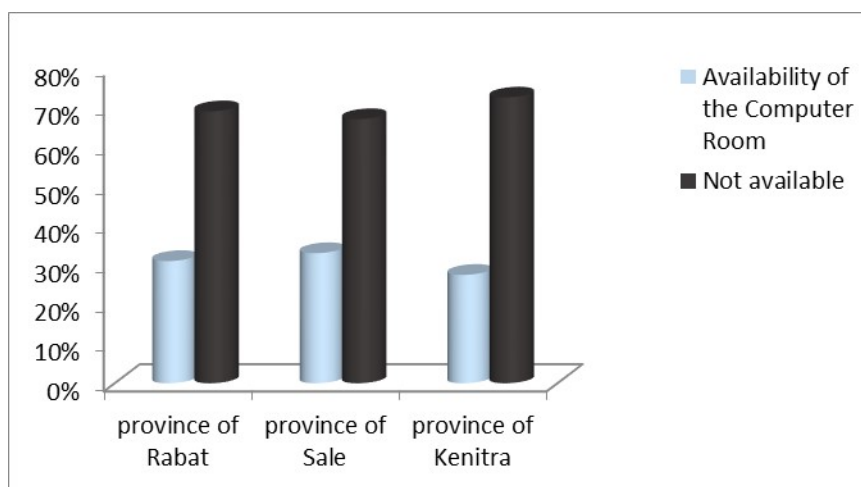


Fig. 6: Availability of computer rooms to use ICTs

- The use of ICST in class

The analysis of the results obtained (71% of the teachers in Salé use ICT in the classroom), made it possible to identify the following points: The ICST facilitates the understanding of the course, The ICT helps to organize the course, Use of ICTs saves time.

There are difficulties during the use of ICST in class which are three main difficulties have been revealed following analysis of the data collected, lack of equipment, overstaffing of students in class, lack of a specialized room .

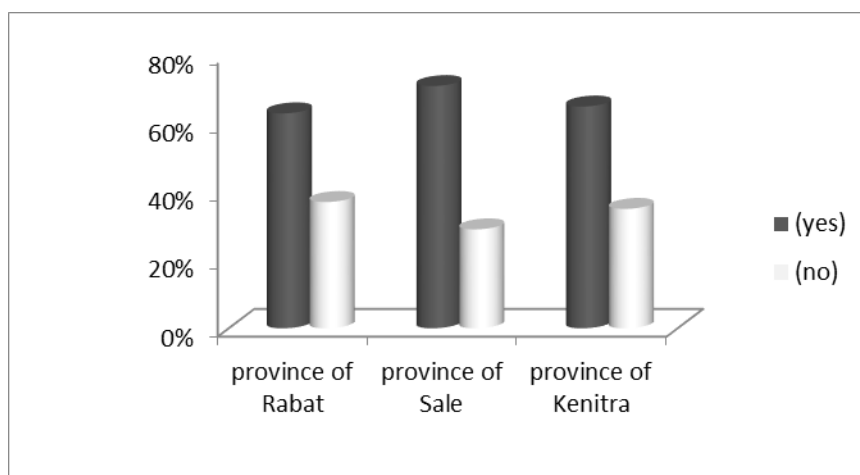


Fig. 7: The use of ICT in the classroom by teachers

-Influence of the use of ICST on students

A true use of ICTs in qualifying secondary education thus implies the involvement of its teachers. The latter generally present a vocation to confront new class practices.

Based on the results shown in Figure 8, most of the teachers surveyed reported that they had a positive effect of using ICST on students with a 62% excellence rate recorded

in the case of flap direction followed by students Of salty management with a percentage of 52%.

The analysis of the results obtained thus revealed the following points:

- TCEA facilitates understanding of course
- CTBT helps organize the course
- The use of ICTs saves time.

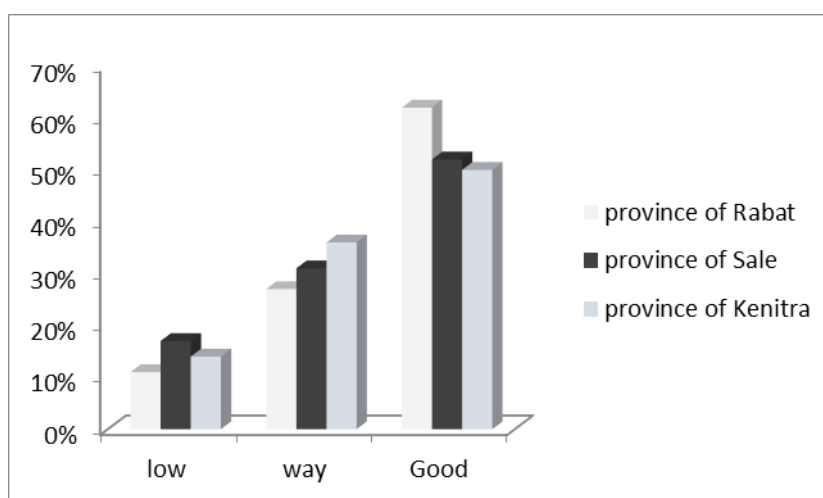


Fig. 8: Influence of ICT use on students

4-3. Teacher design through remote ICT use

- Distance learning

The figure below (Figure 9) indicates that the main training that teachers have benefited is the training offered by the GENIE program, provided by the Ministry of Education (62%). As for the training provided and organized by the Academy, it reaches only 38%.

According to results obtained at the level of the academy of Rabat, salé, kénitra, 77% of teachers received remote training recorded in the case of flap management, and 33% did not benefit from a Distance learning. On the other hand, the directors of Salé and Kénitra were trained at a distance of 73% and 75%.

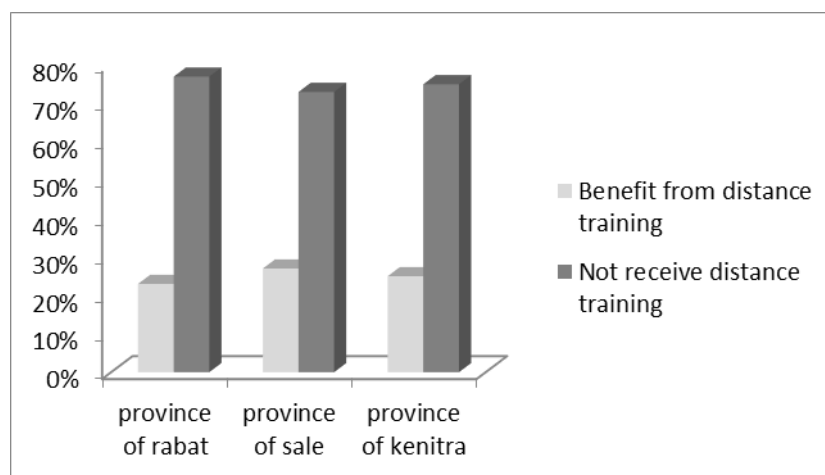


Figure 9: Percentage of teachers receiving distance education

- Participation and creation of platforms

According to the survey we used, most teachers and high school students have basic computer tools with internet access. Nevertheless, most schools are relatively equipped with basic computer facilities without generally having easy access to the Internet. Indeed, the creation of platforms is necessary for the diffusion of this educational technology at the level of schools.

According to the results shown in Figure 11, most of the teachers surveyed report having a computer at home and that these computers are connected to the Internet and are unable to create or participate in the preparation of a platform and that Majority of teachers (68%) are thinking about making efforts for this utility, and only 24% have the ability to create platforms.

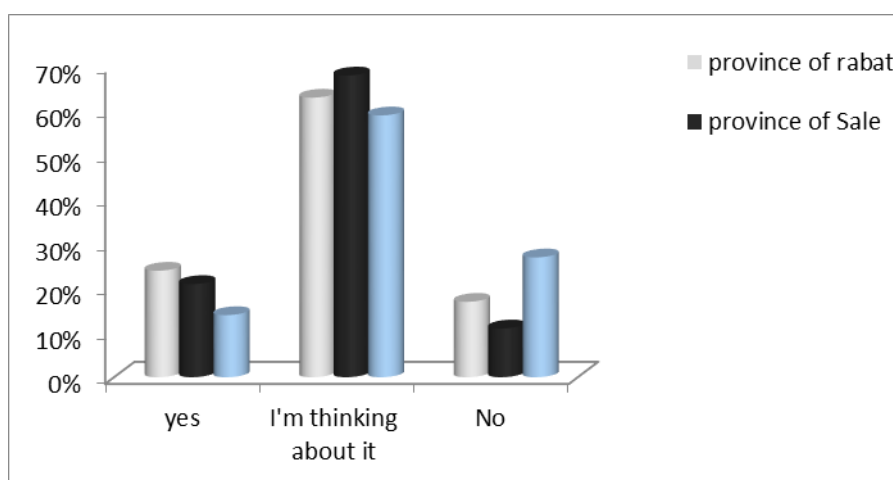


Fig. 10: Participation of teachers from three directorates in the creation of platforms

V. DISCUSSION

The nature of the study does not make it possible to draw any reliable conclusions either on the pedagogical approach followed or on the impact of technology on the change of practices. The survey gives us some indications on the uses developed with ICTs but does not explore the pedagogical

methods used by the teacher in his learning activities (Peltier, 2010).

5-1. Systemic study on the integration of ICST into the course

The systemic study is a study that takes into account the relationship between all the components of the education

system (devices, teachers, learners, institution ...). These components and their parameters influence the integration of educational technologies.

- The Institution

For a better integration of ICST, it would be useful for schools to "be willing to make structural changes in the workplace of teachers who have taken the path of renewal". In fact, it is not easy to use ICT without making a change in the spatial and temporal organization of education. Educational institutions must then have a space dedicated to learning French.

A space made up of equipment that would enable teachers to work in good conditions and encourage them to integrate technology into their teaching practices. It is also useful for educational institutions to have full-time administrative staff to meet the requirements of the system and to accompany teachers in the virtual environment. Indeed, the presence of a group of multimedia developers "to collaborate with teachers to create the appropriate material is necessary.

In addition, educational institutions are called upon to offer teachers continuous training in teaching methods in relation to technical aspects. This will contribute to building a computer, pedagogical and media culture that will be able to fight against reluctance to change and promote the creation of a collaborative network between teachers ".

The Moroccan school shows a willingness to demonstrate the importance given to the teaching and learning of science in general and of the French language in particular. It is based on the implementation of educational technologies to strengthen the training of language students and to develop guided self-training. In addition, the center aims to introduce e-learning using a teaching and evaluation platform through online courses and exercises.

- Teachers

Teachers' motivation to transform and change their conceptions and practices is essential. Indeed, "ICTs are powerful cognitive tools. But if they offer multiple solutions to address many of the current problems of education, they will only be really useful if the trainer accepts to transform or even to change his conceptions and practices ".

It is therefore useful for teachers to be motivated and trained in the proper use of technological tools so that they are not always receptive to these tools. They must also be trained in scripting and in the creation of curriculum content so that they can develop clear content that is aligned with

pedagogical objectives (Bibeau, R. 2006). This will facilitate interactivity and accessibility for the learner and the effective use of educational technologies. In this sense, we agree with Mangenot (1998) who argues that ICT integration can only be described as "when the IT tool is used efficiently for learning".

For this reason, the Moroccan school has programmed a series of training in information and communication technologies for language teachers at national and international level. Other online courses are being introduced for teachers to familiarize them with the use of distance education platforms, to use the digital working environment and to introduce them to pedagogical engineering And the mediaization of courses (Bibeau, R. 2005).

- The students

It is not enough to have resources to ensure genuine ownership by learners. It is useful to first help the student to develop his autonomy before making him accountable. Indeed, we can never order a student to be autonomous, because autonomy is built through motivation and the development of curiosity and the pleasure of learning. It is also constructed by involving the students, securing them and encouraging them to pool, self-observe and self-assess. Indeed, autonomy is "this disposition, that ability to act independently and responsibly, to take charge of one's actions and one's learning in the realization of one's needs".

The generalization of ICTs also requires an intrinsic and extrinsic motivation of students to use these tools. This motivation is provided by providing the student with a favorable environment to work with educational technologies. This motivation is achieved by integrating ICTs into the student's academic pathway by integrating the use of ICT in learning French and in the evaluation system of the language and communication course. Without this motivation, we will limit the use of these tools to small groups that already have privileged relationships with technologies and may have less need for help than others. Thus, the gap will continue to widen between technological advocates and others who have a negative view (Bibeau, R. 2005).

The motivation of the student is thus an essential factor for the success of the integration of ICST. It is at the origin of autonomy in learning. Through it, learners change their attitude towards the use of the technical object and learn to receive and produce, because the technological tool can only promote a process of mediation of knowledge if it There is a double action in reception and in production and if the

receiver has a favorable cognitive posture vis-a-vis the media.

VI. CONCLUSION

This study highlights the role played by the MOS program in ICT training of the teachers interviewed, as 66.5% of those trained in CTBT have benefited from it under the Engineering program. This research also enabled us to note that the professional skills of teachers in ICTs are modest. The main technical competence of teachers in computer science is the mastery of the use of "word processing". Other computer software is moderately mastered to little known by these teachers. However, the majority of them state that the use of ICST makes it easier to understand and present the course better.

Our study provides some thoughts on the use of ICT in training in a public secondary school known by its workforce. It highlights the lack of consideration of the contribution of ICTs in the definition of educational objectives in the different paths provided in the school and the lack of supervision and orientation of transversal and disciplinary competences Of students acquired through ICT in their personal sphere. However, the study remains descriptive of the uses developed with ICT and therefore limited in its results which can not be generalized to conclude about the impact of ICT on learning, professional progression of teachers and the use of practices Innovations. Massive ICT and networking equipment influences how to teach and learn, but does not necessarily imply a change in teaching practices.

The organizational conditions of the institution have improved the technical conditions for the different teaching / learning activities. However, they have not implemented a digital work environment in which the messaging system is functional, the integrated learning platform makes it possible to consult the information and the communication available in a permanent and efficient way.

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