

SCHOOL SCIENCE TEACHER' VIEWS ON THE DIFFERENCES BETWEEN THE RESULTS OF SCHOOL-BASED ASSESSMENT AND NATIONAL ASSESSMENT

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1 - CONTEXT OF THE RESEARCH

Students' learning should be assessed consistently with the goals settled by the official curriculum of a given school-grade.

Usually, the official curriculum goals include not only conceptual, procedural and epistemological knowledge, which is specific of a discipline, but also cross disciplinary competencies that may be developed by a variety of disciplines.

Hence, within the context of science education, assessment should focus on learning science, learning how to do science and learning about science. Besides, it should focus on competencies that are relevant for a person to be classified as a 21st century scientifically literate citizen. Examples of these competencies are: building empirically-based arguments and solving problems.

Assessment of students' learning can be done at the school level and at the national level. The former is usually carried out by school teachers for their own classes and concentrates on curriculum goals achievement only. The latter is the government's responsibility and it aims not only at measuring curriculum goals achievement but also at comparing students' performance in different schools.

In Portugal, students' results in school-based assessment and in national assessment are often different, being the latter usually lower than the former, whatever the discipline. This difference causes concern to parents, teachers and students, as it influences and may even determine students' university entrance.

Hence, it is worth understanding the causes of the difference referred to above in order to find ways of overcoming it. Science teachers are a group of good informants to enable such understanding.

2 - RESEARCH OBJECTIVE

This study aims at uncovering secondary school science teachers' views on the causes of the differences between students' results in school-based and national-based assessment in two secondary school disciplines: Biology and Geology, and Physics and Chemistry.

3 - RESEARCH METHODOLOGY

Data collection technique and instrument: inquiry through an online questionnaire

Questionnaire dimensions: causes of the differences in assessment results; actions to be taken

Population: Biology and Geology (BG) and Physics and Chemistry (PC) school teachers

Invited sample: all the Biology and Geology and Physics and Chemistry secondary school teachers, teaching in public schools in the north of Portugal

Participants in the study:

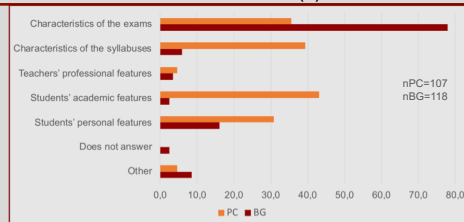
- 118 Biology and Geology secondary school teachers; 84,7 % female; 88,9 % with 20 or more years of teaching experience
- 107 Physics and Chemistry secondary school teachers; 75,7% female; 71,9% with 20 or more years of teaching experience

Ethics: respondents were informed about the research and asked to agree with the conditions before proceeding to answer to the questionnaire

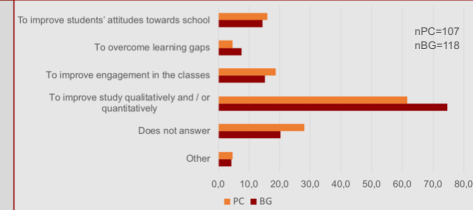
Data analysis: answers to open questions were content analysed so that frequencies per group and category could be computed and compared for all the questions

4 - RESEARCH RESULTS

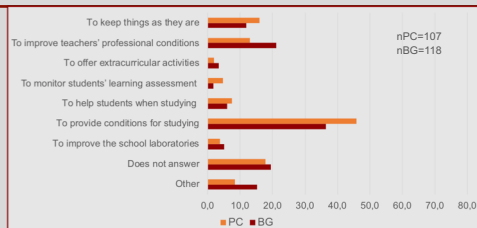
Teachers' opinions on possible causes of the differences between internal and external assessment means (%)



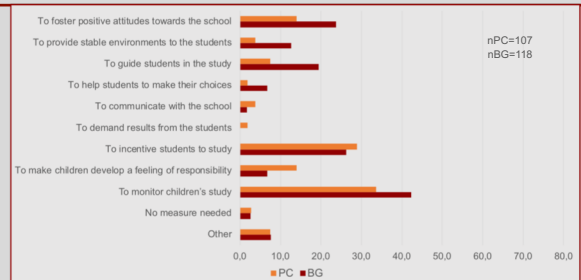
Actions to be taken by the students to improve the results of the exams (%)



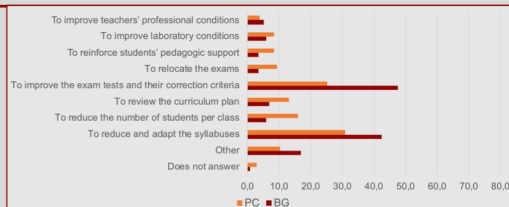
Actions to be taken by the schools to improve the results of the exams (%)



Actions to be taken by the families to improve the results of the exams (%)



Actions to be taken by the Ministry of Education to improve the results of the exams (%)



Actions to be taken by the teachers to improve the results of the exams (%)



5 - CONCLUSIONS AND IMPLICATIONS

Both groups tend to consider the students, the syllabuses and the test used in the national exams as the main causes of the difference between the means of national exam and school based assessment.

However, there are some differences between the way the two groups of teachers explain the differences between the results of the two types of assessment. The BG teachers tend to state that the main cause of lower marks in the national exam is the test itself; PC teachers choose the students and the syllabuses.

Thus, to overcome the difference between internal and external assessment, they seem to envisage measures that focus on the students and that require students' engagement (BG) or on the characteristics of the exam (PC), rather than changes in their usual teaching and or assessment practices.

Results indicate that teachers need to be able to critically analyse the relationships among curriculum goals, school-based assessment and national-based assessment, as well as to eventually improve the consistency between their teaching and assessment practices so that the quality students' science learning can be improved and or better assessed.

6 - REFERENCES

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- Bloxham, S. (2014). Assessing assessment: new developments in assessment design, feedback practices and marking in higher education. In H. Fry, S. Ketteridge & S. Marshall. (Eds.), *A handbook for teaching and learning in higher education: enhancing academic practice* (pp.107-122). New York: Taylor & Francis.

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