



Research Article

Approach to support future teachers of Life and Earth Sciences in practical training and its contribution to the development of their professional skills and reflexivity: Sharing experience

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ABSTRACT



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Internships represent periods dedicated to a set of activities that are both practical and professionalizing. In this context, the commitment of future teachers and the support team is crucial to ensure the success of the validation process of the competency framework, which represents a central component of a training plan specially designed for the internship. The main objective of this research aims, following an experiment conducted with twelve future teachers of Life and Earth Sciences (LES) from the Regional Centre for Education and Training Trades of Kenitra in training, to highlight the impact of the dynamics of support for future teachers during their internship, it explores the progressive development of their professional practices, while emphasizing, at the same time, the evolution of their behavior towards the class, the trends that emerge from them, as well as their involvement in a reflexive analytical approach. The data will be collected through observations in class, centered on the student teacher; for this, we have developed an evaluation grid integrating different indicators and observable elements related to professional skills. The support is provided by direct observations in class, followed by sessions, self-analysis, feedback and regulation of educational situations managed by the trainee. All these interventions are based on the linking of identifiable indicators in the interns' achievements. The results of this study made it possible to highlight, based on the discrepancies observed before and after the regulation sessions among future teachers in the way of teaching in class, the positive impact and significant contribution of supporting future teachers of LES in internship on the development of their professional skills, by adjusting their needs and path and encouraging them to reflect on their practice.

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Introduction

The National Charter for Education and Training recommended a series of guidelines on the basic principles of the educational system in Morocco (CSEF, 2000). In accordance with these new guidelines and orientations, it has given strategic importance to quality teacher training.

The objective of the reform of training systems and the establishment of CRMEF in Morocco is to improve the professional skills of educational executives (teachers, directors...), because the most efficient systems demonstrate that ultimately, it is the level of competence of teachers that makes the quality of a school system (Barber and Mourched, 2007).

In Morocco, the professionalization of the teaching profession has been initiated through the introduction of a skills-based approach within the education system. In this context, the initial training of teachers at the CRMEF is a professionalization that aims to qualify the teacher through a structured training system focused on professional training linking theory and practice that empower the future teacher to acquire adequate strategies for

teaching and learning: the first is provided within a training institution, namely the CRMEF, while the second takes place in a professional environment within the host institutions during Professional Situations called (MSP). During this period, the future teachers will have the opportunity to assess the distance between their academic background and their professional experience, while being confronted with the reality of the educational sector. Thus, the MSP occupies a central place in the professional training of these teachers. The practical internship revolves around six MSP whose initial aims focus on observation and discovery (MSP1) and culminate with the complete management of the class and the evaluation of skills development (MSP5 and MSP6).

Practical training aims to develop innovative methods and techniques that meet the new demands in class, they truly represent the main concern of trainees, especially for their internship success.

The internships are periods reserved for a range of activities both practical and oriented towards professionalization. In this

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situation, the future teachers and the supervision team, composed of the trainer and the host teacher, both play a crucial role. Their involvement is essential to ensure the success of the validation process of the competency framework, which constitutes a key element of a training program specifically developed for the internship. The year of training for trainee teachers is part of an evaluation process that includes a certification phase materialized by the examination of their professional qualification. Moreover, this period includes visits conducted by the trainers, aimed at accompanying and supporting the future teacher in the assimilation of the competency framework. During practical training, future teachers must make a considerable commitment to building relationships, adjusting to the demands of the profession and fully blending into the educational environment. All these actions are supported by different stakeholders in the field of training, including trainers and host teachers. Indeed, the teaching team must accompany the trainee both in their reflection on their teaching practice and in the development of routines and procedures. The technical and relational skills highlighted by education professionals will be valued by the trainers involved in this support. Moreover, the development of future teachers' skills throughout their training often presents difficulties. It is therefore essential to develop a potential path for skills development (Gouin and Hamel, 2015; Tardif, 2017) to ensure a satisfactory qualification training completion profile. Recognizing the importance of practice support in class for future teachers in training and based on the results of the study conducted by Hicham, (2024), as part of the quality of teacher education in Morocco: state of play and perspectives, who state that the lack of supervision and support is one of the main obstacles to the effective transfer of skills among interns. The main objective of this study is to highlight, through an experimental approach for the benefit of 12 future teachers of LES, the influence of the support process on the development of practical skills acquired during internships in professional environments and reflective practice at home. To this end, the evaluation and monitoring of each trainee's individual career path and the evolution of their skills is of great importance.

1. Conceptual framework

1.1 Traineeships in vocational training for future teachers

In the current context of increasing professionalization of the teaching profession, the internship or MSP often presents itself as a very important moment in the professional training of future teachers. The internship offers both the opportunity to connect theory with practice, building on the skills defined in the teacher training program and a favorable environment for the acquisition of diverse knowledge in a professional practice context (De Cock, 2007; Altet, 2008; Beckers, 2007). Internship periods play an essential role in professional socialisation through a guided introduction to the practice of the profession, students generally consider internships as one of the most relevant components of their training (Gervais and Desrosiers, 2005; Giroux, 2000; Laforce, 2002). The internship offers interns the opportunity to learn how to manage the diversity and complexity of situations they encounter in their professional lives, through lived teaching practices or through reflections on observed or constructed teaching-learning situations. (De Cock, 2007). The future teacher ends up creating his own meanings from experience rather than passively receiving those of others (Altet, 1994; Barbier, 1996a; Beauchesne, Garant, Lane & Dumoulin, 2001; Beckers, 2001; Paquay & Sirota, 2001).

1.2 Support in practical training

Paul, (2009) defines support in the field of training by explaining that when it comes to professionalization, training must take into account the internship fields which represent a concrete anchoring of professional realities. This indicates that to

accompany the trainee in contextualizing various forms of knowledge (theoretical, pedagogical, etc.), it is essential to base oneself on one's experience and way of living it. This first phase helps the intern to make sense through action. Thus, to meet the needs of the intern, it is essential to accompany him/her to support him/her, help him/her to perfect his/her teaching methods and clarify his/her action, with the aim of updating, renewing or modifying his/her practices (Demol, 2002; Paul, 2009; Portelance, 2010). Accompaniment presupposes an interaction between the accompanying person and the one who is accompanied (Lafortune and Deaudelin, 2001). For this, any support relationship requires good communication between the trainer and the trainee. Furthermore, in order to train/accompany an intern, the trainer uses a style adapted to the needs of the interns (Amamou et al., 2022).

The trainer supports future teachers in their host institution and helps them to implement their cognitive skills during classroom practice. The role and mission of the coach is not only to provide knowledge and theories to the trainees, but also to show them how to put them into practice in concrete situations and how to convey a particular message to ensure profitability in terms of expertise (table 1). Certainly, a trainer, through his professional intervention as a mediator/transmitter, possesses knowledge or practical methods that give him the ability to teach, supervise, assist and guide the future teachers.

Table 1: Role and missions of the assistant towards the trainee

Role	Missions
Facilitate the integration of the intern into the establishment and the teaching team	Aid for professional integration
Initiate the process of acquiring professional skills and professional development by guiding one's practices, encouraging reflection on them, and awakening awareness of the impacts of one's choices and actions on the class and learners' learning.	Assistance in the acquisition or construction of professional skills considered essential for entry into service
Help the intern to understand the skills he needs to develop.	Evaluation

1.3 Development of professional skills

According to Meirieu (1988), a skill is an identified knowledge involving one or more abilities in a given notional or disciplinary field. A skill is a set of knowledge, know-how and interpersonal skills that allow one to properly perform a role, function or activity. Properly means here that the treatment of situations will lead to the result hoped for by the person who treats them or to an optimal result (D'Hainaut 1984). It is therefore a capacity to act competently while using internal and external resources and to transfer the acquired resources into new contexts. The mobilization of these skills promotes the accomplishment and success of the task. To be competent, one must know how to select the necessary elements in the resource directory, organize them and use them to carry out a professional activity, solve a problem or carry out a project (Le Botte, 1994).

The development of professional skills involves acquiring skills and interpersonal skills useful in the professional environment. This involves acquiring, updating or honing the skills required to effectively perform one's current or future role. Hence, the use of the concept of professionalization in the case of teaching activity refers much more to the professionalization of people engaged in the activity (Bourdoncle, 2000), it is essentially defined by the ability to perform their work independently and responsibly. Improving skills is a major challenge for all

professionals who strive to leverage their internal expertise and maximize their overall performance. The development of skills can take place in various ways, through vocational training or in all situations conducive to the exchange of good practices.

1.4 Reflexive analysis

Reflexive practice, says Perrenoud (2004), makes every lived experience a moment of learning. Thus, each practitioner capitalizes on knowledge that he can reinvest to solve new professional problems. This professionalizing perspective is based on the principle of reflective development. Indeed, the profession is no longer a model to be reproduced, but a profession that develops from skills gradually acquired through practice. Human-related professions require partial training based on personal experience. Practicing reflective practice means adopting this reflexive posture, in a regular and intentional manner, with the aim of becoming aware of one’s way of acting, or reacting, in professional or formative situations (Balas-Chanel, 2012). The reflective practitioner model of Schön (1993) includes two levels of reflection, reflection in action (which consists of an awareness of certain elements of practice in action), and reflection on action (which leads the teacher to take a distance from their daily practice and question the content and reasons that justify certain decisions).

In educational sciences, it is admitted that experience is indispensable, but insufficient without the presence of an accompanying reflexivity (Boucllet and Huguet 1999; Charlier, 2000; Furlong and Maynard, 1995; Gervais, 1998; Lafortune, Bélanger, Lachapelle and Milot, 2006). According to Perrenoud (1994), this reflexivity also represents the cognitive engine of training itself. Therefore, one of the essential roles of the associate teacher is to foster and encourage the intern to systematically reflect on his/her practice (Forest and Lamarre, 2009).

The analysis of professional practices aims not only to formalize knowledge of action and to deepen understanding of professional situations, but also to engage a true work on oneself (Barbier, 2000). It thus participates in professional development, which includes the construction of skills, particularly through reflection on professional practices, as well as identity transformations (Beckers, 2007). To promote the reflexivity of an intern, it is essential to encourage them to analyze their practice, to distance themselves from it and to consider alternatives (Derobertmasure, 2012).

1.5. Evaluation in an internship context

The pedagogical objective of evaluation is to serve as a learning instrument. It requires precise and constructive feedback to support the future teacher in understanding their mistakes, improving their skills, and engaging them in a process of continuous improvement. According to the rules of evaluation, control and support described by Vial (2001), when it comes to encouraging reflective work in future teachers, trainers use various professional gestures adapted to these perspectives. These actions aim to juggle with a double requirement: on the one hand, meeting the institutional obligation to evaluate the professional skills being acquired in relation to a framework for certification (control rule); and on the other hand, promoting the emergence of an auto-significant evaluation to allow the intern to give meaning to their experiences and evolve in their practice (accompanying rule). These aspects converge to make evaluation a tool that is at once diagnostic, evolutionary and pedagogical in the context of improving professional skills. Certainly, we can highlight the importance given to formative evaluation and the progression of trainees (Bélair et al., 2017). Nevertheless, the specificity of each internship environment and the inherent complexity of the professional exercise present challenges for trainers when it comes to assessing skills (Lapointe and Guillemette, 2015; Scallon, 2007; Tourmen, 2015). The role of the teacher-trainer is closely linked to the form of formative

assessment, which consists in determining the proximal zone of development of the trainee, that is to say, to know quite well where he/she is on the scale of the development of his/her skills. Subsequently, the trainer can suggest to the student challenges that he considers feasible with considerable effort and sustained motivation (Boutet, 2002). So, the intern is in an area that represents both a zone of growth and a space for success (Vygotsky, 1978).

2. Methodology

As part of this research, we chose a group composed exclusively of future SVT teachers. These interns are invited to design and put into practice teaching sequences that they will present in front of their peers as well as the educational team (host teacher and trainer) within the host institution during MSP5 and MSP6 where they take full responsibility for the class. In the context of support and after each class visit, a meeting was held directly after the activity with the trainees belonging to the same host institution. These are discussions, exchanges, self-confrontation and regulation sessions within the training establishment (CRMEF), focusing on the observed sequence. This experience offers the future teacher the opportunity to become familiar with the various stages of design, realization, observation and critical analysis.

The adopted professional skills assessment grid is considered as a formative tool that reflects the process of acquiring professional practices. This evaluation instrument, used for data collection and processing, is based on a particular choice of skills from the professional skills repository for internships. Indeed, the grid is composed of six practical areas of essential observations (Annex 1 and 2), designed to evaluate teacher-trainees in the evolution of their professional skills: 1/ Content specific to the discipline taught, 2/Class group session, 3/ Presence in the class and Communicative quality, 4/ Management of didactic material, 5/Practical application and session flow and 6/Reflexive analysis on practice. And indicators that provide tangible signs of professional practice to assess the level of competence achieved. The data is collected from observation and classroom evaluation, centered on 12 future teachers of LTS during the 2023/2024 training year (Table 2). Taking into account the context and realities of the internship, certain skills are not taken into account, but they could be addressed during the regulation session.

Table 2: Description of the sample and location of the experiment

Experimental sample	12 future Teachers of LES
	9 Student teachers (75%)
	3 Trainee teachers (25%)
Educational actors	3 Host teachers
	1 Trainer/ Supervisor
Reception establishment	3 middle schools (Kenitra) Observation and evaluation
CRMEF	Kenitra Self-confrontation and regulation
training year	2023/2024

The evaluation is carried out twice, once (visit 1) before the start of self-confrontation and regulation sessions within the CRMEF of Kénitra, the second (visit 4) after three sessions of these (Figure 2). During these four visits, four observations per trainee were made as part of the research. In total, there are 36 observations overall.

This experimental approach is based on a comparative analysis of the results of an evaluation of professional skills carried out before and after a process of support and regulation among the trainees. We proceed in this way in order to detect the effectiveness of the support for trainee teachers based on the

changes observed in their classroom practices as well as the gradual evolution of their professional skills.

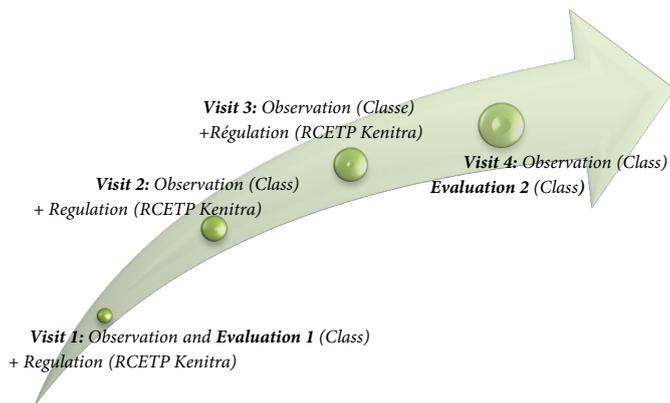


Figure 1: Evaluation and support processes focused on future teachers of LES in practical training

Following each of the first three visits, a meeting is held with the future teachers; at the rate of 4 trainees per meeting. The exchange is based on observations and comments noted during visits. These exchange and regulation sessions for the benefit of future teachers, which resemble more an open conversation to jointly develop new practices, allow them to be engaged through the examination of their methods, support them in understanding the challenges they face and prepare them to overcome obstacles. The objective is mainly to focus on constructive feedback taken into account by the trainee himself in order to identify necessary regulations and immediate adjustments. In order to effectively guide these moments of exchange with future teachers and encourage reflexive analysis among them, we have adopted a support that serves as a guide for questions that raise questions about their internship experience and place them in situations of imbalance (Table 3). It favors reflexive questioning, emphasizes the objectives established by the intern and supports the regulation of his deployed strategies.

Table 3: Guide for self-analysis, regulation and simulation of the reflexivity of the future teacher

Introduction	Encourage the trainee to share their impressions of the lesson Highlight the positive points of the lesson.
Analysis of the lesson and simulation of reflexivity	The question about the achievement of objectives What are the actions taken? + analysis What is the professional practice lived in a situation? + analysis What are the impacts of the different interventions implemented on the progress of the situation? What are the links made with the theory? The analysis of the progress of the activity and the strategies adopted. The discussion of contradictions and inconsistencies in the interventions employed.
advise	Give specific recommendations on essential and immediate aspects: The identification of priorities. Summarize the discussed adjustments and define the guidelines for future practices.

3. Results and discussion

Our experimental work is based on a comparative analysis of the results of an evaluation of professional skills required for future SVT teachers, carried out before and after a support process. The objective was to evaluate the effect of the support and supervision of trainee teachers in practical training on the changes observed in their classroom practices as well as the gradual development of their professional skills and reflexivity. In this context, our attention will mainly be directed towards six key skills that are in line with the framework of our research:

3.1 Content specific to the discipline taught

According to the results of the first evaluation, the majority of interns have disciplinary gaps (Figure 2), indeed:

The correct use of typical representations of his discipline (8%): Generally, interns do not properly use the modes of representation specific to the discipline, notably schematic representations, diagrams and curves...

The use of practical scenarios for targeted learning (17%): This indicator is essentially designed to make learners active and engaged. The interns offer the learner activities by adopting an approach that does not promote the intellectual involvement of the learner such as analyzing a phenomenon, interpreting data, comparing model and reality, explaining a biological phenomenon, writing a scientific conclusion, read a map ...

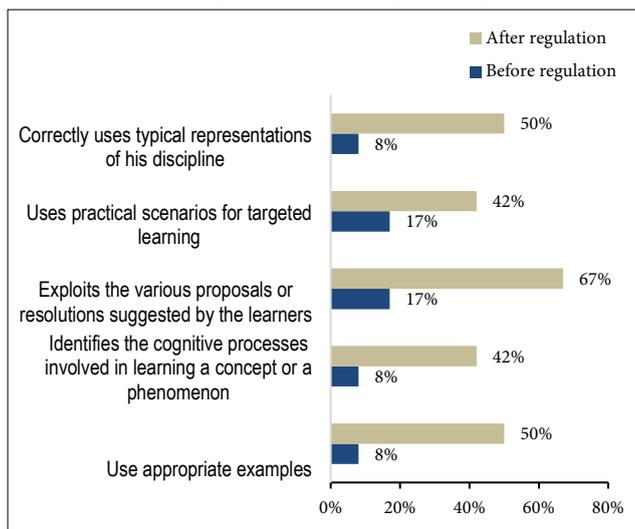
Exploitation of the various proposals or resolutions suggested by the learners (17%): The interns do not take into account and do not value the various proposals made by the learners. To remedy this observed shortcoming, we guided the interns during the regulation sessions to mobilize and encourage students to propose solutions, then exploit them to collectively build learning, in other words, rely on the ideas of learners to guide reflection and advance problem solving and enrich the pedagogical activity.

The identification of the main cognitive processes involved in learning a concept or a phenomenon (8%): for trainees to acquire this skill, it is essential to mobilize several cognitive processes in the learner-so that he can discover a new concept or analyze a phenomenon, notably observation/perception, understanding, analysis, inference, conceptualization, linking, problem solving, and metacognition. Future LES teachers must master the scientific content of the subject taught, namely, integrate each concept into a broader network of knowledge by developing links between concepts (concept map), phenomena or discipline, define its properties and conditions, have examples and counter-examples and identify interactions and correlations between concepts or phenomena.

The use of appropriate examples (8%): The use of carefully chosen examples are essential teaching tools because they play a central role in the effective transmission of knowledge, especially in scientific disciplines such as LES. Giving learners an example captures their attention, arouses curiosity, promotes retention and strengthens engagement especially when it is a contextualized example. Indeed, future teachers have been encouraged to often use examples because they allow for the commitment and motivation of learners, affect different learner profiles (pedagogical differentiation) and even correct mistaken conceptions among them. Taking into account the importance of this skill, 50% of the trainees use relevant examples in the sequence presented during the last visit.

After guiding and guiding future teachers by insisting on the proper mastery of scientific content related to LES to explain confidently, reduces the risk of errors, vary the examples, stimulate essential cognitive processes in the learner and propose clear and adapted explanations. Indeed, through the sequence presented during the 4th visit, the interns were able to work on these skills and their actions to make the session better by perfecting their practice as shown by the results illustrated in figure 2.

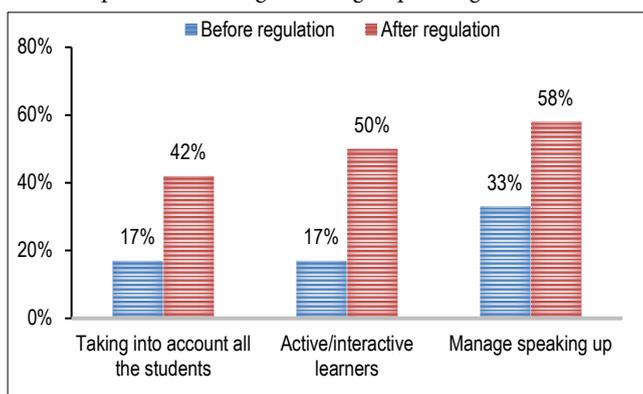
Figure 2: Impact of the support for future teachers of LES on the content specific to the discipline taught



3.2 Class group management

The results allow us to see the evolution of the teacher’s behavior regarding class group management and to see the trend in the indicators related to this skill before and after support (Figure 3). Indeed, the evaluation of the first visit of future teachers shows a weak consideration of all students (17%) "the trainee teacher must pay attention to the active participation of all learners and meets the principle of equity by offering everyone the same opportunities for success..." and the learners are not active (17%) "the future teacher must identify courses of action to make the learners active, reflective and interactive...". After support and regulation, these two indicators respectively present a rate of 42% and 50%, which shows a significant improvement in terms of group class management, which implies that the trainee has developed his self-confidence and strengthened his class management.

Figure 3: Impact of the support for future teachers of LES in practical training on class group management

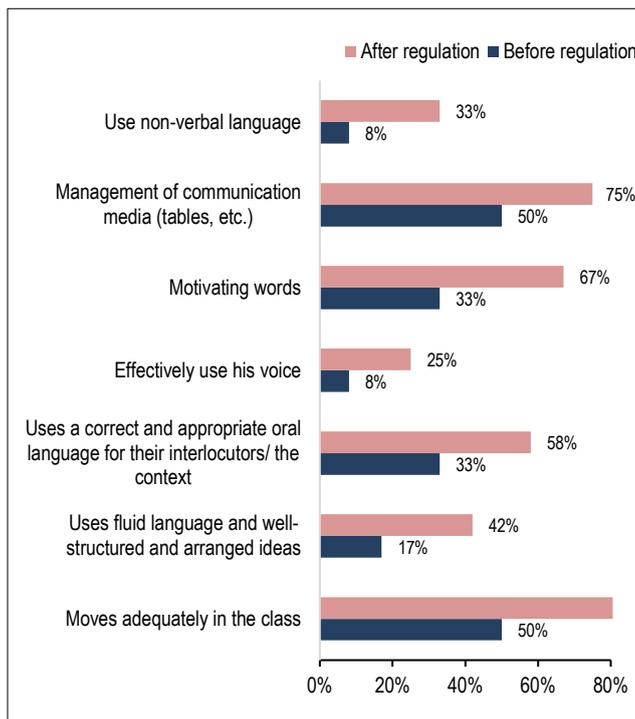


3.3 Presence in the class and communicative quality

The presence in the class of the future teacher is observed and evaluated by focusing essentially on two indicators: moves significantly in the classroom and uses his voice effectively. The other indicators evaluate the communicative quality of the trainee.

The results (Figure 4) show that future teachers mark their presence by moving within the class (50%). After remediation, a large improvement is recorded for this indicator (83%). While for motivational words, the majority of interns present a significant lack of this skill before regulation (8%), but it has largely evolved after the support sessions (42%). This progression reflects the positive impact of the experimented approach on the fact that the trainees were able to formulate expressions of encouragement and motivation.

Figure 4: Effect of the support for future teachers of LES in practical training on their presence in the class and their communicative quality



Regarding the communicative quality among trainee teachers, the results show that most of the trainees mainly present difficulties on aspects of oral communication such as pronunciation, articulation, and rhythm. (That 8% use a fluid language and well-structured and arranged ideas and that 17% use a correct and appropriate oral language to their interlocutors/context). Therefore, during the self-confrontation sessions, trainees were guided towards the use of links and transitions that allow them to structure and organize their ideas and especially to mark the different parts of their interventions. And to encourage them to enrich their vocabulary in French, the language of instruction for LES.

In terms of professional development, all the indicators related to this skill register a clear progression among the experimented sample showing the positive impact of the accompaniment despite the communicative difficulties observed among the future teachers.

3.4 Management of teaching materials

In the field of Information and Communication Technology for Teaching (TICE), trainees actively integrate new technologies into their teaching methods. Regarding the use of the table, 50% of the trainees show poor handling of the table. After discussion on the central and especially professional role played by this instrument in didactic activity: didactic tool always presents in the classroom space and is part of professional gestures by adopting it as one of the essential aspects of teacher’s work, it supports visual and auditory learning, maintains learners’ attention while allowing them to follow the teacher’s pace and be more attentive. Hence the need for proper handling and management of the painting through writing, colors, clarity, presentation, organization and explanatory and/or summary illustrations (diagram, drawings, mind map, concept map...). The board must always be shared with the learners by making them use it when the pedagogical activity requires it, this makes the class active and dynamic.

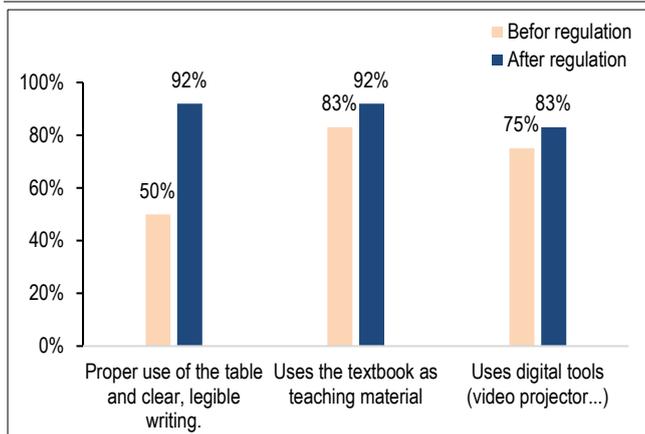


Figure 5: Impact of supporting future LES teachers in practical training on Management of educational materials

3.5 Implementation and conduct of the session

The competence related to the implementation and conduct of the session is part in its entirety of the didactic field which particularly concerns the management of learning. The results clearly show that future teachers present, from the first visit, remarkable shortcomings regarding several indicators such as (figure 6): learner errors are taken into account (8%), consideration of learners' interests (8%), logically and consistently links the different stages of the course (8%), gives learners enough time to think and formulate their answers to the questions (8%), proposes an approach that offers learners the opportunity to interact with each other and promote their individual expression (8%), responsiveness of learners to suggested activities (8%), starts

the course by capturing the attention of all learners (8%) and gives learners enough time to think (8%). This situation led us to refocus the discussion and regulation by directing the interns, through self-analysis on their course of action, towards clearly defined learning objectives, on the activity(ies) organized around these objectives (choice of learning activities), on the pedagogical approaches adopted, on the quality and effectiveness of questioning and reformulation, on the methodology adopted (clarity and principle of progression), on the motivation of learners, on the consideration of errors and learning difficulties and on the identification of signs of comprehension or not by learners. By guiding the trainees through questions in order to redirect them towards perspectives for reflection on their practice, we were able to overcome the shortcomings observed among them and mentioned above. For example, the structuring phase of learning at the end of the session goes from 17% before the support to 67% after, similarly the sequencing in a logical and coherent way between the different stages of the course has evolved from 8% to 50% and the responsiveness of learners to suggested activities increases from 8% to 58%.

This development in the acquisition of skills related to learning management and the conduct of the session (visit 3 and 4) was widely felt by future teachers, through the involvement of learners in a marked manner compared to the first two visits. It should be noted that all the interns ensure to respect all forms of advice and support in order to regulate their action plans and master the class from an educational, didactic and relational point of view.

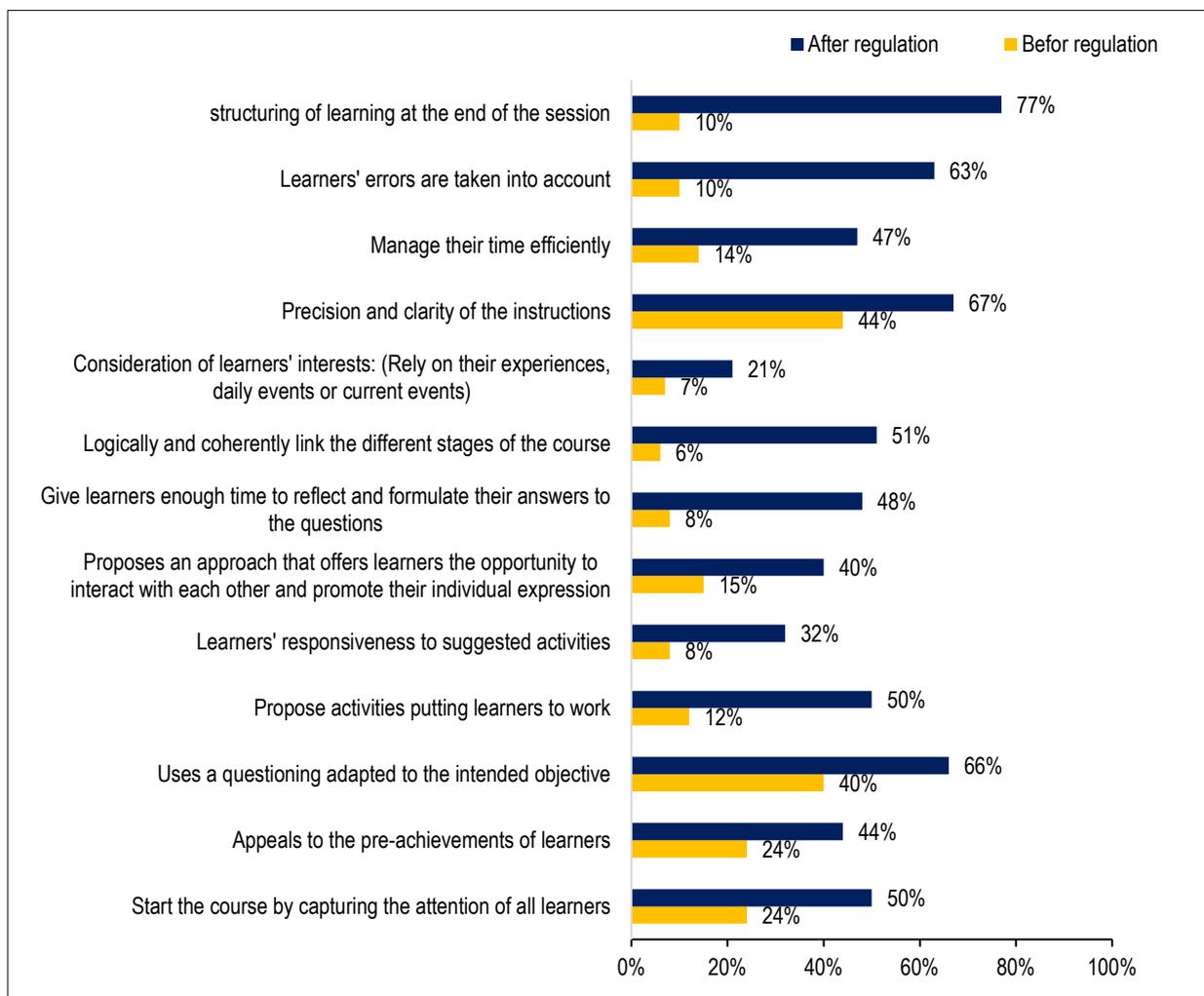


Figure 6: Effect of the support for future teachers of LES in practical training on their implementation and conduct of the session

By guiding the trainees through questions in order to redirect them towards perspectives for reflection on their practice, we were able to overcome the shortcomings observed among them and mentioned above. For example, the structuring phase of learning at the end of the session goes from 17% before the support to 67% after, similarly the sequencing in a logical and coherent way between the different stages of the course has evolved from 8% to 50% and the responsiveness of learners to suggested activities increases from 8% to 58%.

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3.6 Reflexive analysis on the practice

According to the various professional situations that they will have to deal with each future teacher, a necessary time to reflect on oneself and their practice in order to see one who adopts a reflexive posture while constantly seeking to improve things by reflecting.

The objective with the interns, to achieve the goal we are aiming for, is not to make a preconceived judgment on the actions she undertakes, but by constantly encouraging her to question: what is the best approach adopted and applied to achieve the intended goal? In other words, the intern is constantly encouraged to seek feedback. He must not limit himself to examining what is finished, but take the time to regularly pause to reflect back and question: "How can I improve my practice? How can I consolidate this action? Is it going in the right direction?"

The observations made, exchanges and discussions conducted with future teachers give the intern the opportunity to engage in self-analysis. At the beginning (visit 1) no specific action was defined, but by encouraging him to analyze himself in a very exhaustive manner and by involving him in a reflexive activity through a prior analysis supporting his action, we notice that the part of the future teachers (Figures 4) takes into account the recommendations while seeking to perfect its practice. He begins, starting from visits 2 and 3, to objectively examine his practice in class (reflection on his action and reflection on his positioning) and engages in new practices and situations by adopting well-organized solutions, successfully structured and implemented. Indeed, in the face of difficulties, the trainee is led to reflect, adjust and perfect his intervention model.

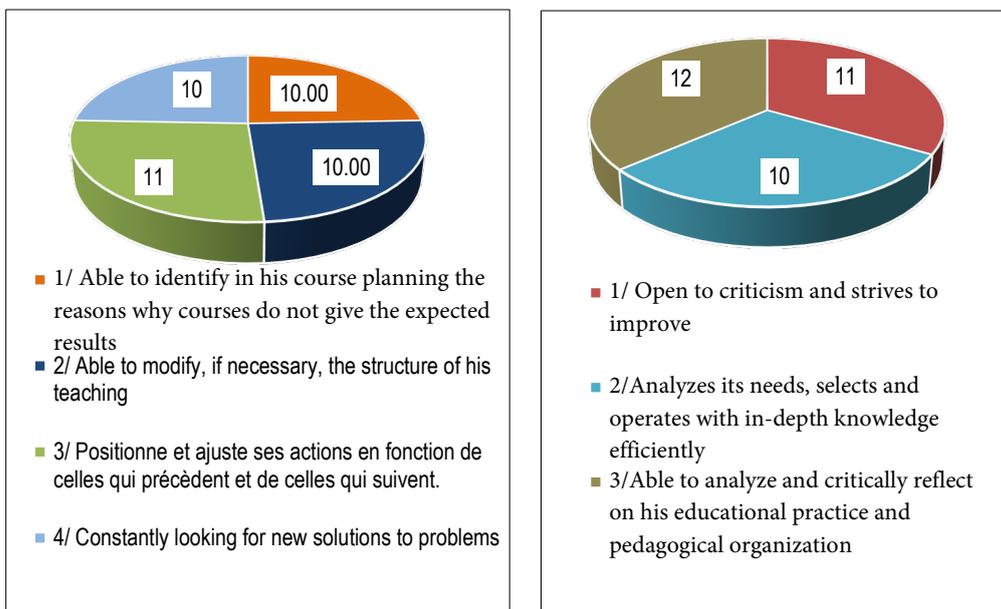


Figure 7: Impact of the support for future teachers of LES on reflection on action (left) and on changes in representation and engagement in new practices (right)

4. Conclusion

Due to a weakness in support, a low reflexivity of the trainees and under the obligation of sustained support, this study highlights the importance of supporting future teachers in practical training, both in terms of setting up conditions conducive to a quality internship. Indeed, the accompanying person (educational actors: teachers of the host institution, trainer or inspector), as an experienced person, capable of integrating, supporting, facilitating their experience and ensuring their professional development. Similarly, as a rigorous supervisor able to dialogue, guide, evaluate and react retroactively.

The observations from the first two visits show that future teachers of LES frequently encounter difficulties in the areas: Content specific to the discipline taught, class group management, presence in the class and communicative quality, implementation and conduct of the session and reflexive analysis on the practice. For example, interns show gaps in certain knowledge related to the discipline, learning objectives are not clearly defined, their practice often poorly structured, difficulty managing time and

transitions during the course, difficulty establishing connections between the theory and reality of classroom teaching ... Despite these obstacles, our intervention, as part of the support process, is to maintain their follow-up by encouraging them to take into account the appropriate advice and observations offered to them.

In order to examine the effect of support on the evolution of skills and reflexivity among future LES teachers during their practical training, this work is part of a perspective of evaluation and development of skills based on the objective observation of teaching sequences presented and put into practice by the 12 trainee teachers. To achieve this goal, the research has adopted an approach particularly focused in the context of support, on self-confrontation, self-analysis and regulation of trainee teachers, subjects of experience.

The comparative analysis of the results recorded between the first and last visit highlighted the significant effect of supporting future teachers: they gradually evolve from an attitude focused on execution towards a reflexive attitude capable of adjusting teaching methods and know-how while focusing on the learner and their needs. The adopted support process privileged

confrontation and reflexive questioning, emphasizing the goals that the trainee establishes themselves and supporting the regulation of their deployed strategy. Indeed, after the first visit, the intern brings little change to these actions but afterwards, he changes strategy and chooses the reflexive questioning on the course of his practice:

- They begin to undertake teaching actions.
- They become aware of their own teaching style
- They have shown confidence in their own pedagogical decisions to encourage their professional independence.
- They manage to make the theory-practical articulation

This research demonstrated, by analyzing the differences observed among future teachers before and after regulation sessions, the favorable influence and the major contribution of the supervision and support for future SVT teachers in internship on the evolution of their professional skills. This allowed them to adapt their needs and paths, while encouraging them to reflect on their teaching method.

The supervised internship may prove to be a powerful lever for his personal and professional development (Donnay and Charlier, 2008). For this, we support the opinion that the meticulous accompaniment by qualified trainers to use a problem-solving approach, can help future teachers to overcome more effectively the difficulties encountered during their internship and to develop their skills and professional identity.

The above-mentioned results give rise to stimulation and questions in our capacity as trainers for the teachers of tomorrow. With a view to improving the professional training of teachers, especially during MSP in host institutions, the following recommendations are proposed:

- Promote the support and pedagogical follow-up of future teachers by conducting regular visits in order to guide and support them in the design and implementation of educational sequences on which they show a lack of skills, by providing them with the essential guidelines that prove to be a key element for improving their methods.
- Diversify the support methods during the internship by organizing visits, seminars, individual or collective meetings with interns, evaluation of work or reports.
- Identify some interesting directions for future research, for those interested in practical training in teaching.
- Extend the period dedicated to training in practice in the course of qualification for teaching in Morocco given that this training for teaching is part of a professionalization perspective.
- Allocate resources to the establishment of conditions and methods for adequate support in accordance with the fundamental principles of the professionalizing system.

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Annex 1

Regional Center for Education and Training Trades kenitra First and last name of the intern: N° visit: N° Evaluation: Establishment: Training year: 2023/2024			
Professional skills/ Areas of observation	Indicators (object of observation)	Scale of appreciation	
		Acquired	Not acquired
1/ content specific to the discipline taught	Use appropriate examples		
	Identifies the cognitive processes involved in learning a concept or a phenomenon		
	Exploits the various proposals or resolutions suggested by the learners		
	Uses practical scenarios for targeted learning		
	Correctly uses typical representations of his discipline		
2/ Management of the class group	Taking into account all the students		
	Active/interactive learners		
	Manage speaking up		
3/ Presence in the class and communicative quality	Moves adequately in the class		
	Uses fluid language and well-structured and arranged ideas		
	Uses a correct and appropriate oral language for their interlocutors/ the context		
	Effectively use his voice		
	Motivating words		
	Management of communication media (tables, etc.)		
	Use non-verbal language		
4/ Management of educational material	Proper use of the table and clear, legible writing.		
	Uses the textbook as teaching material		
	Uses digital tools (video projector...)		
5/ Implementation and conduct of the session	Start the course by capturing the attention of all learners		
	Appeals to the pre-achievements of learners		
	Uses a questioning adapted to the intended objective		
	Propose activities putting learners to work		
	Learners' responsiveness to suggested activities		
	Proposes an approach that offers learners the opportunity to interact with each other and promote their individual expression		
	Give learners enough time to reflect and formulate their answers to the questions		
	Logically and coherently link the different stages of the course		
	Consideration of learners' interests: (Rely on their experiences, daily events or current events)		
	Precision and clarity of the instructions		
	Manage their time efficiently		
	Learners' errors are taken into account		
	structuring of learning at the end of the session		
Observations and remarks are recorded on a form bearing the trainee's name.			

Annex 2

Regional Center for Education and Training Trades Kenitra		
N° visit:		
N° Evaluation:		
Establishment:		
Training year: 2023/2024		
6/ Reflexive analysis on the practice	Indicators of the presence of reflective activity	Occurrence
Reflection on Action	1/ Able to identify in his course planning the reasons why courses do not give the expected results	
	2/ Able to modify, if necessary, the structure of his teaching	
	3/ Positionne et ajuste ses actions en fonction de celles qui précèdent et de celles qui suivent.	
	4/ Constantly looking for new solutions to problems	
Modification of representations, engagement in new practices	1/ Open to criticism and strives to improve	
	2/ Analyzes its needs, selects and operates with in-depth knowledge efficiently	
	3/ Able to analyze and critically reflect on his educational practice and pedagogical organization	
<i>Observations and remarks are recorded on a form bearing the trainee's name.</i>		