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Evaluation of the department of Earthsciences and universe through teachers

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Abstract

In this study, we are interested in the evaluation of the department of the Earth Sciences and Universe (Science de la Terre & l'Univers - STU), Faculty of Science Ben MSik, Casablanca, Morocco, through teachers of the department of Geology.The accomplishment of this work passes through an evaluation that was carried out firstly through a satisfaction survey and secondly, a questionnaire containing questions related to the profile of the teachers, program and educational strategies of discipline offering training to the level of Bachelor. We used Sphinx software to analyze the data through the application, namely, flat table, the crossing of the questions and the specifications table. The goal is to evaluate training within the department of STU in quality and quantity. This research allowed us to identify many problems of the students who enrolled in this department.In other words these results are response elements that would help improve the teaching-learning of the STU field.

Keywords: Evaluation, STU, survey, questionnaire, teachers, Morocco.

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1. Introduction

Currently, many obstacles still prevent the teaching and learning of the Earth Sciences in the Moroccan higher education institutions, as evidenced, inter alia, school failure and the number of students who drops out from early institutions. In addition, geology is perceived as a difficult science, it includes theoretical topics and practices that are integrated into the basic core modules during the first cycle and the second cycle of the Earth Sciences and Universe department. Also, geology is a science diachronic, i.e. relating to phenomena that occur over time (Termier & Termier, 1979). It aims to define both the present functioning of the planet and its past history. According to Gohau (1987) and Orange (2003), geology is both a historic and functionalist science. As Gohau (1990) outlines, "one of the difficulties in the teaching of geology is our inability to be aware of the immense durations of the past of the Earth. We are also helpless before these huge chronologies in the immensity of space astronomy." Several studies (Raab & Frodeman, 2002; Sanchez & Prieur, 2006) showed that students had difficulties to understand long times and speed of realization of geological phenomena. Note that the Earth Sciences have a special feature compared to the other natural sciences; "the real is not limited to laboratory experiments, there are field works" (Orange, Beorchia, Ducrocq, & Orange, 1999).

Beginning at the barriers of learning traced by a group of researchers, such as Astolfi and Devalay, (1989), Bachelard (1977), Chakib et al. (2014), Chakib et al. (2014), Monchamp and Sauvageot Skibine (1995) Volpoet (1994), and to answer the questions of our research, we have a pedagogical reflection taken into account, the content and the quality of teaching while analyzing the mode of intervention of teachers to reduce barriers to learning, as well as the conceptual and pedagogical problems.

The purpose of this research is to analyze in detail the teaching-learning of Earth Sciences and Universe at the level of the Bachelor degree. In this sense, we believe that this research is a contribution in the improvement of the quality of training in the department of Earth Sciences and the Universe (STU). This study is important because it will allow us identifying difficulties and learning obstacles that confront the students of the 'STU '. What will help certainly, not only to propose solutions of remedy to overcome obstacles of learning of students, but also to reflect on possible proposals for future renewals of training.

2. Methodology of work

For a pedagogical reflection taken into account, content and the quality of teaching and the mode of teachers' intervention, we distributed a questionnaire, focusing on all categories of teachers of the department of Geology ; head of department, coordinator of department and teachers of TD, TP and courses, which allowed to arrive at the recovery of questionnaires at a rate representative (≈ 41%).

It should be noted that about the formulation of the questions in the questionnaire, we are inspired by instructions of the specialists in this field.

3. Sampling

In this survey of research based on questionnaires, the choices have been more rigorous. Our sample of research reflects the representation of the target population.

Description of the questionnaire:

The questionnaire aims to identify the main problems encountered by students consists of 70 questions and consists of seven parts:

-Profile of the teacher: This part includes information about the teacher. This information will allow us to characterize our sample and perform any crosses; sex, age, date of recruitment at the faculty, the seniority at the faculty, the number of years of teaching at the Faculty of Science Ben

M'Sik, the mode of recruitment, mentoring of students and module(s) or element of main module(s) taught.

-Program and educational strategies of discipline (STU): In this part, we have tried to collect the views of students regarding inflow pedagogical or scientific field trip; the new introduced modules (Languages and Communication (LC); difficult geological concepts and learning barriers).

- Material resources, documentaries and educational tools: The application of LMD (License, Master, Doctorate) architecture and the modular system requires the distribution of students in small groups of restricted numbers and therefore a new rhythm, a new organization and a significant and infrastructure than that required in the old system. We therefore consulted teachers to have their assessment of this existing infrastructure, the state of the amphitheaters, halls of TP; TD rooms; library; materials (sound system, data show, multimedia, documents etc.); technical equipment (microscope, magnifying glass, computer etc.); scientific equipment (rocks, minerals, thin sections, maps etc.); the number of students (during the courses, TD or field trips); the number of teachers of department; the hourly volume devoted to the module/module element).

-Relations and Communication: Relational and communicational side is a very important aspect in university life that is why considering the following questions is important: The operation information and guidance and accompanying students; the role of the student in the educational act; evaluation of the relationship between teachers-teachers-students as well as the means used in this communication.

-Provides training to Bachelor level "STU": It includes questions about the official documents they take into consideration in the preparations of the teaching materials, about the new programs adopted (quantity, quality, balance and coherence); renewal of the formation and change of the content of modules and similarly comprehensive remarks on the program of sector Earth Sciences and the Universe 'STU '.

-Evaluation: In this part, we have tried to collect the views of teachers relating to the evaluation of learning especially the method and the conditions in which the continuous controls in the new reform occur, and also about the distribution of these controls by modules and semesters and the evaluation of learning.

-Proposals and suggestions: for more information, we propose in this part an open question who is interested in the possible improvement of teaching-learning of discipline (STU).

4. Results of the questionnaires by department of Geology

We distributed directly 12 copies to a sample of teachers in department of geology, but we collected only 5 copies; 41% of the total targeted geologists. For the processing and analysis of the results, we used the Sphinx software. In the first part of results, assessments by questionnaires, all data was analyzed through the application, namely, flat table and about the dependency between the responses, we propose an analysis by crossing issues, and, finally, to update the links between these results, we propose the analysis through the table of characteristics.

4.1. Profile of the teacher (Table 1)

Sex	**Male**	**Female**		
	4 (80%)	1 (20%)		
Seniority in the Faculty		Less than 5 years	5 yrs to 10 yrs	More than 10 yrs
		1 (20%)	1 (20%)	3 (60%)
Mode of recruitment	Direct	About contest	On maintenance	No answer
	1 (20%)	0 (0%)	3 (60%)	1 (20%)
Academic activity provides				
Courses	TD	TP	field trip, if	
5 (27.8%)	5 (27.8%)	4 (22.2%)	4 (22.2%)	
Supervision of students for the project of end of study (PFE)				
Yes		No		
3 (60%)		2 (40%)		
Number of students supervised during an academic year				

3 (60%)	4 (20%)	1 (20%)

As it appears in Table 1, our sample consists mainly male teachers (80 %); almost the same number, 4(≈80%) of teachers provide the following activities (courses, TP, TD and field trips); experienced teachers as 80% are working in higher education for more than 5 years; the majority of teachers (60%) ensure the supervision of students for the project of end of study (PFE). Finally, the average number of framed students is 3 with a percentage of 60% which is encouraging.

4.2. Program and educational strategies of discipline (STU)

We were able to obtain the results presented on Table 2 that teachers report that the field trips were made usually once a year and this for the semesters S1, S2, S3 and S4, then only the number of these field trips for semesters 5 and 6 was generally 2-3 times per year or more.

Table 2. Assessment of the implementation of field trips during the practice of teaching

The field trips made by the teacher during the various semesters				
Semester 1 and 2	Once a year	2-3 times per year	More	You do not
	Yes 1 (20%)	Yes (20%)	Yes 0 (0%)	Yes 3 (60%)
	No 4 (80%)	No 4 (80%)	No 0 (0%)	No 2 (40%)
Semester 3 and 4	Once a year	2-3 times/ year	More	You do not
	Yes 3 (60%)	Yes 1 (20%)	Yes 0(0%)	Yes 1 (20%)
	No 2 (40%)	No 4 (80%)	No (0%)	No 4 (80%)
Semester 5 and 6	Once a year	2-3 times / year	More	You do not
	Yes 3 (60%)	Yes 1 (20%)	Yes 0 (0%)	Yes 1 (20%)
	No 2 (40%)	No 4 (80%)	No 0 (0%)	No 4 (80%)

Based on Table 3 and Table 4, teachers believe that the contribution of the field work corresponds to an illustration, confirmation of a previously ongoing study (21.7%), a phase of discovery (21.7%) and supports the learning of skills screening (17.4%)

Regarding the assessment of intakes pedagogical or scientific field trip compared to the work in course, the results are presented in Table 4, and are ranked in order of importance where the number 1 means the most interesting contribution and the number 9 the least interesting contribution.

Table 3. Assessment of the contribution of the field work

Notice of teachers concerning the correspondence of fieldwork in teaching practice	
A phase of discovery	5 (21.7%)
The development of a scientific problem	3 (13%)
A phase of research, experimental	3 (13%)
An illustration, confirmation of a previously ongoing study	5 (21.7%)
Supports the prior learning of skills	4 (17.4%)
Promotes the work of group	2 (8.7%)
Other	1 (4.3%)

Table 4. Assessment reports educational or scientific field trip compared to work in course (numbered 1-9; 1, the most interesting intake, 9, the least interesting intake)

Evaluation of an educational or scientific field trip to the current work (number of 1 to 9; 1, the contribution most interesting 9, the contribution the least interesting)			
Before	Statement	After the vote	Nb. Cit.
1	To familiarize the student with geological phenomena	1	17.96%
3	Make emerge the initial designs and confront them with the reality of the field	2	14.97%
5	Facilitate the acquisition of abstract geological concepts	3	13.17%
6	A concretization of the course	4	11.98%
7	Improving the quality of observation and description	5	11.38%
9	Facilitating the understanding in the area of geological phenomena	6	10.18%
8	Allows a real internal motivation to learn	7	8.38%
2	Appropriating tools or procedures of investigation	8	7.78%

4	Encourage questioning	9	4.19%
Total			100 %

Regarding the number of hours devoted to courses, TD and TP sessions, Table 5 highlights that most teachers say that they complete these programs as suitable as possible, except for the field trips, in case of existence, there are only (40%) of teachers who conducted them in a timely manner.

Table 5. Evaluation of the completion of the programs (Courses, sessions TD and sessions TP)

Evaluation of the completion of the programs		
	Yes	No
Courses	4 (80%)	1 (20%)
Sessions TD	3 (60%)	2 (40%)
Sessions TP	4 (80%)	1 (20%)
field trips, if	2 (40%)	3 (60%)

4.3. Means material, documentaries and educational tools

At the level of the infrastructure of the institution, the results summarized in Table 6 show that teachers call fair state of the halls of TP (40%), TD rooms (80%), library (40%), materials (PA, Data show, Multimedia, documents...) (40%), and bad in the amphitheaters (60%), technical equipment (microscopes, magnifiers, computers...) and (20. %) scientific equipment (rocks, minerals, thin, cards...).

Table 6. State of the infrastructure of the institution

Internal evaluation of the state of infrastructure establishment				
	Bad	Fair	Good	Excellent
Amphitheaters	3 (60%)	1 (20%)	1 (20%)	0 (0%)
Halls of TP	1 (20%)	2 (40%)	1 (20%)	1 (20%)
TD rooms	1 (20%)	4 (80%)	0 (0%)	0 (0%)
Library	2 (40%)	2 (40%)	1 (0%)	0 (0%)
Teaching materials	0 (0%)	2 (40%)	0 (0%)	3 (60%)
Technical equipment	2 (40%)	2 (40%)	1 (20%)	0 (0%)

However, regarding the number of students, the opinions of teachers are divided according to the semesters. Table 7 clearly shows that for the semesters 1 and 2, the number of students was considered high for the course (80%), TD (60%), TP (40%) and for geological outings (100%). Then for the semesters S3, S4, S5 and S6, the teachers say that the number is appropriate, which proves that the climate prevailing in institution is generally positive and encourages work and cooperation.

Table 7. Assessment of the number of students

The judgment of teachers on the strength of students			
During the Course	[Semesters 1 and 2] -low (0%) -suitable (20%) -large (80%)	[Semesters 3 and 4] -low (0%) -suitable (80%) -large (20%)	[Semesters 5 and 6] -low (0%) -suitable (80%) -large (20%)
During TD	[Semesters 1 and 2] -low (0%) -suitable (40%) -large (60%)	[Semesters 3 and 4] -low (20%) -suitable (60 %0) -large (20%)	[Semesters 5 and 6] -low (20%) -suitable (80%) -large (0%)
During TP	[Semesters 1 and 2] -low (0%) -suitable (60%) -large (40%)	[Semesters 3 and 4] -low (0%) -suitable (80%) -large (20%)	[Semesters 5 and 6] -low (20%) -suitable (80%) -large (0%)
During field trip	[Semesters 1 and 2] -low (0%) -suitable (0%) -large (100%)	[Semesters 3 and 4] -low (0%) -suitable (60%) -large (40%)	[Semesters 5 and 6] -low (0%) -suitable (60%) -large (40%)

4.4. Relations and Communication

By analyzing Table 8, we note that the relations of most of the teachers are good and excellent with their colleagues (60%), head of department (60%), preparers (60%) and with students from semesters S1 in half (40%), S2 (60%).

Table 8. Evaluation of the relationship of teachers of the STU sector with other actors

State of relationship of teachers with other actors				
	Bad	Average	Good	Excellent
Students S1 - S2	0 (0%)	0 (0%)	2 (40%)	3 (60%)
S3 - S4 students	0 (0%)	0 (0%)	3 (60%)	2 (40%)
S5 - S6 students	0 (0%)	0 (0%)	3 (60%)	2 (40%)
Teachers (TD, TP, courses)	0 (0%)	1 (20%)	3 (60%)	1 (20%)
Preparers	0 (0%)	0 (0%)	2 (40%)	3 (60%)
Head of department	0 (0%)	0 (0%)	2 (40%)	3 (60%)

4.5. Offer of training to Bachelor level 'STU'

The analysis of Table 9, shows that among the documents considered by the teachers are: National Charter for Education and Training (41.7%), Law 01-00 and the departmental (8.3%) and the specifications of the standards teaching notes of the department (41.7%).

Table 9. Records of the official instructions in the preparations of the materials (course, TD, TP...)

Evaluation of judgment of teachers regarding the official instructions documents taken into consideration in the preparation of training materials (course, TD, TP...)	
National Charter for Education and Training	5 (41.7%)
Emergency Program	0 (0%)
Law 01-00 and the departmental notes	1 (8.3%)
Specification of the educational standards of the department	5 (41.7%)
Other	1 (8.3%)

We asked teachers their point of view concerning the creation of a new formation, only basic license, only professional Bachelor where the two, and also show their views on the sector "STU" and whether it meets the needs of employment. We note from Table 10 that almost all the teachers (80%) want to have the existence of two trainings i.e. basic license and professional. These results might justify firstly that teachers want to leave many choices to students and other parts; to meet the guidelines National Charter for Education and Training.

Table 10. Notice of teachers for the creation of the new formations

Opinion of the teachers for the creation of the following licenses			
	Yes	No	No answer
only basic license (LF)	1 (20%)	3 (60%)	1 (20%)
licensed professional only (LP)	3 (60%)	1 (20%)	1 (20%)
(LF) + (LP)	4 (80%)	1 (20%)	0 (0%)

We then conducted an evaluation of the STU department programs. In these evaluations, teachers, as it appears in Table 11, believe that these programs are in balanced quantities (60%), coherent (60%), but these programs are more theoretical (80%) than practical (20%).

In addition, in response to a query about the satisfaction regarding the department of Earth Science and the Universe department, teachers, in general, showed a positive opinion on the current training; this proves that the Ministry of higher education and scientific research and training through the university, successfully apply changes through the various educational reforms: (National Charter for Education and Training, Emergency Program) to create a formation named (STU) instead of the former (Biology-geology).

Table 11. Evaluation of programs by teachers

Opinion of the teachers for the state of the STU sector

	Yes	No	No response
-Balanced	3 (60%)	1 (20%)	1 (20%)
-Coherent	3 (60%)	1 (20%)	1 (20%)
-More theoretical	5 (80%)	0 (20%)	0 (0%)
-More convenient	1 (20%)	4 (80%)	0 (0%)

4.6. Evaluation

We asked teachers their perspectives on evaluation methods; continuous, final exam and assessment arrangements that seem to be adapted to the learning of quality controls.

Table 12 shows that a large majority of teachers (60%) are in agreement with these types of evaluations. On the other hand, Table 13 provides that this positive trend for the assessment by continuous monitoring and final examination is confirmed by the proportion of teachers who have chosen these evaluations.

Table 12. Opinion of teachers on methods of evaluation

Evaluation the evaluation method				
	Bad	Fair	Good	Excellent
Continuous controls	1 (20%)	3 (60%)	1 (20%)	0 (0%)
final exam	1 (20%)	3 (60%)	1 (20%)	0 (0%)

Table 13. Evaluation of assessment arrangements adapted for quality learning

Evaluation the adaptation of assessing for quality learning		
	Yes	No
Continuous controls	5 (100%)	0 (0%)
Final exam	5 (100%)	0 (0%)
Reports	4 (80%)	1 (20%)
Presentations	4 (80%)	1 (20%)

The method of continuous monitoring is appreciated by most teachers (60%). They explain their positive opinions concerning the conditions in which the continuous controls happen. In addition, the distribution of these continuing checks on all materials views current deemed bad (40%) to fair (60%).

In response to questioning on teachers on the role that must play the continuous controls in the teaching-learning, Table 14 illustrates the most cited proposals; continuous controls allow the teacher to improve his course (80%) and students to progress in learning (80%).

Table 14. Notice of teachers on the role of continuous monitoring

Opinion of the teachers relate to the formative evaluation mode		
	Yes	No
Continuous controls allow the student make up in time	3 (60%)	2 (40%)
Continuous controls allow the student to be orientated	3 (60%)	2 (40%)
Continuous controls allow teachers to improve their courses	4 (80%)	1 (20%)
Continuous controls allow students to progress in their learning	4 (80%)	1 (20%)

We then proceeded to an assessment of skills and more targeted performance during the events of evaluations, the responses of teachers presented in Table 15 represent the order according to the importance suggested by teachers as well as the number of citations.

Table 15. Evaluation of skills and more targeted performance during tests with evaluations

Judgment of teachers concerning the skills and more targeted performance during the events of evaluations (numbering from 1 to 7: (1) the more targeted competency, (7) the least targeted competency							
	Analysis	Application	Synthesis	Memory	Creation	Observation	Understanding
Classification	6	4	3	2	7	5	1
Nb. Cit.	8.74%	15.53%	18.45%	21.36%	0%	11.65%	24.27%

4.7. Proposals and suggestions

At the end of the questionnaire, teachers have proposed some recommendations that affect mainly the improvement of teaching-learning of discipline (STU). We can summarize them in the following suggestions:

Promote the practice teaching; organize courses; improve the education system; organize field in S1 and S2; to strengthen the French language at the secondary level and higher; use of new technologies of information and communication technologies (documentaries, animations...).

For the dependency between the responses, we offer an analysis by crossing of issues.

For the group of teachers in the sector STU, we searched four psychological factors that are; sex, evaluation of satisfaction of the STU sector, infrastructure/equipment of the establishment and the age of the teachers in the faculty. For each factor, we present below the tables that summarize the results of crosses with the other factors cited previously.

4.8. Analysis and processing of the results by crossing issues

In Table 16, we see that (50%) male teachers felt that the problem of the language is a handicap for the learning of geological phenomena, and a single teacher calls it "*only little*".

Table 16. Crossing of sex with the problem of the language

Problem of the language / Sex	Yes (much)	Yes (quite)	Only a little	No	Total
Male	50 % (2)	25 % (1)	25 % (0)	0 % (0)	100% (4)
Female	0 % (0)	0 % (0)	100% (1)	0 % (0)	100% (1)
Total	40 % (2)	20 % (1)	40 % (2)	0 % (0)	100% (5)

Fieldwork in educational practice is for them a phase of discovery, an illustration, and a confirmation of a study conducted previously current teacher and teachers and promotes the learning of prior do (Table 17).

Table 17. Crossing of sex with the correspondence of field work

Purpose of field work / Sex	A phase of discovery	Development of a scientific problem	A phase of research experimental	An illustration, confirmation of a previously ongoing study	Supports the prior learning of skills	Promotes the work of group	Other	Total
Male	100% (4)	75 % (3)	75 % (3)	100% (4)	75 % (3)	50 %2()	25 % (1)	100% (20)
Female	100% (1)	0 % (0)	0 % (0)	100% (1)	100% (1)	0 % (0)	0 % (0)	100% (3)
Total	100% (5)	60% (3)	60 % (3)	100% (5)	80 % (4)	40 % (2)	20 % (1)	100% (23)

Concerning the crossing which relates to satisfaction of the STU department assessments and evaluation of the hourly volume devoted to modules, Table 18 shows that teachers have more positive opinions to the satisfaction of the STU sector and found that the number of hours devoted to the module/element of module they teach is insufficient.

Table 18. Crossing assessment of satisfaction of the STU sector with assessment of the number of hours devoted to modules

Assessment the hourly volume / Assessment of satisfaction of sector STU	Yes	No	Total
Yes	50% (1)	50% (1)	100% (2)
Rather Yes	0% (0)	100% (2)	100% (2)
Rather not	0% (0)	0% (0)	100% (0)
No	100% (0)	0% (0)	100% (1)
Total	60% (0)	40% (2)	100% (5)

For judgments of teachers on infrastructure, we note from Table 19, that all the respondents were satisfied with infrastructure and internal equipment of the institution suggests that these tools are

properly exploited; and (66.7%) of respondents report the inadequacy of these tools and are overfishing in their uses.

Table 19. Crossing of state infrastructure/equipment of the establishment with their uses

Use of infrastructure/equipment of the establishment State of infrastructure/equipment of the establishment	Underutilized	Properly operated	Overexploited	Total
Not at all sufficient + rather not sufficient	33.3% (1)	0% (0)	66.7% (2)	100% (3)
Rather sufficient + quite sufficient	0% (0)	100% (2)	0% (0)	100% (2)
Total	20% (1)	40% (2)	40% (2)	100% (5)

Concerning the seniority of the teacher (or experience), Table 20 shows that teachers who spent over ten years in teaching within the institution suggests that the student should be respected and valued, active in his learning, and only (33.3%) teachers wish that the student should be submitted and passive.

Table 20. Crossing of the seniority of the teacher with the role which must play the student in the educational action

Role of the student Teacher seniority	Respected and valued	Subject and passive	Action in his apprenticeship	The educational action center	Reproduces what he is given	Total
Less than 5 years	100% (1)	0% (0)	100% (1)	0% (0)	100%)	100% (3)
5 years to 10 years	100% (1)	0% (0)	100% (1)	100% (1)	100%)	100% (4)
More than 10 years	100% (3)	33.3% (1)	100% (3)	100% (1)	100%)	100% (13)
Total	100% (5)	20% (1)	100% (5)	80% (4)	100%)	100% (20)

To update the links between these results, we propose the analysis through the specifications table.

4.9. Analysis and processing of the results by the feature table

The data revealed on Table 21 confirm that the majority of teachers (80%) generally male, believe that students encounter problem of language (50%), this category of respondents report the number of students (50%) satisfaction, hourly volumes devoted to the modules and elements of modules are sufficient. They qualify the level of communication internal department of fair (75%), and ask that the student should be respected and valued (100%).

Table 21. Characteristics of sex

Sex	Language problem	Evaluation the number of teachers	Evaluation of the hourly volume	Level of communication within the Faculty	role of the student in the educational action
Male (4)	Yes much (2; 50%) Yes pretty (1; 25%) Only a few (1; 100%)	Not all enough (2; 50%) Sufficient (2; 50%)	Yes (3; 75%) No (1; 25%)	Fair 3 (75%) Good (1; 25%)	Respected and valued (4; 100%) Active in his learning (4; 100%) Reproduced what is given to him (4; 100%)
Female (1)	Only a few (1; 100%)	Sufficient (1; 100%)	No (1; 100%)	Good (1; 100%)	Respected and valued (1; 100%) Active in his learning (1; 100%) Reproduced what it gives (1; 100%)
Together (5)	Yes much (2) Only a little (2) Yes pretty (1)	Sufficient (3) Not at all sufficient (2)	Yes (3) No (2)	Fair (3) Good (2)	Respected and valued (5) Active in his learning (5) Reproduced what is given him (5)

Analysis of Table 22 shows that the majority of citations opts for the fact that the contents of the STU is sufficient, this category of respondents estimated that the field work corresponds to a phase of discovery (100%), a development of a scientific problem (100%) and a phase of research and experimentation (100%). The respondents say that the training responds to the need for employment and describe the conditions in which pass the continuous controls bad otherwise fair.

Table 22. Characteristics of evaluation of satisfaction of the STU sector by teachers

Assessment of satisfaction of the sector	Contribution of the fieldwork	remarks on courses	The sector of "STU" responds it to offer employment?	conditions of controls continuous
Yes (2)	A phase of discovery (2; 100%) The development of a scientific problem (2; 100%) A phase of research, experimentation (2; 100%)	In quality (2; 100%) Quantity (1; 50%)	Yes (1; 50%) Rather Yes (1; 50%)	Bad (1; 50%) Fair (1; 50%)
Rather Yes (2)	A phase of discovery (2; 100%) An illustration, confirmation of a previously ongoing study (2; 100%) Promotes learning of the prior know-how (2; 100%)	In quality (2; 100%)	Rather Yes (2; 100%)	Fair (2; 100%)
No (1)	A phase of discovery (1; 100%) The development of a scientific problem ((1; 100%) A phase of research, experimentation (1; 100%)	In quality (1; 100%) Quantity (1; 100%)	No (1; 100%)	Fair (1; 100%)
Together (5)	A phase of discovery (5) An illustration, confirmation of a previously ongoing study (5) Promotes learning of prior knowledge (4)	In quality (5) Quantity (2)	Rather Yes (2) Yes (1) No (1)	Fair (3) Bad (2)

5. Conclusion

At the end of this work, the teachers of the Faculty of Science Ben M'sik appreciate, in general, the teaching-learning of Earth Sciences and the Universe (STU) brought by reform educational (National Charter for Education and Training, Law 01-00 and Emergency Program).

The number of teachers of certain subject is insufficient, while the number of students is high, especially for university undergraduates. Infrastructure and equipment are insufficient and therefore overexploited, lack of scientific and technical equipment, the level of organization of examinations is rated average to bad. Furthermore, we recorded the relational climate between actors is good; finally, information and communications technology (ITC) are beginning to take a significant place in Moroccan universities. However, they find faced by students with language problems.

Finally, almost all the geologists expressed the interest of the renovation of training in quality and quantity, by promoting practical education, and recommend the revision of conditions for organization of continuous controls and final exam, so this method of evaluation will lead to the desired results.

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