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| RESEARCH ARTICLE

EFL Teaching and ICT Teacher Education: Spotlight on Moroccan High School Teachers

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| ABSTRACT

There is a scholarly consensus on the prominent role information and communication technologies (ICT) play in education, particularly in language teaching. In line with the ISTE (International Society for Technology in Education) standards for educators, the present paper probes the roles EFL teachers play as ICT learners. It also sheds light on the significance of online professional development in promoting teachers' continual upskilling. To this end, a quantitative survey questionnaire is administered to 55 high school teachers. Participants belong to the community of EFL teachers working in private schools in Marrakesh, Morocco. Results demonstrate a general interest among participants in taking part in online pedagogical interactions that promote ICT integration in the classroom. Most teachers are also willing to incorporate innovative technology-enhanced activities into their classroom practices and test their effectiveness. In the same vein, the majority of respondents expressed interest to enroll in online professional development. As far as active participation in local e- communities of teachers is concerned, a positive attitude is clearly noted among male participants, younger generations of teachers, and better internet users. On the other hand, a reticence to engage online with colleagues at international level is particularly tracked among more experienced teachers. In view of the above results, there is an incessant need to account for online professional development as well as the use of ICT tools in structured teacher training programs. In the same mode, both prospective and in-service teachers should be trained on the use of internet-based platforms through professional meetings and demo-lessons. From another scale, Awareness should be raised among practitioners, especially veteran teachers, about the merits of enrollment in e-communities of teachers and the benefits of digitizing their teaching practices on their professional development.

| KEYWORDS

Information and communication technologies, The International Society for Technology in Education, Moroccan EFL teachers, ICT learners, Online professional development.

| ARTICLE INFORMATION

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1. Introduction

There has been a constant striving for better teachers throughout the history of education. In fact, there is a scholarly consensus that good quality education presupposes the need for qualified teachers who are adequately trained and coached both academically and pedagogically. In this vein, teacher education and professional development have always had a prominent position in educational research. Nonetheless, the quest for competent teachers took different directions. One such path entails the integration of Information and Communication Technologies (ICT) in language teaching and learning. Today, 21st century education incessantly calls for teachers who are not only academically and pedagogically competent but also digitally literate. In this regard, the International Society for Technology in Education (ISTE) initiated a set of standards that sets the scene for teaching and learning in the digital age in 2008. Eight years later, an updated version of these standards was amended to meet the exigencies of digital education in an ever-changing globalized world. In consonance with the ISTE standards for educators, the present study

is one among others that explored the roles of teachers as ICT designers and facilitators (Slimani & Aatta, 2022) and as ICT leaders and collaborators (Slimani & Aatta, 2022). Accordingly, this paper examines the roles of teachers as ICT learners. Continuing professional development and ICT teacher education are put under the spotlight.

2. Literature Review

Recent years have witnessed a worldwide interest in teachers' professional development (TPD). Not surprisingly, teachers are perceived as crucial agents of change and school's greatest resources (Day, 1999). The process of TPD includes structured activities that are formally integrated in pre-service and in-service training as well as unstructured ones which are taken up informally based on teachers' own drive and self- devotion to achieve personal and professional development (Ouardani, 2020). Today, with the increasing interest in ICT integration in education, there is a general tendency to incorporate technology in teacher's education. In fact, the profession requires a wide range of new competences that are more elaborate than before (Benali et al., 2018). In this perspective, digital competence is a requisite for teachers to cope with the ubiquity of ICT tools and digital resources. On that account, the 2016 ISTE (the International Society for Technology in Education) set guidelines for the roles of the 21st century digital educator. Seven general categories constitute the ISTE standards for educators that define these roles, namely the Learner, the Leader, the Citizen, the Collaborator, the Designer, the Facilitator, and the Analyst.

2.1 The ISTE Learner Standard for Educators

As illustrated in the Learner standard for educators, teachers continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning (ISTE 2017). In this vein, educators are expected to:

a- set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.

b- pursue professional interests by creating and actively participating in local and global learning networks.

c- stay current with research that supports improved student learning outcomes, including findings from the learning sciences.

Hence, to be effective educators, teachers must demonstrate the virtues of good digital learners. For one thing, they have to be inquisitive and open to new ideas and emerging technologies. Indeed, by adopting a growth mindset, they can continuously learn and adapt to the changing educational landscape (Nelson, 2023). That way, students constantly get the best education for them and teachers are confident knowing that they are preparing their learners for a highly advanced world (Zook, 2021).

2.2 Digital Competence and Formal Professional Development

Digital literacy and digital competence are two concepts that are often used synonymously in spite of the fact they have different origins and meanings (Martin and Grudziecki, 2006). In other contexts, the concepts are used to underpin each other. The European Commission (2006), for instance, introduces digital competence as one of eight key competencies that is underpinned by digital literacy. It is defined as follows:

> "*Digital competence involves the confident and critical use of Information SocietyTechnology (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet*" (p.16)

Krumsvik (2011) followed the same line of thought when he contends that teachers' digital competence encompasses a more complex and holistic level of proficiency in the use of ICT that accounts for pedagogical judgements in educational contexts. In this respect, technical skills constitute only a basic part of this complex concept of digital literacy. From a learner centered perspective, UNESCO describes digital competence as the ability "to help the students become collaborative, problem-solving, creative learners through using ICT so they will be effective citizens and members of the workforce." (UNESCO, 2011, p.3).

In this respect, teachers are only considered competent when they manage to combine pedagogical skills with digital ones and implement them in their teaching practices. Therefore, the tremendous role of ICT training is undeniable. In fact, research affirms that the better trained teachers are in the use of technology, the more likely they are to successfully integrate ICT into their teaching practice (Hsu, 2010). As a matter of fact, there is a growing awareness about the need to equip teachers with the necessary competences to fully take advantage of the great potential of ICT with the aim of improving teaching practices as well as properly preparing learners to deal with life situations in a digital world (Benali et al., 2018). Therefore, Teacher training stands as the cornerstone in the effective development of learners' digital competences (Aslan and Zhu, 2015). Today, many countries are

revisiting pre-service and in-service training programs as well as continuous professional development to account for ICT teacher education.

2.3 ICT Teacher Training in Morocco

Over the last decades, Morocco has witnessed important reforms in its educational and training systems. The National Charter of Education and Training (1998), for instance, laid the foundation for the ICT integration in Morocco. Particular reference was given to the following areas:

- in-service training
- difficult cases of schooling and in-service training in remote and isolated areas
- distance learning in isolated middle and secondary schools
- equity in access to information, data banks and communication networks.

In line with that, the Ministry of National Education has launched some ICT training programs for teachers since 2000. In fact, a two- week training in ICT was offered to teachers of different subjects. Nonetheless, Hassim (2002) pinpoints some shortcomings of the endeavor. For one thing, the selection of trainees was not well-grounded. Besides, training was very general and not directly related to teaching and learning as trainers were rather ICT experts with little or no background knowledge in pedagogical matters.

Subsequent educational reforms, namely the 2009 Emergency Plan and the 2015-2030 Strategic Vision, aimed to fast-track the process and give more prominence to ICT integration. In this vein, The Higher Council for Education, Training, and Research in Morocco (Conseil Supérieur de l'Éducation, de la Formation et de la Recherche Scientifique) outlined a set of objectives for ICT integration in education. As far as ICT teacher education is concerned, the following recommendations come into play:

- Improve the quality of education and training by expanding access to knowledge, boosting learners' motivation, and enhancing the attractiveness of school.
- Establish networks that favor the exchange, sharing, and development of collective intelligence and promote teamwork pedagogy.
- Get stakeholders in education involved and provide assistance for them, especially in rural and remote areas (my translation).

A more structured reform of ICT teacher training was implemented at the Regional Centers for Education and Training Professions (Centres Régionaux des Métiers de l'éducation et de la Formation – CRMEF). In 2014, an updated version of training modules included informatics in an ICT module. Trainees were expected to achieve the following learning outcomes:

- work in a digital environment
- produce, process, use and share digital documents
- use ICT for self-learning
- communicate and exchange data using ICT
- select and integrate digital resources
- manage a session integrating digital resources (Ouahbi et al., 2022).

The initiative, though criticized for the lack of in-depth training in computer science skills, paved the ground for ICT training in Morocco as it provided teachers with an initiation to the use of ICT in their teaching practices.

2.4 ICT education and Informal Learning

A substantial amount of professional development takes place through informal learning. As a matter of fact, teachers often get engaged in informal learning activities during which they explore their research interests, entertain online and in-person discussions with colleagues, and post questions on discussion forums (Adelman et al., 2002). Indeed, research reveals that ICT related informal activities are as powerful as formal training programs in promoting professional development of teachers (Adelman et al., 2002). Therefore, it seems useful to create opportunities for informal ICT learning to take place. In this respect, Vrasidas and Glass (2007) suggest providing areas for unstructured interactions among teachers within online portals. They also encourage teachers to start their own blogs and share their experiences using ICT, which can be read and commented on. In the

same line of thought, Carpenter and Green (2017) give examples of informal teacher-driven activities that have a positive influence on teacher learning and practice, such as professional learning networks, Connected Educator Month, Twitter Chats, and Voxer groups.

In the end, it is worth mentioning that despite the tremendous role both formal training and informal learning play in promoting ICT teacher education, there are other variables that impact the digital competence of teachers. In fact, Benali et al. (2018) enumerate a number of factors, namely gender, attitudes toward the use of ICT, curricula requirements, teaching experience, and infrastructure.

3. Methodology

The present study probes the roles educators play as ICT learners. It aims to collect quantitative data from EFL Moroccan high school teachers who work in the private sector about their engagement in ICT teacher education. The ISTE standards for educators, particularly the learner standard, provide the theoretical framework of the study.

3.1 Population and Sampling

55 teachers from 23 private high school teachers in the directorate of Marrakesh participated in the study. The choice of the private sector was motivated by the fact that private schools in Morocco provide better conditions for the integration of ICT in education. Convenience sampling was adopted since it was hard to reach out to a larger population outside the directorate of Marrakesh. Based on statistics provided by the regional academy of education, there are 58 private high schools in the directorate of Marrakesh. Although it is hard to determine the exact number of EFL high school teachers because of the 'hire and fire' policy, the estimated overall population does not exceed, at best 120 teachers. In this respect, the present study is believed to account for more than a third of the overall target population.

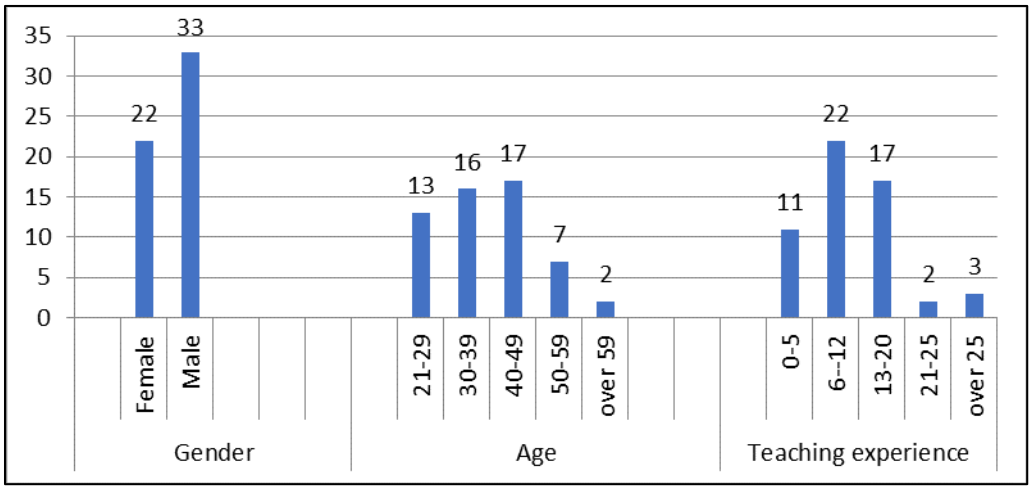
3.2 Survey Instrument Development

A survey questionnaire was used to collect data for the study. It comprised 5 closed-ended questions that examined the scope of professional development of teachers. On this basis, investigation targeted practices that leverage technology to promote student's learning.

3.3 Teachers' Demographics

The demographic survey investigated the participants' personal and professional characteristics. A number of variables were put under scrutiny, namely gender, age, and years of teaching experience. In this respect, figure 1 discloses detailed information about participants' personal characteristics. For instance, 60 % of respondents are males (n = 33). The majority of participants are middle-aged teachers. In fact, the dominant category ranged between 40 and 49 years old (n = 17). On the other hand, most teachers have between 6 and 12 years of teaching experience (n = 22).

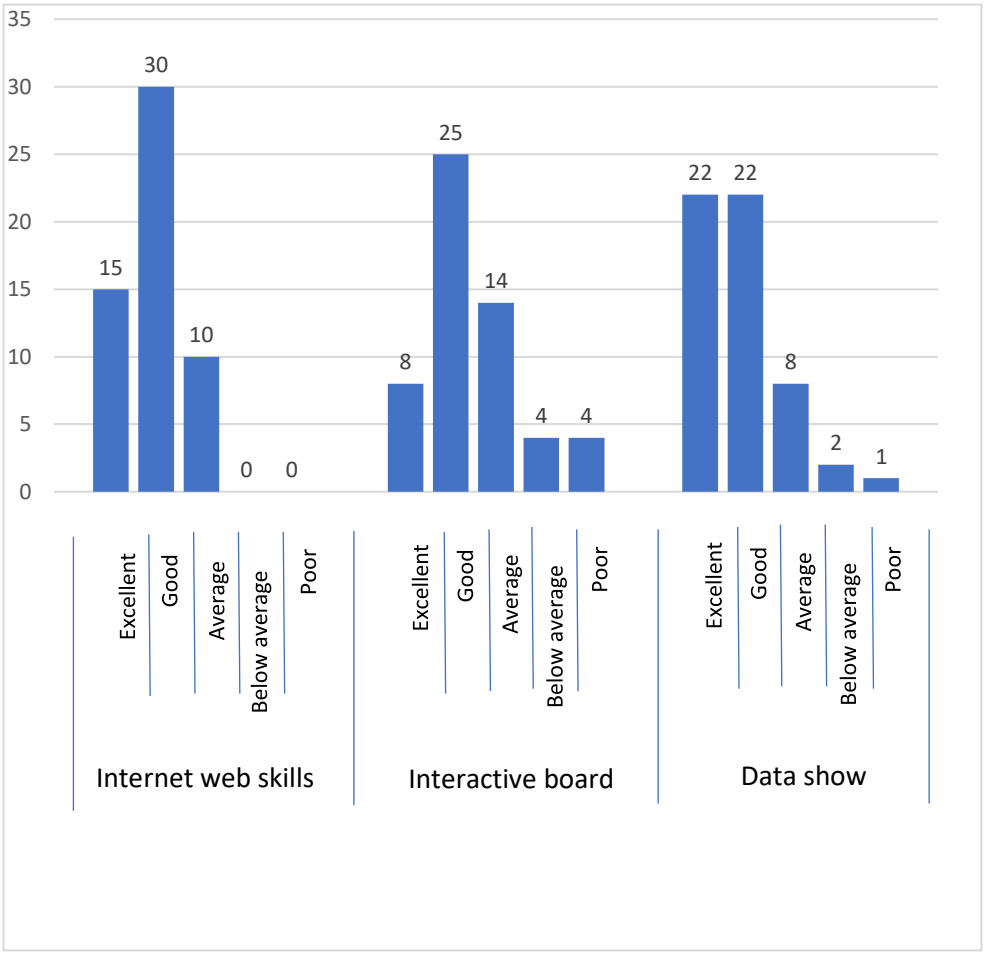
Figure 1: Teachers' Personal Characteristics



3.4 Teachers' ICT Skills

The ICT survey probed teachers' competence in using ICT tools. Using Likert scales ranging from excellent to poor, respondents were asked to rate their level of proficiency in using ICT tools. Focus was given to internet web skills as well as classroom ICT tools, namely the interactive board and the data show. As displayed in Figure 2, 54.5 % of respondents (n = 30) have a good level at using the internet. Similarly, 45.5 % of them (n = 25) are good at using the interactive board. Concerning the use of the data show, the majority of teachers are either good (38.2 % / n = 21) or excellent (41.8 % / n = 22) users of the device.

Figure 2: Teachers' ICT Competence



3.5 Pilot Testing of the Instrument

A final step in the questionnaire construction was pilot testing (also referred to as 'field testing'). In fact, administering the questionnaire to a sample of people who are closely related to the target population provides constructive feedback about how the instrument works and whether it performs the job it has been designed for (Dörnyei & Taguchi, 2009). Accordingly, the research can make alterations and fine-tune things to improve the final version of the instrument.

The questionnaire was piloted on 3 male and 3 female teachers who work at the American Language Center (Marrakesh). Feedback enabled the following modifications:

- Changing the wording of certain questions;
- Adding illustrations and information to avoid ambiguity and further clarify some questions.

3.6 Data Analysis Procedure

The survey questions and responses were coded and entered into SPSS v.26 to create descriptive statistics. Graphs used in the study were designed using Microsoft Excel Spreadsheet Software.

4. Findings

4.1 Exchange of Technology-enhanced Activities Between Teachers

The first question, *'Do you connect with colleagues to share pedagogical practices that promote the use of technology in the classroom?'* sought to investigate teachers' participation in pedagogical exchanges that promote ICT integration in the classroom. This involves the sharing of successful experiences and practices by means of which teachers learn from and with other practitioners to explore the full potential of technology use in the classroom (Zook, 2021).

As far as gender is concerned, the majority of male and female teachers displayed a positive attitude towards the exchange of technology-empowered activities between colleagues. As demonstrated in Figure 3, 23 out of 33 male teachers (69.7 %) and 17 out of 22 (77.3 %) female teachers positively answered the question. In the same vein, the proportion of positive answers is fairly equitable between both sexes. In fact, (57,5%) of positive answers are tracked among male respondents compared to (42.5%) of positive answers among female respondents.

Figure 3 : Exchange of Technology-enhanced Activities Between Teachers vs Gender

			Gender		
			Male	Female	Total
Exchange of Technology-enhanced Activities Between Teachers	Yes	Count	23	17	40
		% within Exchange of Technology-enhanced Activities Between Teachers	57,5%	42,5%	100,0%
		% within Gender	69,7%	77,3%	72,7%
	No	Count	10	5	15
		% within Exchange of Technology-enhanced Activities Between Teachers	66,7%	33,3%	100,0%
		% within Gender	30,3%	22,7%	27,3%
Total		Count	33	22	55
		% within Exchange of Technology-enhanced Activities Between Teachers	60,0%	40,0%	100,0%
		% within Gender	100,0%	100,0%	100,0%

Participants' age plays a significant role in molding the attitude of teachers towards the exchange of technology- enhanced activities with their colleagues (figure 4). Statistically speaking, higher percentages of positive (32.5 %) answers are recorded among young and middle-aged teachers (30-39) and (40-49). Conversely, lower percentages (12.5 %) and (2.5%) are traced among older teachers (50-59) and (over 59) respectively.

Figure 4: Exchange of Technology-enhanced Activities Between Teachers vs Age

			Age					
			21-29	30-39	40-49	50-59	Over 59	Total
Exchange of Technology-enhanced Activities Between Teachers	Yes	Count	8	13	13	5	1	40
		% within Exchange of Technology-enhanced Activities Between Teachers	20,0%	32,5%	32,5%	12,5%	2,5%	100,0%
	No	Count	5	3	4	2	1	15
		% within Exchange of Technology-enhanced Activities Between Teachers	33,3%	20,0%	26,7%	13,3%	6,7%	100,0%
Total		Count	13	16	17	7	2	55
		% within Exchange of Technology-enhanced Activities Between Teachers	23,6%	29,1%	30,9%	12,7%	3,6%	100,0%

Teachers' expertise is another variable that discloses significant results when put under scrutiny. Generally speaking, the majority of respondents (n = 40) agree to share technology-empowered activities with their colleagues. More specifically, an ascending symmetry is noted between teachers' teaching experience and their willingness to exchange their technology-based experiences with their peers. As demonstrated in Figure 5, all participants between 21 and 25 years of experience have a positive attitude compared to (82.4%) of teachers between (13-20) years of experience, (72.7%) of teachers between (6-12) years of experience, and only (52.4%) of those with less than 6 years of teaching experience.

Figure 5: Exchange of Technology-enhanced Activities Between Teachers vs Teaching Experience

			Teaching experience					
			0-5	6-12	13-20	21-25	Over 25	Total
Exchange of Technology-enhanced Activities Between Teachers	Yes	Count	6	16	14	2	2	40
		% within Teaching experience	54,5%	72,7%	82,4%	100,0%	66,7%	72,7%
	No	Count	5	6	3	0	1	15
		% within Teaching experience	45,5%	27,3%	17,6%	0,0%	33,3%	27,3%
Total		Count	11	22	17	2	3	55
		% within Teaching experience	100 %	100 %	100 %	100 %	100 %	100 %

In terms of ICT competence, teachers' proficiency at using some ICT tools is decisive in their positive attitude to exchanging technology-based material with their peers. In this respect, statistics show an ascending symmetry between teachers' proficiency in using the data show and their eagerness to exchange digital materials with their colleagues (figure 6). For instance, higher percentages of positive answers are tracked among excellent users (42.5%) and good users (37.5%). Conversely, (17.5%) of average users and only (2.5%) of poor users are
inclined to share digital resources with others.

Figure 6: Exchange of Technology-enhanced Activities Between Teachers vs. Data Show

			Data Show				
			Excellent	Good	Average	Poor	Total
Exchange of Technology-Enhanced Activities Between Teachers	Yes	Count	17	15	7	1	40
		% within Exchange of Technology-enhanced Activities Between Teachers	42,5%	37,5%	17,5%	2,5%	100 %
	No	Count	6	6	3	0	15
		% within Exchange of Technology-enhanced Activities Between Teachers	40,0%	40,0%	20,0%	0,0%	100 %
Total		Count	23	21	10	1	55
		% within Exchange of Technology-enhanced Activities Between Teachers	41,8%	38,2%	18,2%	1,8%	100 %

4.2 Use of innovative technology-empowered pedagogical activities in the classroom

The second question *'Do you try out new pedagogical activities that are facilitated by technology in your teaching practice to reflect on their effectiveness?'* probed whether or not teachers implement innovative resources that are empowered by technology in the classroom and test their usefulness in their teaching practices. The majority of respondents (90.9 %) had an affirmative answer to the question. An investigation of other variables also reveals significant findings.

As a matter of fact, there is a tendency among more experienced teachers to experiment with innovative technology-based teaching practices (figure 7). For instance, all participants with more than 20 years of experience expressed a positive attitude compared to (72.7%) of respondents who have been teaching for less than 6 years.

Figure 7: Use of Innovative Technology-empowered Pedagogical Activities in the Classroom

vs. Teaching Experience

			Teaching experience					
			0-5	6-12	13-20	21-25	Over 25	Total
Use of innovative technology -empowered pedagogical activities in the classroom	Yes	Count	8	22	15	2	3	50
		% within Teaching experience	72,7%	100 %	88,2%	100 %	100 %	90,9%
	No	Count	3	0	2	0	0	5
		% within Teaching experience	27,3%	0,0%	11,8%	0,0%	0,0%	9,1%
Total		Count	11	22	17	2	3	55
		% within Teaching_experience	100 %	100 %	100 %	100%	100 %	100%

On another scale, while all respondents are fairly good net-users, their level of internet web skills has an impact on the percentages of positive answers. Accordingly, all excellent internet users have an affirmative answer compared to (90%) of good users and (80%) of average users (figure 8).

Figure 8: Use of Innovative Technology-empowered Pedagogical Activities in the Classroom

vs. Internet Web Skills

			Internet Web Skills			
			Excellent	Good	Average	Total
Use of innovative technology-empowered pedagogical activities in the classroom	Yes	Count	15	27	8	50
		% within Internet Web Skills	100,0%	90,0%	80,0%	90,9%
	No	Count	0	3	2	5
		% within Internet Web Skills	0,0%	10,0%	20,0%	9,1%
Total		Count	15	30	10	55
		% within Internet Web Skills	100 %	100 %	100 %	100 %

Mastery of ICT tools, namely the data show, also impacts the positive attitude towards implementation of digital content in the classroom. As Figure 9 shows, a correlation is noted between teachers' expertise at using the device and their positive answers. For example, all excellent users compared to (90.5%) of good users and (70%) of average users have affirmative answers. Similarly, the highest rate of positive answers is tracked among excellent users (46%) compared to (38%) of good users, (14%) of average users and only (2%) of poor users.

Figure 9: Use of Innovative Technology-empowered Pedagogical Activities in the Classroom

vs. Data Show

			Data Show				
			Excellent	Good	Average	Poor	Total
Use of innovative technology-	Yes	Count	23	19	7	1	50
		% within use of innovative technology-empowered pedagogical activities in the classroom	46,0%	38,0%	14,0%	2,0%	100,0%

empowered pedagogical activities in the classroom	No	% within Data Show	100,0%	90,5%	70,0%	100,0%	90,9%
		Count	0	2	3	0	5
		% within use of innovative technology-empowered pedagogical activities in the classroom	0,0%	40,0%	60,0%	0,0%	100,0%
		% within Data Show	0,0%	9,5%	30,0%	0,0%	9,1%
Total		Count	23	21	10	1	55
		% within use of innovative technology-empowered pedagogical activities in the classroom	41,8%	38,2%	18,2%	1,8%	100,0%
		% within Data Show	100,0%	100,0%	100,0%	100,0%	100,0%

4.3 Participation in Professional Development Networks

The third question *'Do you stay current with research that favors the improvement of student learning outcomes by joining professional learning networks (twitter chats, Connected Educator month, Voxer groups, webinars, etc.)?'* investigated teachers' engagement in online professional development. The majority of respondents (n = 39) (70.9%) had an affirmative answer to the question.

Putting the gender variable under scrutiny reveals that both male (56.7%) and female (43.6 %) participants have a tendency to take part in online PD activities. More strikingly, the rate of female participation (77.3%) is noticeably higher than male participation (66.7%) (figure 10).

Figure 10: Participation in Professional Development Networks vs. Gender

			Gender		
			Male	Female	Total
Participation in PD networks	Yes	Count	22	17	39
		% within Participation in PD networks	56,4%	43,6%	100,0%
		% within Gender	66,7%	77,3%	70,9%
	No	Count	11	5	16
		% within Participation in PD networks	68,8%	31,3%	100,0%
		% within Gender	33,3%	22,7%	29,1%
Total		Count	33	22	55
		% within Participation in PD networks	60,0%	40,0%	100,0%
		% within Gender	100,0%	100,0%	100,0%

The interest in virtual PD generally gets higher with teachers' expertise. In this respect, teachers with (13-20) years of experience are more involved in online PD (76.5%) compared to (72.7%) of teachers with (6-12) years of experience and (63.6%) of teachers with less than 6 years of expertise (figure 11).

Figure 11: Participation in Professional Development Networks vs. Teaching Experience

			Teaching experience					
			0-5	6-12	13-20	21-25	Over 25	Total
Participation in PD networks	Yes	Count	7	16	13	1	2	39
		% within Teaching experience	63,6%	72,7%	76,5%	50,0%	66,7%	70,9%
	No	Count	4	6	4	1	1	16
		% within Teaching experience	36,4%	27,3%	23,5%	50,0%	33,3%	29,1%
Total		Count	11	22	17	2	3	55
		% within Teaching experience	100 %	100 %	100 %	100 %	100 %	100 %

From another scale, participants' proficiency at using the internet is conducive to their enrollment in online PD (n = 39) (70.9 %). Besides, figure 12 displays high percentages of positive answers among all types of internet users, namely excellent users (80%), good users (63.3%), and average users (80%).

Figure 12: Participation in Professional Development Networks vs. Internet Web Skills

			Internet Web Skills			
			Excellent	Good	Average	Total
Participation in PD networks	Yes	Count	12	19	8	39
		% within Internet Web Skills	80,0%	63,3%	80,0%	70,9%
	No	Count	3	11	2	16
		% within Internet Web Skills	20,0%	36,7%	20,0%	29,1%
Total		Count	15	30	10	55
		% within Internet Web Skills	100,0%	100,0%	100,0%	100,0%

4.4 Active Participation in local Professional Development Networks

The fourth question *'Do you create and /or actively take part in local learning networks (Facebook groups, WhatsApp groups, etc.)?'* explored teachers' involvement in local PD networks. It looks into active engagement of participants in creating and contributing to online teachers' communities within their schools and school districts. Statistics reveal that the great majority of respondents (n = 48) (87.27%) had an affirmative answer.

In terms of gender, male respondents showed more disposition to take part in local PD endeavors. As Figure 13 demonstrates, (60,4%) of male teachers are more inclined to enroll in online local communities compared to (39,6%) of female respondents.

Figure 13: Active Participation in local Professional Development Networks vs. Gender

			Gender		
			Male	Female	Total
Creation and/or active participation in local PD networks	Yes	Count	29	19	48
		% within Creation and/or active participation in local PD networks	60,4%	39,6%	100,0%
	No	Count	4	3	7
		% within Creation and/or active participation in local PD networks	57,1%	42,9%	100,0%
Total		Count	33	22	55
		% within Creation and/or active participation in local PD networks	60,0%	40,0%	100,0%

From another perspective, higher percentages of positive answers are recorded among younger generations of teachers. In this respect, (25%) and (29.2%) of affirmative answers are tracked among respondents that are aged between 21- 29, 30- 39, and 40-49 respectively. Conversely, (14.6%) and only (2.1 %) of positive responses relate to teachers between 50-59 and teachers that are over 59 (figure 14).

Figure 14: Active Participation in local Professional Development Networks vs. Age

			Age					
			21-29	30-39	40-49	50-59	Over 59	Total
Creation and/or active	Yes	Count	12	14	14	7	1	48
		% within Creation and/or active participation in local PD networks	25,0%	29,2%	29,2%	14,6%	2,1%	100,0%

participation in local PD networks	No	Count	1	2	3	0	1	7
		% within Creation and/or active participation in local PD networks	14,3%	28,6%	42,9%	0,0%	14,3%	100,0%
Total		Count	13	16	17	7	2	55
		% within Creation and/or active participation in local PD networks	23,6%	29,1%	30,9%	12,7%	3,6%	100,0%

Teachers' ICT competence in using the internet is another determining factor in their attitude towards integrating online local professional groups. As a matter of fact, the more proficient teachers are in internet skills, the more willing they are to take part in online professional communities. Numerically speaking, all excellent net users had a positive attitude compared to (83.3%) of good users and (80%) of average users (figure 15).

Figure 15: Active Participation in local Professional Development Networks vs. Internet Web Skills

			Internet Web Skills			
			Excellent	Good	Average	Total
Creation and/or active participation in local PD networks	Yes	Count	15	25	8	48
		% within Internet Web Skills	100,0%	83,3%	80,0%	87,3%
	No	Count	0	5	2	7
		% within Internet Web Skills	0,0%	16,7%	20,0%	12,7%
Total		Count	15	30	10	55
		% within Internet Web Skills	100,0%	100,0%	100,0%	100,0%

4.5 Active Participation in global Professional Development Networks

The fifth and last question of the survey '*Do you create and /or actively take part in global learning networks (Facebook groups, WhatsApp groups, etc.)?*' investigated teachers' active engagement in global PD networks. It probes teachers' participation in creating and / or joining online professional communities both at national and international levels. Findings show that the greater portion of respondents (n=33) (60%) had a favorable answer to the question.

From another scale, a closer look at participants' age categories indicates that younger generations of teachers are more willing than others to establish virtual contact with colleagues at global level. As Figure 16 shows, one third of positive answers (30.3%) is recorded among respondents aged (21.29). Similarly, (27.3%) of affirmative answers relate to participants aged between (30- 39) and (40-49) respectively. The same interpretation applies to the proportion of positive answers within each age category. In fact, (76.9%) of younger teachers (21-9) had an affirmative answer compared to only half of veteran teachers (50%).

Figure 16: Active Participation in Global Professional Development Networks vs. Age

			Age					
			21-29	30-39	40-49	50-59	Over 59	Total
Creation and/or active participation in global PD networks	Yes	Count	10	9	9	4	1	33
		% within Creation and/or active participation in global PD networks	30,3%	27,3%	27,3%	12,1%	3,0%	100 %
		% within Age	76,9%	56,3%	52,9%	57,1%	50,0%	60,0%
	No	Count	3	7	8	3	1	22
		% within Creation and/or active participation in global PD networks	13,6%	31,8%	36,4%	13,6%	4,5%	100 %
		% within Age	23,1%	43,8%	47,1%	42,9%	50,0%	40,0%
Total		Count	13	16	17	7	2	55
		% within Creation and/or active participation in global PD networks	23,6%	29,1%	30,9%	12,7%	3,6%	100 %
		% within Age	100 %	100 %	100 %	100 %	100 %	100 %

On the other hand, an examination of teachers' expertise discloses higher percentages of positive answers among less experienced teachers. While (27.3%) of teachers with less than 5 years of experience and (36,4%) of teachers with 6 to 12 years of experience take action to globally interact with colleagues, only (3.1%) of teachers with 21 to 25 years of experience and (6.1%) of teachers with more than 25 years of experience have the same attitude (figure 17).

Figure 17: Active Participation in global Professional Development Networks vs. Teaching Experience

			Teaching experience					Total
			0-5	6-12	13-20	21-25	Over 25	
Creation and/or active participation in global PD networks	Yes	Count	9	12	9	1	2	33
		% within Creation and/or active participation in global PD networks	27,3%	36,4%	27,3%	3,0%	6,1%	100,0%
	No	Count	2	10	8	1	1	22
		% within Creation and/or active participation in global PD networks	9,1%	45,5%	36,4%	4,5%	4,5%	100,0%
Total		Count	11	22	17	2	3	55
		% within Creation and/or active participation in global PD networks	20,0%	40,0%	30,9%	3,6%	5,5%	100,0%

Proficiency at using the internet is another variable that affects teachers' eagerness to virtually reach out to their peers on at global scale. Statistically, higher percentages of favorable answers are tracked among excellent (30.3%) and good (57.6%) internet users compared to only (12.1%) of average users (figure 18).

Figure 18: Active Participation in global Professional Development Networks vs. Internet Web Skills

			Internet Web Skills			
			Excellent	Good	Average	Total
Creation and/or active participation in global PD networks	Yes	Count	10	19	4	33
		% within Creation and/or active participation in global PD networks	30,3%	57,6%	12,1%	100,0%
	No	Count	5	11	6	22
		% within Creation and/or active participation in global PD networks	22,7%	50,0%	27,3%	100,0%
Total		Count	15	30	10	55
		% within Creation and/or active participation in global PD networks	27,3%	54,5%	18,2%	100,0%

5. Discussion

Findings of the present study boil down to the following conclusions about the roles of EFL Moroccan high school teachers as ICT learners.

Both male and female teachers outspokenly expressed their eagerness to participate in pedagogical exchanges that promote ICT integration in the classroom. This positive attitude is tracked in higher percentages among younger generations of teachers. Conversely, teacher's expertise is another decisive factor as it serves as an eye opener about the importance of exchanging technology-enhanced activities between colleagues. Proficiency at using ICT tools, namely the data show, clearly boosts teachers' involvement in the process.

From another perspective, the great majority of respondents are willing to implement innovative technology-empowered activities in their classroom practices and reflect on their effectiveness. Once more, teaching experience is an influential factor as higher percentages of positive answers are recorded among experienced teachers. In the same mode, while all respondents are fairly good users of web-based platforms, better users are more willing to try out digital material in the classroom. Similarly, their proficiency at using ICT tools, namely the data show, surely facilitates the implementation of technology-empowered activities in the classroom.

Concerning taking part in online professional development, the majority of respondents expressed an affirmative answer. Gender is not a hinderance to teachers' engagement. In fact, positive attitude is noted among both male and female respondents. On the

other hand, expertise and familiarity with internet- based platforms are determining factors in participants' engagement. As a matter of fact, there is higher interest in joining professional development networks among more experienced teachers and better internet users.

From another scale, results of the survey disclose a general tendency among teachers to actively participate in local professional development networks. Nonetheless, the attitude is clearly noted among male respondents who represent 2 thirds of positive answers. Other variables that exert a significant impact on participants' attitude are age and proficiency at using internet platforms. Indeed, younger generations of teachers and better internet users are more inclined to engage and contribute to content in online local communities of teachers.

In the same vein, an investigation of teachers' active contribution to global professional development communities of teachers boils down to the same conclusions. In fact, 2 thirds of respondents had a favorable answer. Once again, younger teachers and more proficient users of the internet are more willing to establish virtual contact with colleagues at the international level. Conversely, putting teachers' expertise under scrutiny reveals astonishing results. In fact, higher percentages of positive attitude are recorded among less experienced teachers compared to less engagement of more experienced teachers. This can be interpreted as an eagerness to learn among novice teachers compared to a seemingly prevalent sense of self-satisfaction among veteran teachers.

Based on the above conclusions, the following recommendations are proposed:

- Educational decision makers should account for online professional development in structured teaching training programs. That way, prospective teachers will have insights into the use of the internet for virtual interaction and pedagogical exchange with colleagues both at national and international levels.
- Prospective teachers should be trained on the use of ICT tools as part of their teacher education program. In the same vein, adequate training should be provided for in-service practitioners to improve their ICT skills.
- Demo-lessons and pedagogical workshops should initiate both trainees and in-service teachers into practical use of internet-based platforms and ways to join and benefit from professional development networks.
- Pedagogical supervisors should encourage teachers to enroll in e- communities for the good of their professional development. The same awareness should be raised, particularly among veteran teachers, to get out of their comfort zone, digitize their practices, and live up to the demands of the profession in a constantly changing world.

6. Conclusion

The present study explores the roles Moroccan High school teachers play as ICT learners. These roles are explicitly defined in the ISTE roles for educators as put forth by the International Society for Technology in Education charter. In this respect, continuing professional development and ICT teacher education are put under scrutiny. The study adopts a quantitative research design in which data was collected using a questionnaire that comprised demographic information about the participants as well as closed questions about the subject matter. Participants represent the EFL community of teachers who work in private high schools in Marrakesh, Morocco. Study results disclose a general interest among participants to take part in pedagogical exchanges that promote ICT integration in the classroom. The tendency is more popular among younger generations of teachers, more experienced practitioners, and proficient users of ICT tools, namely the data show. From another scale, most respondents are willing to incorporate innovative technology-empowered activities into their classroom practices and test their effectiveness. Again, teaching experience, proficiency at using internet platforms and ICT tools (e.g. the data show) are determining variables that promote a positive attitude among participants. In the same vein, the majority of teachers expressed interest to enroll in online professional development. Teaching experience and expertise in using internet-based resources are decisive factors that promote online professional upskilling of participants. Concerning active participation in local e- communities of teachers, a positive attitude is clearly noted among male participants, younger generations of teachers, and better internet users. Conversely, at the global level, while the same conclusions are drawn as far as participants' age and familiarity with internet-based platforms, a reticence to engage online with colleagues at international level is particularly tracked among more experienced teachers. Therefore, there is an urgent need to account for online professional development as well as the use of ICT tools in structured teacher training programs. Equally important, both prospective and in-service teachers should be trained on the use of internet-based platforms through professional meetings and demo-lessons. From another scale, pedagogical supervisors should sensitize in-service practitioners, especially veteran teachers, about the merits of enrollment in e-communities of teachers both at local and international levels. Awareness should also be raised about the benefits of digitizing their practices on their professional development.

In the end, it is worth mentioning that the study, for convenience reasons, targeted teachers who work in the directorate of Marrakesh, particularly in urban areas. Despite a noticeable reticence to participate that was observed among a number of

candidate teachers and school headmasters, the study managed, mainly through net-working, to account for approximately a third of the target population (55 participant teachers from 23 private high schools). The study creates opportunities for research that target teachers who work nationwide not only at urban, but also suburban and rural areas. The investigation might be widened in scope to include teachers who work in the public sector as well. Research parameters might also be enlarged to account for other ISTE roles as explicitly articulated in the ISTE standards for educators.

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