

Assessment of Learning and its Practices in the Secondary School through Reforms of the Moroccan Education System

Chaibia Srour¹, Azzeddine Atibi², Khadija Elkababi³, Mohamed Radid⁴

^{1,2,3,4}materials chemistry department, University Hassan II, Casablanca, Morocco
najcha@gmail.com¹, m.radid@gmail.com², atibi.azzeddine@outlook.com³, elkababi@hotmail.fr⁴

Article Info

Volume 83

Page Number: 8654 - 8664

Publication Issue:

March - April 2020

Abstract

Assessment of pupils' prior learning is a central issue in the development of an educational system. Evaluative practices should no longer be limited to rating, but include activities related to learning, performance of tasks, activities, or even observation of conduct that will inform the teacher's judgement of the learner's work.

Within this framework, the Moroccan education system adopting the competency-based approach has undergone profound changes to increase its effectiveness. Its reform, aimed at raising the level of pupils and improving the quality of teaching and learning, recommended revising the assessment system and making it consistent with the competency-based approach.

In this perspective, the purpose of our research topic is to discuss the views of teachers on the practices of physical science learning assessment methods for high school students.

To do this, we have opted for a survey methodology based on a quantitative and qualitative analysis of the responses recovered following a specialised questionnaire.

The study pointed out that for the majority of teachers, evaluation is a tool that mainly makes it possible to modify teaching practice. It is also a tool to get to know students better and to promote exchanges with them. For all teachers, the evaluation makes it possible to better rate pupils, to know whether the learning objectives are being achieved or not and to remedy the difficulties encountered by pupils. On the other hand, the excessive number of learners, the lack of time, the too busy school curriculum and the heterogeneity of the class are obstacles to the practice of evaluation of learning.

Keywords: Evaluation, competence, physical sciences, learning

Article History

Article Received: 24 July 2019

Revised: 12 September 2019

Accepted: 15 February 2020

Publication: 09 April 2020

I. INTRODUCTION

According to the latest International Curriculum Guidelines, the assessment process is designed as a comprehensive operation that requires the use of various types of processes, both accurate and estimated. Evaluative

practices should no longer be limited to rating, but include activities related to learning, performance of tasks, activities, or even observation of what will inform the teacher's assessment of the learner's work. (Mireille, 2015)

However, the evaluation carried out by teachers is

always a fixed, unidimensional, external, academic evaluation which focuses on the result and not on the learning process.

In this frame, the Moroccan education system has undergone profound changes to increase its effectiveness and respond to the challenges of today's society. Its reform is undertaken with the promulgation in 1999 of the "National Charter of Education and Training" which defines, in its lever 5, the different principles of evaluation of learning and advocates, in its article 106, the implementation of the competency approach. These guidelines recommend revising the assessment system and

making it consistent with the competency-based approach.

In this perspective, the purpose of our research topic is to discuss the views of teachers on the practices of physical science learning assessment methods for high school students.

II. PROBLEMATIC

Assessment of pupils' prior learning is a central issue in the development of an educational system. The reform of the Moroccan education system, aimed at raising the level of pupils and improving the quality of teaching and learning, recommended revising the assessment system and making it consistent with the competency-based approach.

Our research work aims to study the conceptualisation of the assessment system approaches at the secondary level of the physical sciences by teachers, and to show whether it has flaws and to check whether its applications in the classroom are consistent with the competency-based approach.

Following the various questions in our research, our initial questions are:

How to assess student learning? Is the test relevant? Does it make it possible to assess the objectives of our education system? Does it match the skills to be developed?

To what extent does evaluation depend on the teacher's conception of teaching/learning?

In this perspective, the We have carried out a first work which aims to discuss teachers' views on the practices of physical science learning assessment methods for secondary school students.

To do this, we have opted for a survey methodology based on a quantitative and qualitative analysis of the responses recovered following a specialised questionnaire.

The results obtained will help to better identify teacher assessment practices. The deepening of

knowledge about teacher assessment practices will help to suggest possible solutions for better decision-making and better strategic planning of assessment students in class. This research is also intended to enlighten teachers, whether to take a step back from their evaluative practices or simply to revisit them. Simon et al. (2007) point out that the analysis of evaluative practices also helps to guide educational policies and provide avenues for action for practitioners and policy makers.

Laveault (2009) reports that research to adequately address this issue is incomplete or simply missing: "in each country changes in the field of evaluation are consistent with the development of educational policies and are often made in response to previous policies or lack thereof" (p.5). It is therefore necessary to continue research on evaluative practices (Forgette-Giroux et al. 1996; Laveault, 2009).

III. CONCEPTUAL FRAMEWORK

The relationship between teaching and learning is complex and it seems impossible to predict with certainty the effect of teaching on students' actual acquisition. Nevertheless, assessment is a lever for teachers to identify the level of understanding of their students and the degree to which they are achieving their goals (William, 2014; Ghazizadeh, & Taghipour-Bazargani, 2019).

According to several researchers (Allal, 2007; Cardinet, 1975; Figari, 2001; Roegiers, 2004; Scallon, 2004; Tardif, 2006), the assessment of learning is considered a complex process that leads the teacher to make a professional judgment about the skills developed by the students in order to make a pedagogical or administrative decision and communicate this judgment to different addressees.

In general, the evaluative approach is seen as a process of collecting data from multiple and varied sources, with the aim of developing an accurate estimate of what students know, what they understand and what they can accomplish based on

their training experiences (De Ketele, 1996; Roegiers, 2004; Scallon, 2004; Tardif, 2006; Aidarkhanovna, 2019).

Contrary to traditional practices, based on behaviorist theories where learning is generally assessed through exams where students must demonstrate that they know the “right answer” a question corresponding to a fixed objective, the current context of rearrangements and reforms of education systems, inspired by constructivism, situates the assessment of learning against educational objectives associated with higher-level skills, complex skills or competencies. These active pedagogies, implemented by the skills and pedagogy approach to integration, have contributed to the renewal of evaluation practices while giving priority to the use of the formative function of evaluation. (El Mhouti, Nasshi, Erradi, & El Kadiri, 2012)

In this context, the Moroccan education system has undergone profound changes to increase its effectiveness and respond to the challenges of today’s society. Its reform is undertaken with the promulgation in 1999 of the "National Charter of Education and Training" which defines, in its lever 5, the different principles of evaluation of learning and advocates, in its article 106, the implementation of the competency approach. These guidelines recommend revising the assessment system and aligning it with the competency-based approach to lead to a redesign of the assessment and training modalities. (El Mhouti, Nasshi, Erradi, & El Kadiri, 2012)

The implementation of the new assessment mechanisms requires a change of attitude on the part of the teacher. The latter must change their assessment attitudes, the status of the error, the involvement of the learner in the implementation of pedagogical decisions and evaluations. (El Mhouti, Nasshi, Erradi, & El Kadiri, 2012)

Like the evolution of learning theories, the mechanisms of learner assessment have also evolved through different periods. In the mid-twentieth

century, behaviorist theories helped to renew evaluation practices. It is thanks to these theories that we can ensure that a question corresponds to the objective we have set for ourselves. Assessment of learning is generally done through examinations where students must demonstrate that they know the “right answer”. (El Mhouti, Nasshi, Erradi, & El Kadiri, 2012)

However, with the emergence of active pedagogies stemming from constructivism and socio-constructivism whose skills-based approach and pedagogies of integration have led to the reform of several educational systems in the world, new challenges are being imposed from several perspectives, including evaluation. The school applies new forms of evaluation while emphasizing its formative dimension. (El Mhouti, Nasshi, Erradi, & El Kadiri, 2012)

IV. METHODOLOGIES

A. Target population

The population targeted by our study consists of 64 teachers from qualifying secondary education. The randomly selected sample consists of teachers who are spread over high schools of the Hay Moulay Rachid delegation and the Hay Hassani delegation of the Casablanca Academy –Settat.

B. Information Gathering Tool

The investigation was carried out using an anonymous questionnaire of mixed type: quantitative and qualitative structured in two themes. The first is a collection of general information on the teachers surveyed, the second theme is a

evaluation methods. The different items on the questionnaire were inspired by our research questions already mentioned in the issue.

B. Results and Discussion

Theme 1: Collection of general information on the professors surveyed

- Age and seniority

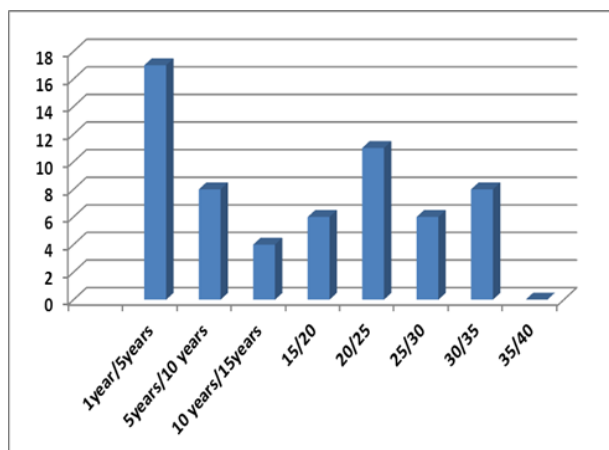


Figure 1: Seniority class

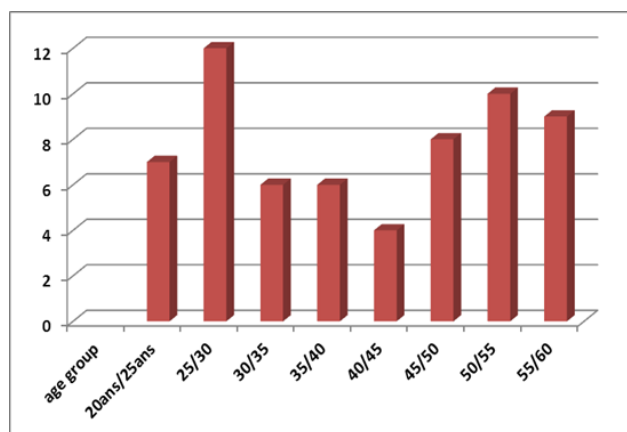


Figure 2: age group

The age spectrum of teachers varies widely with a clear dominance of the two age groups between 25 and 30 years and between 50 and 55 years. This leads to a wide variation in their professional seniority, with a majority of teachers in seniority classes between 1 and 5 years and between 20 and 25 years.

- Educational profile

Distribution of teachers by level of education

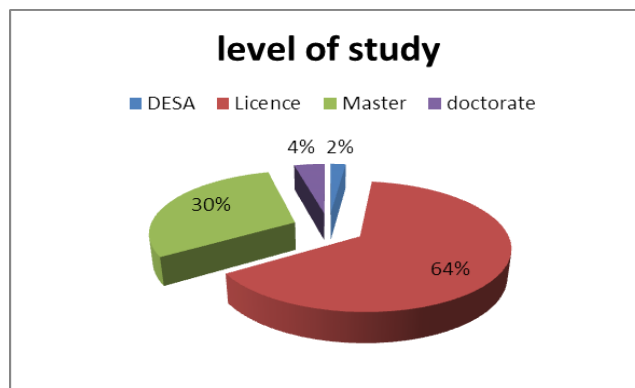


Figure 3: level of study

The results show that more than half of the teachers studied are graduates, 30% have a master's degree and a minority has a PhD degree.

- State of commitment

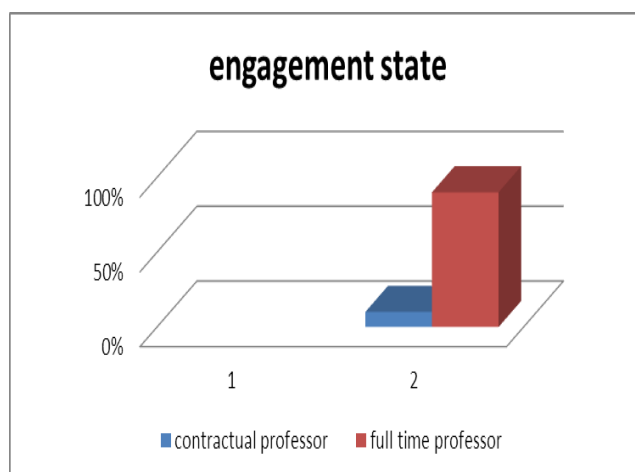


Figure 4. Engagement state

The sample studied consists of 90% of full professors and only 10% of contract professors.

Educations levels:

Our target population is secondary school teachers at the following levels:

-Common core of the different Science and Technology options

-1st Baccalaureate of the various options : Experimental Sciences and Mathematical Sciences

-2nd Baccalaureate in Life and Earth Sciences (SVT), Physics and Chemistry (PC) and Mathematical Sciences A and B (SMA and SMB).

Theme 2: Classroom practice of evaluation (Soussi, Ducrey, Ferrez, & Nidegger, September 2006)

- In a few words, explain the different types of assessments?

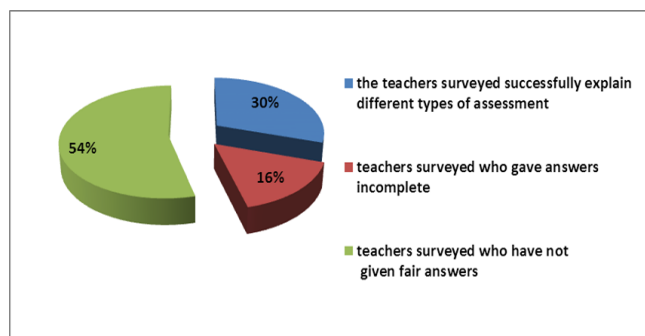


Figure 5: Different types of assessments

The results show that only 30% of the teachers concerned by our survey can correctly explain the different types of evaluation, 16 per cent of the teachers surveyed gave incomplete answers and more than half of the teachers surveyed did not give fair answers.

- Are you aware of international assessments?

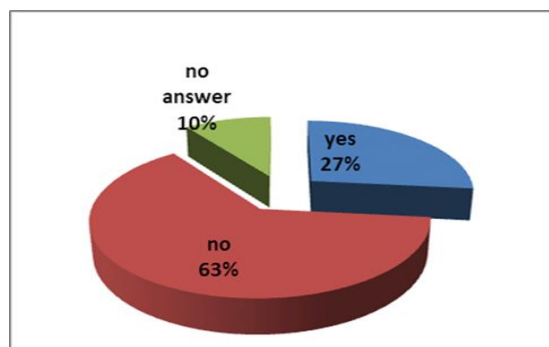


Figure 6: about international assessments

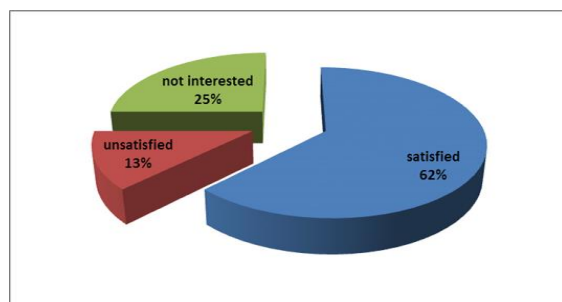


Figure 7: about international assessments

The results show that the majority of teachers

surveyed are not aware of international assessments, and for a minority who are aware of these assessments, more than half of those surveyed are satisfied.

- Assessment classroom practices

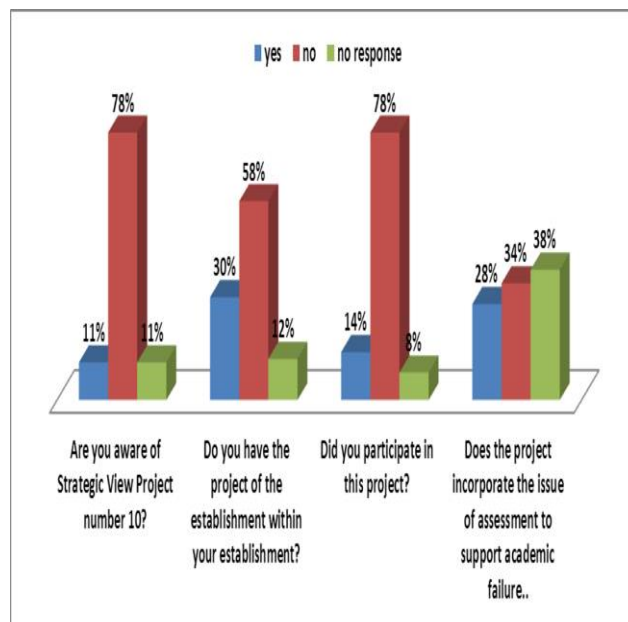


Figure 8: Assessment classroom practices

The results show that a minority of teachers affected by our survey are aware of Project 10 of the Strategic Vision. Among the 30% of respondents who stated that they have the project of the establishment within their institutions, there are only a little more than 10% who participated in this project and 20% who say that the project incorporates the question of evaluation to support school failure.

- Opinions on the evaluation of teachings (Beney&Pentecouteau, 2002)

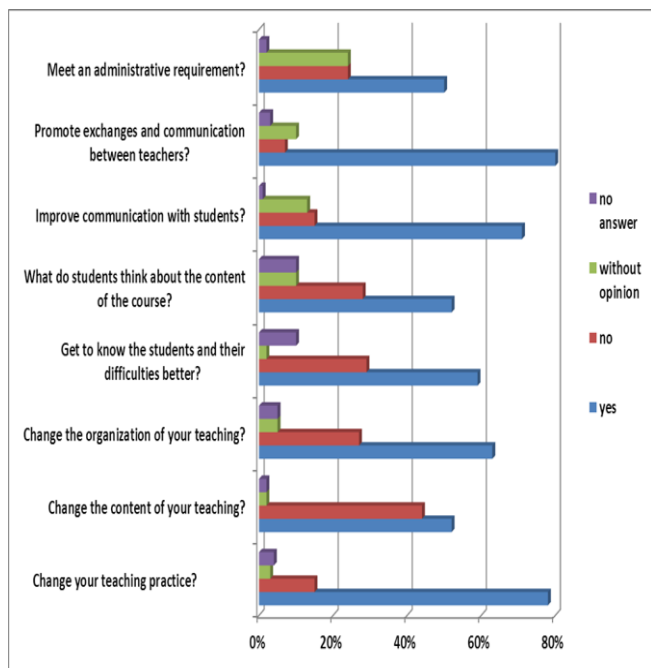


Figure 9: Opinions on the evaluation of teachings

Around 75% of teachers who responded, evaluation is a tool making possible to change the pedagogical practice, and less to change the content.

It's also a tool to get to know students better and to promote exchanges with them.

Barriers and benefits of learning assessment

- What are the main obstacles you encounter during the evaluation?

Among the obstacles that recur in teachers' answers are:

- The difference in levels of pupils;
- The number of pupils;
- The lack of tools to fulfill the experiments;
- The constraint of time and the longest agenda.

What are the main advantages of evaluation?

Among the advantages that are repeated in the answers of the professors, we can note:

- Assess pupils' learning outcomes;
- Assist each student in their learning process;

- Improve learning methods;
- Work out the difficulties of the students and locate the least assimilated parts of the program;
- Correct, adjust, and follow the pupils way;
- Improve the teacher's performance.
- Evaluation design:

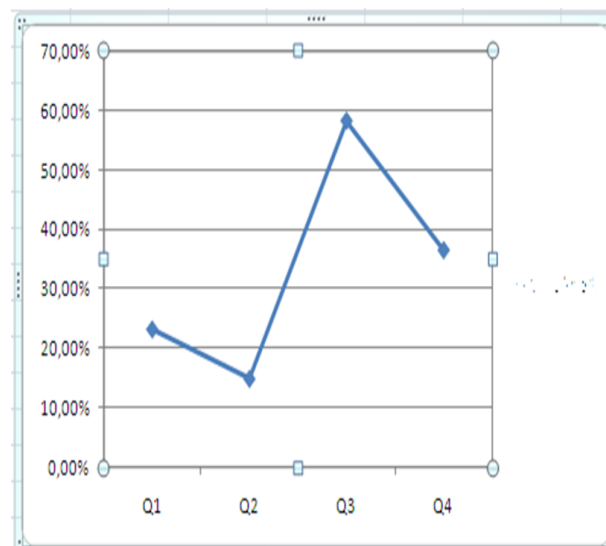


Figure 10: Evaluation design

Q1: in evaluation, what counts is the result

Q2: assessment must be essentially the responsibility of the teacher, not that of the pupil

Q3: The error observed in an evaluation is indicative of the level of learning construction

Q4: To help students progress, you have to do many tests and therefore give a lot of notes or appraisals.

Evaluation is considered to be integrated at different points in the teaching process. Teachers reject the idea of a single teacher responsible for the evaluation and are only interested in the results of the evaluation. This can probably be linked to the concept of teaching/learning.

- The instruments used for evaluation (WakanaKapalataKwibe, 2014)

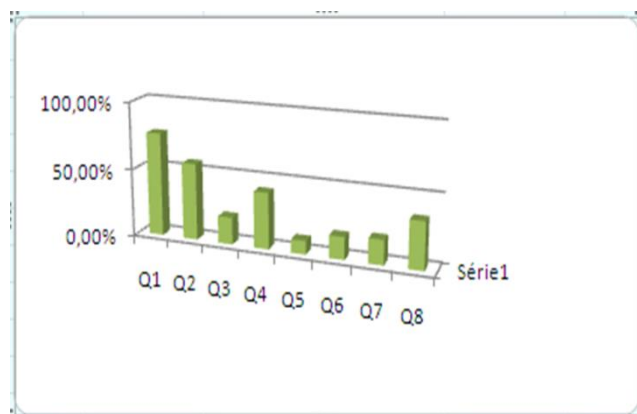


Figure 11: The instruments used for evaluation

Q1: I have mainly changed according to the reforms

Q2: I introduced the formative evaluation

Q3: I use more accurate criteria

Q4: my requirements have increased

Q5: I manage to better integrate evaluation into my teaching method

Q6: I explain the evaluation criteria to my students

Q7: I didn't change anything

Q8: Assessments of practical situations

For the instruments used, the written works are described more than others. We find the same ways in earlier studies. (Braxmeyer, 2005).

- Assessment classroom practices:

How to build assessments

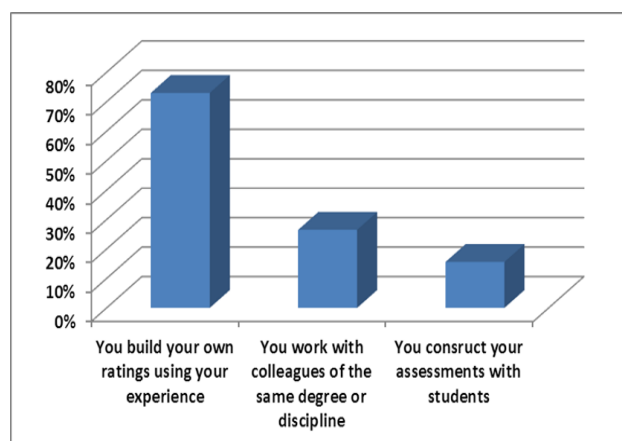


Figure 12: How to build assessments

Around 70% of the teachers surveyed construct the evaluation themselves using their own experiences, 25% work with colleagues of the same degree or discipline and 15% construct the evaluation with the pupils. So the assessment is built more individually at the secondary level.

- Continuing training practice and usefulness



Figure 13: Continuing training practice and usefulness

- Change in evaluation practices

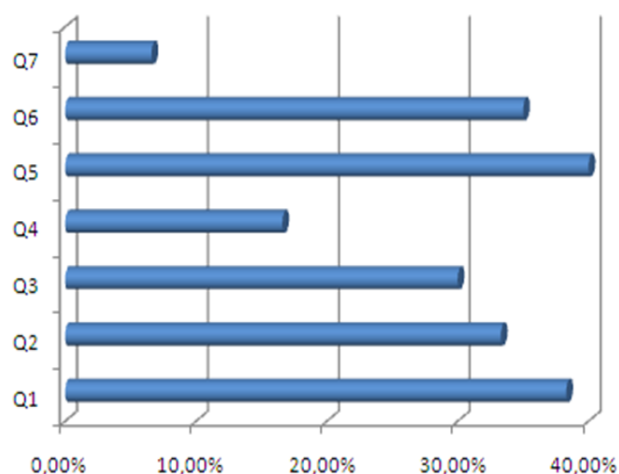


Figure 14: Change in evaluation practices

Q1: I have mainly changed according to the reforms

Q2: I introduced the formative evaluation

Q3: I use more specific criteria

Q4: my requirements have increased

Q5: I manage to better integrate evaluation into my teaching

Q6: I tell the students the evaluation criteria

Q7: I didn't change anything

Overall, teachers reject the idea that they have not changed their assessment practices.

The changes in practice mainly concern the use of more specific criteria and the communication of assessment criteria to students.

- Evaluation Policy:

Q1: Is there an evaluative policy in Morocco?

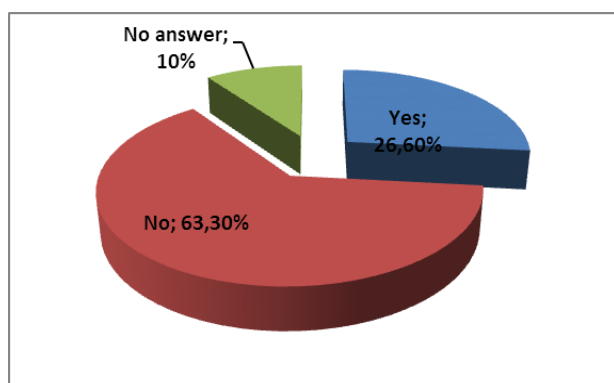


Figure 15: evaluative policy in Morocco

Q2: Is there an evaluative policy built into your settlement project?

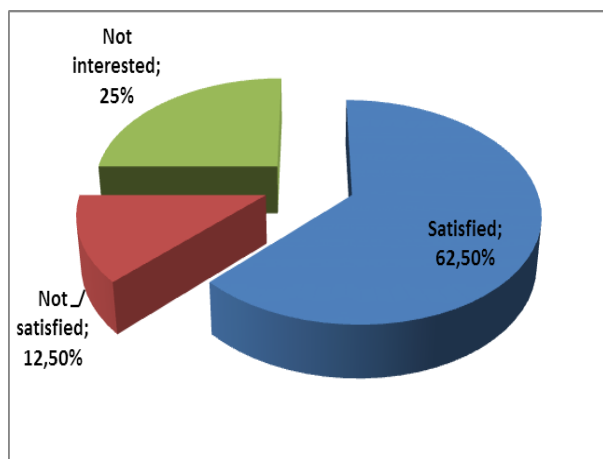


Figure 16: settlement project

More than 60% of respondents are no longer aware of evaluative policies in Morocco and only 26.6% are aware of them.

More than 60% of respondents say they do not have an evaluative policy integrated into their settlement projects and only 20% say they have this policy in

their settlement projects.

- Right of resumption

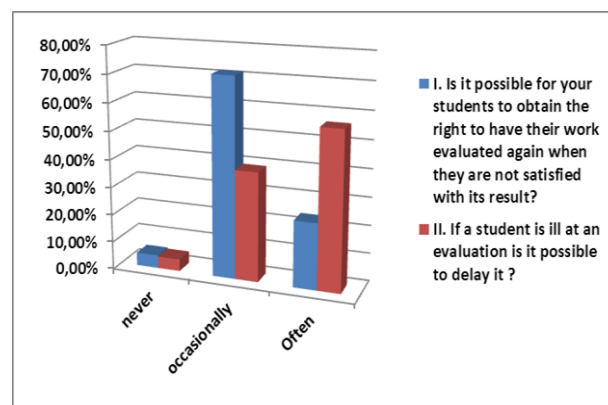


Figure 17: Right of resumption

A little more than 50% point out that it may occasionally allow a student to review the marking of a job if he or she is unsatisfied with the result.

51.56% say this is possible from time to time.

73.43% say that a student often has the right to return to school in case of illness.

- Functions in evaluation

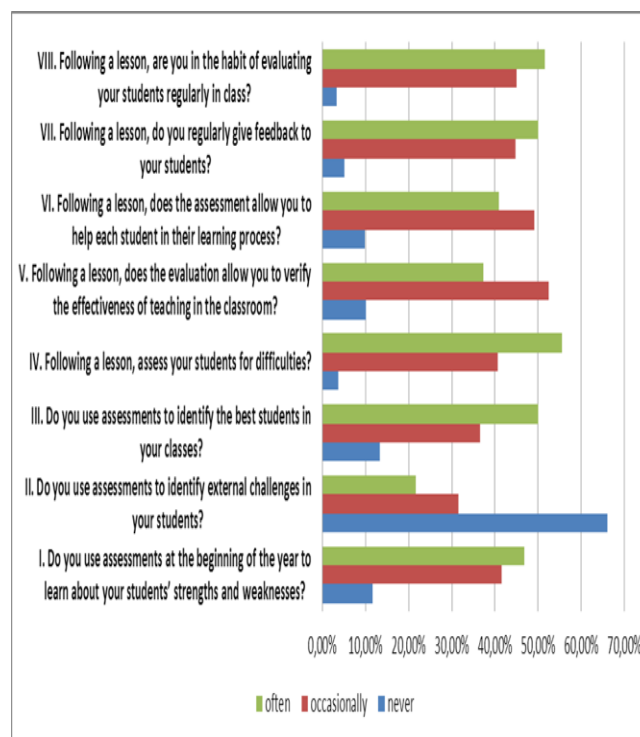


Figure 18: Functions in evaluation

Formative evaluation is present occasionally.

However, assessments would not be regular after a lesson and to a lesser extent provide feedback to students; diagnostic assessment is least used by teachers.

V. CONCLUSION

The analysis of the replies to the questionnaire for a sample of 64 secondary school physics-chemistry teachers yielded the following results:

Assessment is a complex tool that leads the teacher to question its use: why, when, how, its limits, etc.

Evaluation is also seen as a means of regulation for the school: proposal for remedial action for learners, modification of teachers' teaching practices.

It is therefore an important tool in learning that allows the teacher and the student to identify successes and difficulties in dealing with them.

However, the central position of evaluation for learning is limited: evaluation retains a certain subjectivity, the teacher may not always obtain the means for an objective evaluation to be compared with reference criteria.

Evaluation is therefore a complex tool that leads the teacher to wonder about its use: why, when, how, its limits, etc.

Evaluation is also seen as a means of regulation for the school: proposal for remedial action for learners, modification of teachers' teaching practices.

It is therefore an important tool in learning that allows the teacher and the student to identify successes and difficulties in dealing with them.

However, the central position of evaluation for learning has limitations: evaluation retains certain subjectivity, the teacher may not always obtain the means for an objective evaluation to be compared with reference criteria.

Isn't the "evaluation" technique a hindrance to the development of students?

In short, is it not more at the service of the teacher

than of the learner?

REFERENCES

- [1]. Aidarkhanovna, A. N. (2019). Development of Students' Research Skills Through Problem-Oriented Models, *Studies in Educational Management*, 4, 44–57.
- [2]. Beney, M., & Pentecouteau, H. (2002). *Synthèse de l'enquête réalisée auprès des enseignants de l'UBO*. Brest: URAFF.
- [3]. El Mhouti, A., Nasshi, A., Erradi, M., & El Kadiri, K. E. (2012). *Evaluation des élèves dans l'enseignement scolaire au Maroc dans la perspective des nouveaux programmes : principaux aspects, fonctions et instruments utilisés dans le nouveau contexte de l'évaluation des compétences*. Association EPI.
- [4]. Ghazizadeh, M., & Taghipour-Bazargani, D. (2019). Alternative Assessment: The Impact of Self-assessment vs. Peer-assessment on Iranian Intermediate EFL Learners' Paragraph Writing Ability, *Language Teaching Research Quarterly*, 9, 1–13.
- [5]. Mireille, R. (2015). Quelles conceptions et quelles pratiques des enseignants Libanais en évaluation des apprentissages. Dans B. D. Olivier, *Actes du 27^{ème} colloque de l'ADMEE. L'évaluation à la lumière des contextes et des disciplines*. (pp. 23-26). Liège: admeeeurope.
- [6]. Soussi, A., Ducrey, F., Ferrez, E., & Nidegger, C. (Septembre 2006, Septembre). *Pratiques d'évaluation: ce qu'en disent les enseignants (à l'école obligatoire et dans l'enseignement postobligatoire général)*. Canton de Genève: SRED.
- [7]. Wakana Kapalata Kwibe, B. (2014). *Pratiques évaluatives des enseignants Rwandais du secondaire (thèse de doctorat, Université Laval, Québec, Canada)*.

VI. AUTHORS PROFILE



Casablanca, Morocco.

SROUR Chaibia : Professor of physics and chemistry in secondary school. Preparing PhD at University Hassan II Faculty of Sciences, Ben Msick



materials didactics of the chemistry, pedagogy, integrating

RADID Mohamed is a professor of Chemistry into Hassan II University of Casablanca. I lead research work in physical chemistry of materials didactics of the chemistry, pedagogy, integrating



Azzeddine ATIBI,

Research Professor

Assignment unit: CRMEF Casablanca

Research unit: Chemistry Laboratory - General Physics of Materials, Ben M'Sik Faculty of Sciences

Professional experiences

Professor at CRMEF Casablanca-Settat.

Associate Professor-Researcher at the Laboratory of Physical Chemistry of Materials at the Ben M'Sik Faculty of Science:

- Co-supervision of 4 doctoral theses;
- Research work on the physical chemistry of condensed phosphates.
- Research work on the pedagogy and didactics of physical sciences.

Assistant Professor at the CRMEF of Marrakech.

Teacher of physical sciences at the high school

Member of the national commission for the creation of the national committee for Scientific research and Training at regional education and training centers (CRMEFs);

Member of the national committee for scientific research and training (CRMEFs);

Member of the National Committee for the study and selection of educational and pedagogical projects submitted by the regional education and training centers (CRMEFs) as an expert professor in the field of monitoring, evaluation and standardization of education projects;

Member of the national committee for the development of support modules "support module and professional practice analysis module". Technical assistance to support the reform of the education sector in Morocco. Reference: ENI / 2017 / 386-286;

Regional coordinator of the scientific research and training committee at CRMEF Casa - Settat.

Member of the regional steering committee (Casa-Settat) of the EDUC II program: Technical Assistance for Support to the reform of the education sector in Morocco. Reference: ENI / 2017 / 386-286. (CLE: University Education Sector);

Member of the development committee for the skills reference of teacher trainers at CRMEFs, Technical Assistance for Support to the reform of the education sector in Morocco. Reference: ENI / 2017 / 386-286;

Regional coordinator of the EDUC II program steering committee (experimentation phase at CRMEF Casa-Settat): Technical Assistance for Support to the reform of the education sector in Morocco. Reference: ENI / 2017/386 - 286;

Academic training course

2017 HDR (Habilitation), Hassan II University, Ben M'Sik Faculty, Casablanca.

1998-2002 DOCTORATE, Physical chemistry Ben M'Sik Faculty of Sciences, Casablanca.

1991 Bachelor of Science, Physics and Chemistry Faculty of Sciences Ben M'Sik, Casablanca.

Scientific productions :

15 international publications, 12 communications :

- Research work on the physical chemistry of condensed phosphates.
- Research work on the pedagogy and didactics of physical sciences



Khadija EL KABABI, Provincial
Director of the Ministry of National
Education
Research Professor
Assignment unit: CRMEF Casablanca
Research unit: Chemistry Laboratory -
General Physics of Materials, Ben M'Sik
Faculty of Sciences

Professional experiences

Provincial Director of the Ministry of National Education

Professor at CRMEF Casablanca-Settat.

Associate Professor-Researcher at the Laboratory of Physical Chemistry of Materials at the Ben M'Sik Faculty of Science:

- Co-supervision of 4 doctoral theses;
- Research work on the physical chemistry of condensed phosphates.
- Research work on the pedagogy and didactics of physical sciences.

Assistant Professor at the CRMEF of El Jadida.

Provincial delegate for the school sector in El Jadida.

Head of Human Resources and Communication Department. AREF Doukkala - Abda.

Teacher of physical sciences at the high school

Academic training course

2016 HDR (Habilitation), Hassan II University, Ben M'Sik Faculty, Casablanca.

1996-2000 DOCTORATE, Physical chemistry option prepared within the framework of a

partnership between the Ben M'Sik Faculty of Sciences, Casablanca and the Inorganic Materials Group of Strasbourg, CNRS, France.

1994 Bachelor of Science, Physics and Chemistry Faculty of Sciences Ben M'Sik, Casablanca.

Scientific productions :

21 international publications, 16 communications :

- Research work on the physical chemistry of condensed phosphates.
- Research work on the pedagogy and didactics of physical sciences