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PEDAGOGICAL PRACTICES WITH ICT: CASE OF PIHE TEACHERS IN CAMEROON

Carole Fodjo Djeche
UNINI México, Education
carole.fodjo@doctorado.unini.edu.mx https://orcid.org/0000-0002-4525-5846

Eugénie Eyeang
UNINI México, Education
eugenie.eyeang@unini.edu.mx https://orcid.org/0000-0002-4971-8334

Abstract. This work has as objective to present the challenges faced by teachers of Private Institutes of Higher Education (PIHE) in their teaching practices with ICT, and to propose some answers. Based on the mixed method (Lynd & Lynd, 1929/1959), participatory observation is carried out in order to present the PIHE teacher. The data collection carried out highlights quantitative data and teachers' opinions about their teaching practice. From the academic qualification of the teachers, it emerges from the analysis of the results that the teaching body of the IPES is heterogeneous. We meet teachers from higher training schools, professionals in the field in their areas of competence, graduates who have completed five years of university training and obtained a Master's degree, engineering or equivalent, who are waiting to be recruited into a company, improvise as teachers. Teachers in the vast majority seem to present basic ICT skills, are aware of their importance in their teaching practice, but are not sufficiently supported in this process of change. The analysis shows the need to restructure the operation of the PIHE. This restructuring should consist of the redefinition of the strategic framework of the PIHE, the redefinition of the various actors and the training of the latter in the adequate use of ICT in their teaching practice while facilitating their access to ICT tools. In order to facilitate an effective pedagogical practice of PIHE teachers with ICT, it is important to ensure that they are trained, equipped and motivated.

Keywords: practical/pedagogical, ICT, training, teacher, PIHE

PRÁCTICA PEDAGÓGICA CON LAS TIC: CASOS DE LOS DOCENTES DE LOS IPES EN CAMERÚN

Resumen. Este trabajo presenta los desafíos a que se enfrentan los docentes de los Institutos Privados de Educación Superior (IPES) en sus prácticas docente con las TIC y asimismo propone algunas propuestas de mejora. Con base en el método mixto (Lynd & Lynd, 1929/1959), se ha realizado una observación participativa a fin de presentar al docente de los IPES. La recogida de datos nos permite destacar datos cuantitativos y las opiniones de los docentes respecto a su práctica docente. En cuanto a su calificación docente, se desprende del análisis de los resultados que el cuerpo docente de los IPES es heterogéneo. En este campo, encontramos profesionales de la docencia, profesionales de otros dominios, estudiantes con Máster, ingenieros o con grados equivalentes que, en espera de tener un empleo en una empresa, se improvisan docentes. La mayoría de los docentes parece tener habilidades básicas en TIC, es consciente de su importancia en su práctica docente, pero no tiene suficiente acompañamiento en este proceso de cambio. El análisis muestra la necesidad de reestructurar el funcionamiento de los IPES. Dicha reestructuración debería consistir en la redefinición del marco estratégico de los IPES y de los diferentes actores, así como la formación de los mismos en el uso adecuado de las TIC en su práctica pedagógica, facilitando así su acceso a las herramientas de las TIC. Para facilitar una práctica pedagógica efectiva de los docentes de los IPES con las TIC, es importante asegurar que estén capacitados, equipados y motivados para tal fin.

Palabras clave: práctica/pedagógica, TIC, formación, docente, IPES.

Introduction

Pedagogy can be defined as the art of educating or teaching (Houssaye, 2014). Pedagogic practice is made up of the different actions or activities carried out with the aim of educating or teaching. We therefore talk of pedagogue, educator or teacher. Pedagogy has undergone several changes. We started from a pedagogy in which the vector of knowledge was the teacher and the receiver the student (behaviorism), to a pedagogic practice in which the teacher and the learner are collaborators in the teaching/learning process, in which the tools of Information and Communication Technology (ICT) are integrated (connectivism). Today, teachers and learners pool their knowledge in the construction of new knowledge. This neologism in educational practice makes knowledge a common value which makes training and knowledge more accessible, provided that an ICT tool is available. Work carried out on ICT for technical and professional education within the framework of a study carried out in India, (Tran Thanh, 2014, p. 3) presents ICT as a tool for "améliorer l'accès à l'éducation en réduisant la distance entre les apprenants et les infrastructures ou les ressources, rendant ainsi l'éducation plus inclusive". Based on the work of Depover & Marchand (2002), Julia Tran Thanh presents the obstacle that temporal and geographical accessibility can be in the desire to train. Because of ICT, this obstacle can be overcome. ICTs thus give the possibility to anyone wishing to train, to acquire knowledge and skills through distance learning. However, these people should have a basic knowledge of the use of ICT. Distance learning should be seen from the outset as an educational concept rather than a technological one. In other words, reflection on the place of ICT in education should go beyond the aspect of access to first consider that of teaching and learning methods (Durampart, 2007).

The introduction of ICT into teaching practice requires teachers to relearn how to teach and learners to relearn how to learn. For this to be possible, teachers should review the learning theories implemented in their teaching practices. Indeed, there are five major theories of learning: behaviorism (Good & Brophy, 1995), cognitivism (Bibeau, 1996), constructivism (Doolittle, 1999), socio-constructivism (Doise & Mugny, 1981) and connectivism (Siemens, 2005). A pedagogic practice with ICT requires:

- Computer equipment connected to a computer network and/or network of networks (Internet);
- Teaching/learning actors (teachers and learners) with basic knowledge in the use of IT tools;
- Motivation of each of these actors to use new teaching/learning techniques;
- The capacity of the actors of teaching/learning to go towards information, to exchange with others, to rub shoulders with other disciplines in order to build or update knowledge.

All of the aforementioned information refers us to two theories previously presented: The theory of socio-constructivism and the theory of connectivism. Our work is based on these two theories. Application of these theories could not be done without the presence of people trained and equipped for the transmission and sharing of knowledge: teachers.

The teacher is the person who has the responsibility to accompany anyone wishing to train, to acquire knowledge and/or skills, to achieve their objectives. Putting socio-constructivism and connectivism together, the teacher must be able to accompany the learners in the construction of their knowledge according to social reality. This must be done on the basis of the use of connected tools in order to broaden the possibilities that could arise without being totally on the sidelines of the current changes in the world. The implementation of connectivism is essential today in all countries of the world. The situation of the Covid-19 pandemic has strongly illustrated this. The place occupied by the teacher in the teaching/learning process makes his training in the use of ICT a modeling factor in the field of ICT in school (Tchameni Ngamo & Karsenti, 2008). According to Larner and Timberlake (1995), six variables determine the use of ICT by teachers: knowledge, anxiety, personal attitude, professional attitude, support, resources available at school. An imbalance between these different variables could have a considerable impact on the effectiveness of teaching practice with ICT. A teacher who is well trained in the use of ICT in his pedagogical practice will be better able to select the best tool or the best approach according to the objective targeted by his teaching. Support for learners during teaching will also be done in a simpler way, which will develop in the teacher a feeling of personal effectiveness, a very important human element in the successful integration of ICT at school (Isabelle, Desjardins & Bofili, 2012). To take the plunge, the teacher needs to be accompanied and not judged or even penalized. This, far from easy process calls for genuine support and collaborative work to ensure success. What completes this process is the endowment of the teaching/learning actors with the necessary ICT resources in the training centers.

The training centers that have aroused particular interest in the context of this research work are the Private Institutes of Higher Education (PIHE) in Cameroon.

Preliminary research on these IPES suggests that research on pedagogic practices with ICT in this training framework would seem to be non-existent. Whereas, these IPES present themselves as professional training managers at the cutting edge of technology. In juxtaposing the information obtained from the sites *kamerpower.com*[1] et *cameroon-tribune.com*[2], it appears that the first PIHE in Cameroon dates as far back as 1960, set up by religious congregations. These PIHE provided only teaching in theology. They functioned as associations. It was in 1998 that secular private institutes for post-secondary education came into being. Nearly a dozen, the majority of these institutes are an extension of private secondary establishments. These institutes have a student enrollment of around four thousand three hundred and twenty-seven (4327). Observing the rapid development of the sector, the government decided to put in place a legal framework in order to ensure the quality and diversity of teaching offers. Then, in September 19, 2001, the Prime Minister, Peter Mafany Musonge, signed a decree setting the common rules applicable to private institutions of higher education. This decree defined the general provisions of these institutions, their missions and objectives, the conditions of creation, opening and extensions. It also defined the promoter of the institution and the teaching staff.

From what preceeds, it followed that the teaching staff of the PIHE were to be staff recruited in compliance with a procedure identical to that followed when recruiting the teaching staff of state universities. These staff, in accordance with article 26 of law N° 005 of 16 April 2001 on the orientation of higher education, are the permanent teaching staff of the PIHE. If we refer to article 11 of the decree on the special status of higher education staff (Cameroon P. R., 1993), as university assistants, the permanent teaching staff of PIHE should be responsible for tutorials or exercises and practical work for examination boards. They should evolve under the responsibility of professors, and lecturers. This implies that in the teaching staff of the PIHE, teachers of magistral rank should be included, in accordance with articles 9 and 10 of the previous decree, in order to provide the lessons, directed exercises and practical lessons. Alongside these permanent staff, the PIHE can call on temporary staff in order to complete the number of teaching staff. In accordance with article 45 of the aforementioned decree, temporary staff should obey the same academic requirements as permanent staff.

In view of with what the texts of laws present, and the expected results of the promoters of the PIHE, we wanted to go into the actual functioning of the PIHE to provide answers to these questions: Who are actually the teachers of the PIHE? Are they sufficiently equipped for a pedagogical practice with ICT as required by the theory of connectivism? Research on IPES being poorly documented in Cameroon, we considered it important to focus on this training sector so that adequate solutions can be found in order to improve it.

[1] https://kamerpower.com/fr/evolution-historique-des-instituts-prives-denseignement-superieur-au-cameroun/amp/

[2] https://www.cameroon-tribune.cm/article.html/18311/fr.html/instituts-prives-de-lenseignement-superieur-cap-sur-de-nouveaux-defis

Method

Design

Our research is conducted in Cameroon in the cities of Yaounde, Douala, Bafoussam, Ngaoundere and Maroua, within the PIHE. Training frameworks created for nearly two decades in Cameroon, the IPES offer professional training intended to equip learners for a good integration into the business world. Observing the new requirement of the industrial world which is the mastery of Information and Communication Technologies (ICT), we found it appropriate to focus on the pedagogic practices of PIHE teachers with ICT. Are they sufficiently equipped with ICT to ensure adequate training for future employees in the professional world? To answer this question, we proceeded to an observation of what is practiced within the PIHE. This observation allowed us to come up with a "definition" of IPES teaching staff. Then we distributed a questionnaire to collect the opinions of PIHE teachers concerning teaching practice with ICT.

Participants

The population that participated in our research is the teaching staff of PIHE in Cameroon (Yaounde, Douala, Bafoussam, Ngaoundéré and Maroua), more specifically, teachers of levels 1 and 2 of PIHE. These training levels correspond to the training levels preparing for the higher national diploma (HND).

Instruments

For nine years, we have observed the functioning of the PIHE both administratively and academically. As a training manager in one PIHE in the city of Yaounde, we have been involved in the process of recruiting teaching staff in this training framework. We also represented the promoter of the PIHE in which we practiced in several sectors bringing together the promoters of the PIHE in Cameroon and the officials of the Ministry of Higher Education. These meetings allowed us to discuss with our colleagues from other PIHE in order to inquire about the realities in their daily practices and the challenges they face.

The collection of the opinions of PIHE teaching staff with regard to teaching practice with ICT was done on the basis of a questionnaire in the cities of Yaoundé, Douala, Bafoussam, Ngaoundéré and Maroua.

Data Analysis

As part of our work, we have Observed the operation of the PIHE in order to highlight who are the actual teaching staff of the PIHE and then we collected their opinions via a questionnaire. This questionnaire allowed us to obtain both quantitative and qualitative information. Our analysis is mixed. This analysis brings together qualitative analysis methods and quantitate

ive methods in a research work. The combination of these methods is very present in disciplines such as anthropology, sociology, educational sciences (Lynd & Lynd, 1929/1959). The purpose of bringing these methods together is to realistically answer the research questions (Aldebert & Rouzies, 2014).

Results

Participatory Observation

Having been responsible for training in an IPES in the city of Yaoundé in Cameroon for seven years, we had to attend several meetings bringing together the heads

of several PIHE. These meetings were an opportunity to share our experiences and learn from others. Observing what is done in a proportion of PIHE, there arises the difficulty of responding scrupulously to what the law says about teachers of PIHE. It would be difficult by observing the functioning of each PIHE in Cameroon to see a teaching staff structured as required by the decree on the special status of higher education personnel. Because complying with this instruction would amount to having permanent staff who should be supported financially 12 months out of 12 months of the year. This is sometimes very difficult for promoters of PIHE to hold. So, the tendency would be to recruit more part-time teachers than permanent teachers, who will only be supported when they actually teach. Remuneration is based on the number of hours actually worked in the classrooms.

From there, here is what we could observe in the PIHE:

- In order to obtain from the academic supervision, the authorization of creation and opening, the responsibility of each course or specialty requested is occupied by at least one Doctor in the field of the corresponding sector or specialty. This person in charge could be a professor of a State University. Being in function in a public institution, he cannot therefore be a permanent teaching staff within the PIHE, this in accordance with article 48 of the decree fixing the common rules applicable to private institutions of higher education (Cameroon P. M., 2001). He is therefore a resource person and accompanies the PIHE in the monitoring of lessons and the supervision of teachers.
- In order to meet the teaching requirement, part-time teachers are recruited. Recruitment takes place at the beginning of each academic year. A recruitment committee is set up within the PIHE in the presence of the resource persons mentioned above. From the observation made, we found that the candidates can come from:
- Teaching staff in general or technical secondary education, depending on the areas of expertise;
- People working in the professional world. In this case, they may have a diploma corresponding to a BAC+5;
- Young graduates with BAC+5 levels who, in the midst of job search, need to take care of themselves and meet their daily financial needs;
- Young doctors who, awaiting recruitment as university assistants in State Universities, also need to take care of themselves and provide for their daily financial needs;
- State University teachers.

Teachers recruited at the end by the recruitment committee will be responsible for providing lessons to PIHE learners in accordance with the teaching program given to them and also the teaching method requested of them. It seems to be difficult, with regard to the observations made, to see among the teaching staff of the PIHE, the staff specially assigned to provide tutorials and practical work. In some cases, when this is observed, these are people with the equivalent of a degree.

- In order not to put themselves completely on the fringes of the law which requires PIHE to recruit permanent teachers within their teaching staff, some make the effort to supplement the number of their teachers with a few permanent teachers. In this case, the task of the permanent teacher

> would not be limited to teaching. In addition to teaching duties, he is assigned a position of responsibility within the PIHE and he also has the duty to provide a total of 300 hours of lessons per academic year.

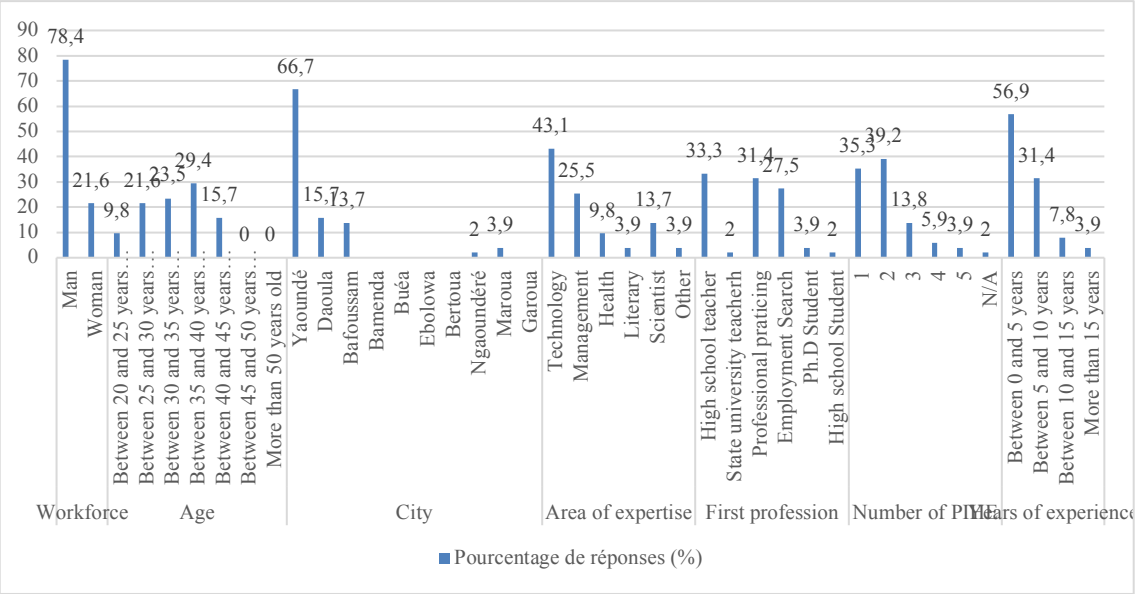
In this context of PIHE in Cameroon, integrating ICT into teaching practice seems to be a great challenge. Knowing the work entailed by the integration of ICT in teaching practice, and faced with a context in which teachers would be on the lookout for lesson hours in order to have a substantial remuneration, would it really be easy for them to consent to everything necessary so that the integration of ICT in their teaching practice is really a reality? From our experience in PIHE in Cameroon, complains from teachers seem to converge on the same issue: working conditions. The working conditions described by some teachers with whom we had to exchange seem to be a crucial problem that should be solved in order to make the framework conducive to the integration of new technologies. This point is one of the elements that we wish to verify. But already, what emerges from the observation carried out within the PIHE for more than seven years is that the teachers of the PIHE seem to face several difficulties in the integration of ICT in their teaching practice. Teachers try as best they can to comply with the legal texts, but are sometimes forced to find ways and means that can enable them to arrive safely.

The questionnaire

We have structured the questionnaire into five main groups, namely the attributes, the uses made of ICT, self-assessment of the basic notions of ICT, ICT tools in IPES, and finally, the opinion of IPES teaching staff on teaching practice with ICT.

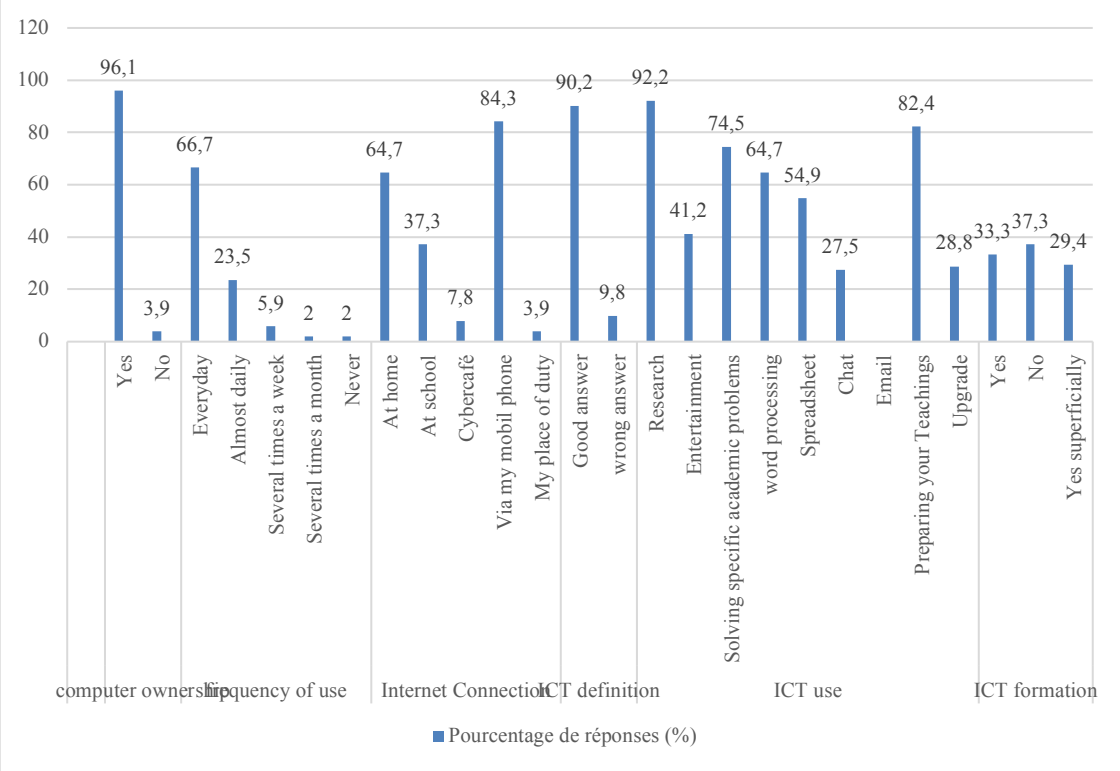
Our original intention was to collect data from 210 staff. However, we only collected data from 51 PIHE teaching staff. The difficulty encountered was the refusal of several PIHE to participate in the data collection. The world of PIHE being a highly competitive world, several managers of PIHE feared the closure of their PIHE if the results of our research had presented shortcomings. Knowing that a teaching staff intervenes at least in two PIHE of the same city; and can also intervene in the PIHE of neighboring towns, we believe that the size of our sample could shed light on information describing the reality in the PIHE in Cameroon.

The figure below presents the different attributes of the teaching staff surveyed:



Source: Results of data collection by questionnaire (2021)
Figure 1. Attributes of the teaching staff surveyed

The figure below presents the different uses of ICT made by the teaching staff surveyed:

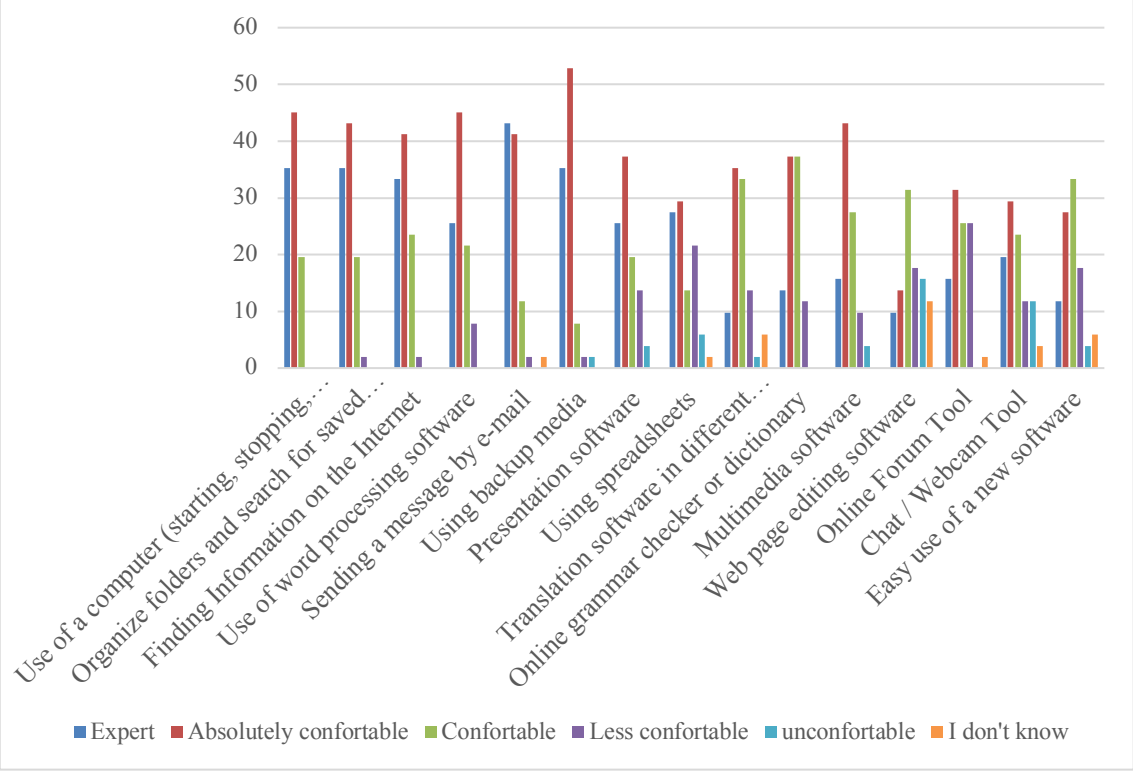


Source: Results of data collection by questionnaire (2021)
Figure 2. Personal use of ICT made by the teaching staff

It appears from the above data that the teachers of the PIHE are either teachers from higher training schools, or professionals in the field practicing in their field of expertise, or young graduates awaiting potential recruitment in a local structure. Those from training schools are slightly superior to the others. The definition of the acronym

ICT seems to be mastered by most teaching staff. 46 staff out of 51 gave an exact definition of this acronym. The other 5 confuse 'computing' and 'information' found in this acronym. Two teaching staff out of the 51 staff surveyed do not have a computer. This could lead us to note that more than 95% of PIHE teaching staff have computers. It can be seen that the proportion of teachers who use a computer very frequently is lower than the proportion of teachers claiming to have a computer. Out of the 49-teaching staff with a computer, 46 use it frequently and 3 use it only a few times a week. The deepened analysis of the data allows us to note that the 3-teaching staff who use a computer a few times a week are not professional teachers. Teaching professionals (graduates of higher training schools or teachers in state universities) have a computer and use it every day. This suggests that trained teachers seem to have become aware of the importance of some ICT tools in their teaching practice. The uses made of ICT by more than 50% of the population surveyed are documentary research on the Internet, the resolution of certain specific academic problems, word processing, Excel spreadsheet and the preparation of lessons to be taught. However, only 17 staff (33.3%) claim to have been really trained in the use of ICT in their teaching practice. The rest note a lack of training or training received superficially. No teaching staff provides information on the use of e-mail. Documentary research on the internet takes the gold medal with a percentage of 92.2%. Internet connections are mostly made either at the institution via the Wi-Fi connection available within it, or by using the data plan of the mobile phone. All staff who noted their internet connection at home also noted an internet connection via mobile phone. We can deduce that most internet connections are made at home via the mobile phone's data plan. This highlights the problem of access to an internet connection.

The figure below presents the results of the self-assessment of the basic notions of ICT:



Source: Results of data collection by questionnaire (2021)
Figure 3. Self-assessment of mastery of basic ICT notions.

We consider as:

- "Expert", someone who has mastered knowledge, who is able to transmit and can explore new knowledge in the mastered field.
- "Absolutely confortable", someone who has knowledge in a field, who is open to new knowledge in the field, but has reservations regarding the transmission of his knowledge.
- "Confortable", someone who can easily reproduce the knowledge received, but finds it difficult to leave their comfort zone to explore new knowledge. He limits himself to what he has learned and consequently has difficulty transmitting what he knows.
- "Less confortable", someone who is in the initiation phase. He still has doubts and is looking for his way. He does not master the notions learned but has started the learning process.
- "Unconfortable", someone who is not even in the initiation phase yet. He is still skeptical. He may have experienced and new knowledge but could not adhere.
- "I don't know", someone who hasn't even had the opportunity to test it yet, to use it. He is therefore not even capable of issuing an opinion.

The evaluation criteria used are classified into two main groups:

- Fit people: who said they were either "expert", or "Absolutely confortable", or "Confortable".
- Unfit people: who said they were either "Less confortable", or "Unconfortable", or "I don't know".

We evaluate the success rate of each item by assigning 1 point to each answer corresponding to the 'suitable' criterion, and 0 point to each answer corresponding to the 'unsuitable' criterion. The success rate of an item is evaluated using the following formula:

$$P_j = \frac{1}{n}\sum_{i=1}^{n} \gamma_i^j$$

With:

P_j : success rate of item j,

n: the number of items,

γ_i^j : response of participant i to item j.

The results obtained are presented in the table below:

Table 1
Success rate for items assessing basic notions of ICT among teaching staff

Availability Rated (item)	Evaluation criteria		Item success rate	
	Fit	**Unfit**	**Fit**	**% (Precision of 2 decimal places**
Use of a computer (starting, stopping, exploring files	51	0	1,0000	100,00
Organize folders and search for saved files	50	1	0,9804	98,04
Finding Information on the Internet	50	1	0,9804	98,04
Sending a message by e-mail	49	2	0,9608	96,08
Using backup media	49	2	0,9608	96,08
Use of word processing software	47	4	0,9216	92,16
Online grammar checker or dictionary	45	6	0,8824	88,24
Multimedia software	44	7	0,8627	86,27
Presentation software	42	9	0,8235	82,35
Translation software in different languages	40	11	0,7843	78,43
Online Forum Tool	37	14	0,7255	72,55
Chat / Webcam Tool	37	14	0,7255	72,55
Easy use of a new software	37	14	0,7255	72,55
Using spreadsheets	36	15	0,7059	70,59
Web page editing software	28	23	0,5490	54,90

Source: Results of data collection by questionnaire (2021)

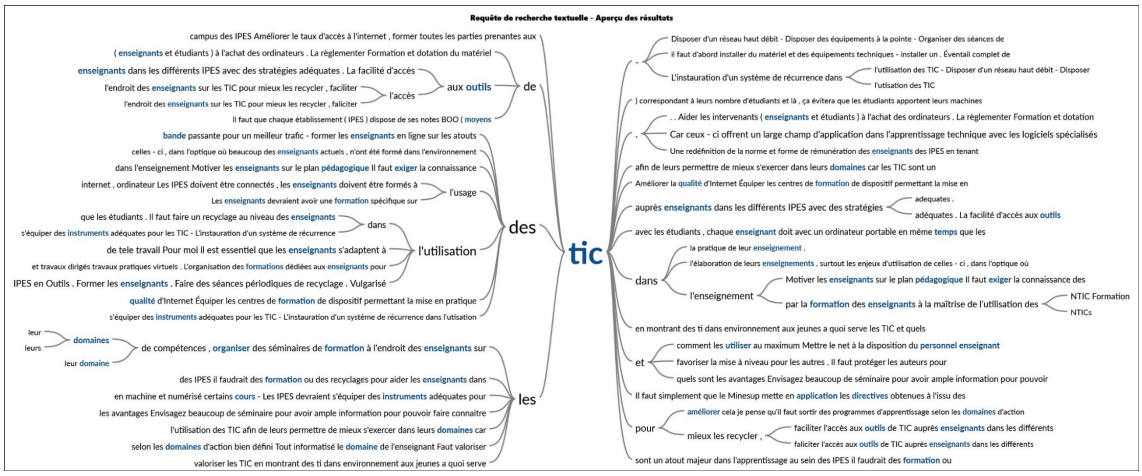
In view of the data collected in the table above, the basic notions of ICTs seem to be brought by a large proportion of teachers. An information in this table has attracted our attention. The sending of the e-mail seems to be mastered by 96.08% of the invested teachers. Yet, on the question on the use of the ICTs, none of them undertook to use e-mail. By approaching this information, the fact that the large proportion of internet connection is done via the mobile phone, one might wonder if that could not be a brake to the use of e-mail.

Twenty-five teachers present ICTs as a requirement in PIHE, twenty-and-one affirm no, while, the five, claim that some PIHE require the use of ICTs in educational practice. There is a lack of uniformity in the actions carried out within the PIHE in Cameroon. On the other hand, the teachers in their majority (96.1%) recognize the positive impact that the use of ICTs in educational practice could have on the quality of teaching / learning. Of the 51 people responded, 4 affirm their lack of knowledge of the theories of learning. They are respectively PhD students, field professionals, graduates looking for a job. It can be noted that they have not received training which could explain their lack of knowledge of the theories of learning. However, we note that some field professionals, or some jobs granting that have not received specific teachers' training, report to know some of the learning theories. The difference is made at the use of these theories. To the question on learning theory used in the context of educational practice, there is a disparity of theories used. What comes highlighting the idea that some of the PIHE teachers do as they can to fulfil the teaching requirement without necessarily being trained for this purpose. One of the actions to be conducted to ensure successful use of ICTs in teaching / learning could be the training of trainers for this purpose.

Using the NVIVO software, we have made a lexical analysis of the different collected notions, which allowed us to highlight the most commonly used words clouds:

Source: Results of data collection by questionnaire (2021)
Figure 4. Most clouds of the words frequently used by the teachers invested.

The encryption by NVIVO feeling that identifies positive or negative attitudes allowed us to highlight the words in this cloud of words that could express the opinions of the teachers concerned. The synapsy built around these words with root words ICT is as



Source: Results of data collection by questionnaire (2021)
Figure 5. Synapsy of words expressing the opinions of teachers

The analysis of this synapsy shows that in the investigating staff, an emphasis is laid on the teacher training component and the component of access to ICT tools like computers and access to internet. Teachers' own presenting their training needs in the field of ICT in educational practice, and also a need for recycling of earlier knowledge acquired. They are aware that knowledge is evolving and they cannot sit on their acquired knowledge and stop learning. A redefinition of the standards and forms of teachers' renumeration within the PIHE is also highlighted. They put forward the additional work that ICT introduction could be made in their educational practice and also put the protection of intellectual property. The PIHE equipment in ICT tools is not put in rest. The personal information is particularly on this aspect. It would be difficult for them to use ICTs in their educational practice if the teaching framework is not equipped. The ICT popularization in teaching / learning is also an element raised by teachers. According to them it should be depended on the awareness of the different actors of teaching / learning. This awareness could intend to understand the different actors and benefits they could derive from the use of ICTs in their practice. The availability of teaching / learning actors and new techniques in their professional practice is not slovenly.

Discussion and conclusions

Our aim throughout this work, was to highlight the pedagogical practices of the PIHE in the relation to ICT. We were able, because of some observation of the reality in some PIHE and the collection of data via a questionnaire, to bring out some elements of the reality of the teachers of the PIHE and their teaching practice.

The training framework in private institutes of higher education, seems to be a training framework in full structuring. A remarkable work has already been done in this sector. Nevertheless, in order to secure this training framework for the new realities of the world, particular attention should be given to find solutions to the difficulties identified there. In the context of educational practice with ICTs, one cannot ask for a teacher to use the ICTs in his educational practice, without making sure that he has all the

necessary skills to carry out this mission. The process of recruiting teachers in the PIHE today in Cameroon, does not seem to verify the ability of future teachers to use ICT. It is true that seeing the current situation in Cameroon, it may be difficult to make tests of the skills of the teaching practice with the ICTs to candidates for a teacher post in the PIHE. However, a training of new recruits to educational practice with ICTs, before their first instruction, could be a beginning of solution. It is important to also raise here that the equipment of the PIHE with ICT tools to be integrated into educational practice is a step as important as training of trainers. If we do not use the notions received during training, it will be very difficult to develop skills.

In view of the data we were able to collect from PIHE, it would seem that PIHE (Promoter) meets some difficulties in the equipment of their training framework. Promoters tend to prioritize other expenditures and put this component at the secondary level. Faced with this reality, an interface of the state, the promoters of the PIHE in the equipment of their training framework would be a significant encouragement. Because, by the opening of the PIHE, the promoters accompany the state in the formation of the population. Education being one of the responsibilities of a state to its population and one of the fundamental rights of that population. This encouragement would not only allow developers to develop this aspect in their training center, but would allow the academic tutorship to have a greater look at what is actually realized in the PIHE.

During this study, we faced data collection difficulties that did not allow us to reach the fixed sampling. Nevertheless, to overcome this difficulty, we have associated with our search by questionnaire (Baumard & al, 1999), a participatory observation (Cuq, 2004) resulting from our professional experience within the PIHE. In order to highlight this training framework that seems currently not documented in Cameroon, one of the research axes on which it would be interesting to look at is:

- PIHE equipment in ICT tools for educational practice at the forefront of technology**.** We could put forward the lack of ICTs ' equipment in educational practice within the PIHE. This point deserves special attention, because we cannot use something that is not put at our disposal.

The PIHE appear to be a training frame very solicited by people looking for an inscription in higher education. Registrations in private institutions in higher education have quintupled, from 3% in 2007 to 16% in 2017. These statistics show that PIHE occupy a special place in Cameroon in socio-professional training. The interest in addressing this training framework to make a convenient framework for teaching / learning is no longer to demonstrate.

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