



ROMANIAN TEACHERS' SELF-PERCEIVED ASSESSMENT SKILLS AND SELF-REPORTED NONACHIEVEMENT-BASED GRADING PRACTICES

Roxana S. TIMOFTE, Ioana TODOR

Abstract: In this paper are presented the results of a study regarding the self-perceived assessment skills of Romanian teachers. An instrument regarding the self-perceived assessment skills was applied to N=108 teachers. From the seven factors of the instrument, it was found that the Romanian teachers who participated in this study reported that they are the least skilled in a) nonachievement-based grading and b) standardized testing, test revision, and instructional improvement. In a second study, items related to the practices of nonachievement-based grading were applied to N=185 teachers. The analysis of data revealed that the teachers use occasionally this practice. A focus group (N=5 Chemistry student teachers) on the topic of inclusion of nonachievement factors in grading was undertaken. Although the participants' opinions varied, the overall conclusion was that some nonachievement factors could be included in grading, and the participants proposed some specific conditions for this.

Key words: teachers' self-perceived assessment skills; teachers' self-reported practices of nonachievement-based grading; student teachers' views on nonachievement-based grading

1. Introduction

Assessment knowledge is a component of teacher professional knowledge models (Gess-Newsome, 2015). Assessment literacy, or teacher competency in educational assessment, entails the ability to develop reliable assessments, administer them to students and score them, to enable instructional decisions (DeLuca *et al.*, 2016). Along the time, standards for assessment literacy were published in different countries around the globe (DeLuca *et al.*, 2016). In a review regarding the standards for teacher assessment literacy, the following themes were identified in the published standards from Australia, UK, US, Canada, and countries from Europe (DeLuca *et al.*, 2016): assessment purposes, assessment processes, communication of assessment results, assessment fairness, assessment ethics, measurement theory, assessment for learning, education and support for teachers. The US standards regarding teachers' competencies in assessment published in 1990 are depicted in Box 1 (National Council on Measurement in Education. American Federation of Teachers. National Education Association, 1990). The Michigan Assessment Consortium (2015) included dispositions, knowledge and performance in the teachers' assessment literacy standards. Recently, a three-dimensional model of assessment literacy was proposed, after the consultation of international assessment specialists and teachers training specialists (Pastore & Andrade, 2019). The three inter-related dimensions were: conceptual, praxeological, and socio-emotional. These dimensions can be tailored to the local and personal context, by regarding classroom context, national education policy, professional wisdom and professional practice. Research regarding teachers' assessment literacy and practices focused on topics such as teachers' priorities, knowledge, approaches to assessment, assessment practices and the purpose of assessment (DeLuca *et al.*, 2019). Studies have shown that language teachers' assessment literacy has a significant impact on learners' writing (Mellati & Khademi, 2018).

Received October 2021.

Cite as: Timofte, R. S.; & Todor, I. (2021). Romanian teachers' self-perceived assessment skills and self-reported nonachievement-based grading practices. *Acta Didactica Napocensia*, 14(2), 275-283, <https://doi.org/10.24193/adn.14.2.20>

Box 1. *Standards for Teacher Competence in Educational Assessment of Students (American Federation of Teachers, 1990)*

1. “Teachers should be skilled in choosing assessment methods appropriate for instructional decisions.
2. Teachers should be skilled in developing assessment methods appropriate for instructional decisions.
3. Teachers should be skilled in administering, scoring, and interpreting the results of both externally produced and teacher-produced assessment methods.
4. Teachers should be skilled in using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement.
5. Teachers should be skilled in developing valid pupil grading procedures that use pupil assessments.
6. Teachers should be skilled in communicating assessment results to students, parents, other lay audiences, and other educators.
7. Teachers should be skilled in recognizing unethical, illegal and otherwise inappropriate assessment methods and uses of assessment information.”

Effective classroom assessment requires that teachers have a clear and complete understanding of the learning goals. Furthermore, they use meaningful assessment methods and techniques that will allow them to evaluate if the learning goals are being met, and they have the ability to interpret the data and to use that information to optimize the teaching and learning process (Phelan, 2010). Classroom assessment practices and teachers’ assessment skills are key conditions for improving students’ learning and motivation. Even if there is a large consensus in the pedagogical literature that classroom assessment plays a key role in the instructional process and the improvement of student learning, research addressing the teachers’ assessment skills or competencies is not exhaustive (Zhang & Burry-Stock, 2003). The available data on this topic expressed a concern about the adequacy of teachers’ assessment skills, revealing that most teachers are less able to competently meet the complex requirements of successful classroom assessment, probably because of inadequate training (Zhang & Burry-Stock, 2003; Alkharusi, 2011a). A closer look on the classroom assessment literature indicates that there are significant differences between the classroom assessment practices teachers commonly use and the recommendations of educational assessment experts (Alkharusi, 2011a). The most problematical aspects of assessment observed in classroom practice seems to be related to performance assessment, interpretations of standardized test results and grading procedures (Zhang & Burry-Stock, 2003). Research shows that a large number of teachers encounter problems in test construction, having an inadequate understanding of basic testing concepts such as validity and reliability of item analysis; an important number of teachers perform only a superficial statistical analysis to describe assessment results; they report difficulties to appropriately interpret test scores, communicate results, identify and use diagnostic information; teachers differ in their perceptions of the meaning and purpose of grades; many teachers tend to incorporate some non-achievement factors, such as students’ effort, attitude or motivation, in grading (Zhang & Burry-Stock, 2003; Alkharusi, 2011a). A number of researchers and experts in education raised concerns about the quality of classroom assessment and claimed that this field have been neglected for years by school-leaders, policy-makers, and measurement community (Stiggins, 2001; Ohlsen, 2007; Koloi-Keaikitse, 2017). Teachers’ concern about the quality of classroom assessment increases with the grade level and slightly varies with subject areas, in the sense that teachers of mathematics and science seems to rely more on objective testing compared with teachers of literature (Adams & Hsu, 1998; Zhang & Burry-Stock, 2003). Teachers’ self-perceived assessment skills correlate positively with training in measurement (Zhang & Burry-Stock, 2003) and with teaching experience (Alkharusi, 2011b). Novice teachers practice more summative and standard assessment methods, while the more experienced teachers use more formative and equitable methods for assessment (DeLuca *et al.*, 2019). Recent research showed that development of teachers’ assessment skills occurs stepwise, and so, a novice could become proficient after the transition through intermediary levels (Christoforidou & Kyriakides, 2021). Tomasevic *et al.* (2021) implemented a training programme for training the in-service chemistry teachers and reported that the programme had an impact on teachers’ assessment competencies.

Effort, attendance, participation, homework punctuality, classroom participation are examples of nonachievement factors (Mannix, 2014). Some experts consider that these factors should be reported separately. Also, in a review regarding grading research, Brookhart *et al.* (2016) stated that in the standard-based grading (in the US system) the nonachievement factors are reported separately from the achievement grading. The same study showed that teachers varied in their practice of inclusion of nonachievement factors in grading. The 67-item Assessment Practice Inventory (Zhang & Burry-Stock, 2003) includes a factor related to nonachievement-based grading. The nonachievement factors considered in Assessment Practice Inventory (Zhang & Burry-Stock, 2003) were ability, classroom behavior, improvement, effort and attendance.

2. Scope

The first scope of this study was to determine the self-perceived assessment skills of Romanian teachers. The second scope of this study was to determine the self-reported nonachievement-based grading practices of teachers from Romanian. Furthermore, it was also intended to identify student teachers' views on including nonachievement factors in grading.

3. Methodology

3.1 The study regarding the self-perceived assessment skills

3.1.1. Participants

A number of N=108 teachers participated in this study, 18 males (16.7%) and 90 females (83.3%). The minimum age of the participants was 23, the maximum age was 66, and the M=44.2. The years of teachers' professional experience ranged from 1 year to 45, and M=20.1. In Table 1 are presented the data regarding the participants in the study concerning the self-perceived assessment skills.

Table 1. Description of participants

Teacher of Subject	Number of teachers	Percent (%)
Mathematics	14	13
Informatics	7	6.5
Physics	2	1.9
Chemistry	19	17.6
Biology	4	3.7
Geography	3	2.8
Technological education	5	4.6
Education Sciences	20	18.5
Psychology	4	3.7
Romanian Language	14	13
Foreign Language	8	7.4
History	4	3.7
Theology	3	2.8
Music	1	0.9

3.1.2. Instrument

The instrument reported by Zhang & Burry-Stock (2003) was used. This instrument consists of seven factors for self-perceived assessment skills: (1) perceived skillfulness in using paper-pencil tests; (2) perceived skillfulness in standardized testing, test revision, and instructional improvement; (3)

perceived skillfulness in using performance assessment; (4) perceived skillfulness in communicating assessment results; (5) perceived skillfulness in nonachievement-based grading; (6) perceived skillfulness in grading and test validity; and (7) perceived skillfulness in addressing ethical concerns. All 67 items are 5-point Likert scale type. The Skill Scale: 1 = not at all skilled, 2 = a little skilled, 3 = somewhat skilled, 4 = skilled, and 5 = very skilled

3.2. The study regarding the nonachievement-based grading practices

3.2.1. Participants

A number of N=185 teachers participated in this study, 12 male (6.5%) and 173 female (93.5%). A number of 50 teachers were from rural area (27%) and 135 teachers were from urban area (73%). The minimum age of the participants was 22, the maximum age was 64, and the M=44.4. The years of teachers' professional experience ranged from 0 year to 43, and M=19.8. In Table 2 are presented the data concerning the participants in the study regarding the nonachievement-based grading practices.

Table 2. *Description of participants*

Teacher of Subject	Number of teachers	Percent (%)
Mathematics	7	3.8
Informatics	6	3.2
Physics	14	7.6
Chemistry	20	11
Biology	13	7
Geography	3	1.6
Technological education	5	2.7
Education Sciences	39	21
Psychology	13	7
Romanian Language	9	4.9
Foreign Language	16	8.7
Sociology	3	1.6
Philosophy	3	1.6
History	6	3.2
Economics	14	7.6
Law	2	1.1
Theology	3	1.6
Music	4	2.2
Arts	3	1.6
Sport and Physical Education	2	1.1

3.2.2. Instrument

The items associated with Factor 5 (*Nonachievement-Based Grading*) of the assessment practices instrument reported by Zhang & Burry-Stock (2003) were used. The items are 5-point Likert scale type. Use Scale: 1 = not at all used, 2 = seldom used, 3 = used occasionally, 4 = used often, and 5 = used very often.

3.3. The study regarding the Chemistry student teachers' views on inclusion of nonachievement factors in grading

A number of N=5 Chemistry student teachers participated in a focus group regarding the inclusion of nonachievement-based factors in grading. Among them were 1 male and 4 females; average age was 23.2.

4. Results and Discussion*

4.1. Romanian teachers' self-perceived assessment skills

Analysis of data revealed that the mean value for the items representing Factor 1 (*Perceived Skillfulness in Using Paper-Pencil Tests*) is 4.35. The mean and standard deviation values for each item are presented in Table 3.

Table 3. Descriptive statistics for the items representing Factor 1

Item	M	SD
1	4.32	0.64
2	4.41	0.60
3	4.41	0.70
4	4.56	0.65
5	4.00	0.89
11	4.69	0.52
12	4.58	0.58
13	4.31	0.72
14	4.41	0.71
14	4.50	0.72
16	4.56	0.65
17	4.23	0.89
18	4.24	0.77
19	4.10	0.85
32	4.11	0.92
52	4.21	0.81

The lowest average value for the items associated with Factor 1 was for the Item 5, *Administering unannounced quizzes*.

Analysis of data revealed that the mean value for the items representing Factor 2 (*Perceived Skillfulness in Standardized Testing, Test Revision, and Instructional Improvement*) is 3.96. The mean and standard deviation values for each item are presented in Table 4.

Table 4. Descriptive statistics for the items representing Factor 2

Item	M	SD
------	---	----

*Throughout the *Results and Discussion* section the numbering of items reported by Zhang & Burry-Stock (2003) was maintained.

8	4.42	0.66
9	4.06	0.87
25	3.71	1.08
33	4.15	0.86
34	4.00	0.90
35	3.69	1.01
36	3.87	1.06
37	3.88	1.01
38	3.89	0.96
39	4.08	0.82
40	3.89	0.96
43	4.09	0.82
46	3.84	0.97
47	3.86	0.98

Analysis of data revealed that the mean value for the items representing Factor 3 (*Perceived Skillfulness in Using Performance Assessment*) is 4.32. The mean and standard deviation values for each item are presented in Table 5.

Table 5. Descriptive statistics for the items representing Factor 3

Item	M	SD
6	4.37	0.77
7	4.44	0.73
10	4.47	0.72
24	4.19	0.70
26	4.39	0.72
27	4.2	0.83
28	4.28	0.85
29	4.21	0.89
30	4.43	0.74
31	4.18	0.94

Analysis of data revealed that the mean value for the items representing Factor 4 (*Perceived Skillfulness in Communicating Assessment Results*) is 4.20. The mean and standard deviation values for each item are presented in Table 6.

Table 6. Descriptive statistics for the items representing Factor 4

Item	M	SD
41	4.13	0.88
42	4.26	0.70
59	4.48	0.69
60	4.04	0.93
61	4.51	0.73
62	4.23	0.78
63	3.99	0.98
64	4.00	0.86
65	4.22	0.95

Analysis of data revealed that the mean value for the items representing Factor 5 (*Perceived Skillfulness in Nonachievement-Based Grading*) is 3.94. The mean and standard deviation values for each item are presented in Table 7.

Table 7. Descriptive statistics for the items representing Factor 5

Item	M	SD
50	3.85	1.01
53	4.21	0.80
54	3.77	1.20
55	4.09	0.91
56	4.07	0.89
57	3.67	1.19

Analysis of data revealed that the mean value for the items representing Factor 6 (*Perceived Skillfulness in Grading and Test Validity*) is 4.19. The mean and standard deviation values for each item are presented in Table 8.

Table 8. Descriptive statistics for the items representing Factor 6

Item	M	SD
20	4.56	0.60
21	4.31	0.75
22	4.06	0.83
23	4.16	0.88
44	3.91	0.95
45	3.80	0.97
48	4.00	0.86
49	4.38	0.83
51	4.30	0.78
58	4.41	0.70

Analysis of data revealed that the mean value for the items representing Factor 7 (*Perceived Skillfulness in Addressing Ethical Concerns*) is 4.13. The mean and standard deviation values for each item are presented in Table 9.

Table 9. Descriptive statistics for the items representing Factor 7

Item	M	SD
66	4.14	1.08
67	4.14	1.11

Analysis of data regarding the self-perceived skillfulness of Romanian teachers who participated in this study revealed that the lowest levels of skillfulness were reported for the following factors: a) nonachievement-based grading and b) standardized testing, test revision, and instructional improvement.

4.2. Romanian teachers' nonachievement-based grading practices

The analysis of data regarding the teachers' self-reported nonachievement-based grading practices is presented in Table 10. The mean value for the items tested is 3.15. This result could be interpreted that the teachers use occasionally this practice.

Table 10. Descriptive statistics

Item	M	SD
53	3.76	1.14
54	2.51	1.40
55	3.54	1.12
56	3.55	1.18
57	2.38	1.37

4.3 Focus group on the topic of inclusion of nonachievement factors in grading practices

The topic addressed during the focus group activity was the inclusion of ability, classroom behavior, improvement, effort and attendance in grading.

The results of the focus group are depicted underneath:

- *Abilities* should be considered when grading.
- *Behavior* should be reported separately, and this rule should be specified upfront, from the beginning of school year. Another student stated that misbehavior during laboratory activities is quite often already penalized.
- *Improvement* should be taken into account when grading, especially if it is constant and it shows the involvement of the student.
- Regarding the *students' efforts*, one participant considered that this should be taken into account only when improvement is also present. Another participant stated that students' efforts should be considered only during oral examinations, not when grading written exams.
- Concerning *students' attendance*, one participant indicated that at High School level this may play a role in making students more responsible. Another participant considered that the attendance should not be taken in consideration when grading.

5. Conclusion

The analysis of data from this study revealed that Romanian teachers who participated in this study are the least skilled in a) nonachievement-based grading and b) standardized testing, test revision, and instructional improvement. The Romanian teachers who participated in the second study reported that they include occasionally the nonachievement factors (ability, classroom behavior, improvement, effort and attendance in grading) in grading. The opinions of the participants in the focus group varied. Overall, the participants considered that *some* nonachievement factors could be included in grading, proposing some specific conditions for this.

Limitation of the study

The data is based on the teachers' *self-perceived* skillfulness and *self-reported* practices.

References

- Adams, E. L. & Hsu, J. Y. (1998). Classroom assessment: Teachers' conceptions and practices in mathematics. *School Science and Mathematics*, 98(4), 174–180.
- Alkharusi, H. (2011a). Teachers' classroom assessment skills: Influence of gender, subject area, grade level, teaching experience and in-service assessment training. *Journal of Turkish Science Education*, 8(2), 39-48.
- Alkharusi, H (2011b). Self-Perceived Assessment Skills of Pre-service and In-service Teachers. *Journal Pendidikan Malaysia*, 36(2), 9-17.
- American Federation of Teachers, National Council on Measurement in Education, & National Education Association (1990). *Standards for teacher competence in educational assessment of students*. Washington, DC: National Council on Measurement in Education.

- Brookhart, S. M., Guskey, T. R., Bowers, A. J., McMillan, J. H., Smith, J. K., Smith, L. F., Stevens, M.T., Welsh, M. E. (2016). A Century of Grading Research: Meaning and Value in the Most Common Educational Measure. *Review of Educational Research*, 86(4), 803-848.
- Christoforidou, M., Kyriakides, L. (2021). Developing teacher assessment skills: The impact of the dynamic approach to teacher professional development. *Studies in Educational Evaluation*, 70, 101051.
- DeLuca, C., Coombs, A., MacGregor, S., Rasooli, A. (2019). Toward a Differential and Situated View of Assessment Literacy: Studying Teachers' Responses to Classroom Assessment Scenarios. *Front. Educ.*, 4 (94), 1-10.
- DeLuca, C., LaPointe-McEwan, D., Luhanga, U. (2016). Teacher assessment literacy: a review of international standards and measures. *Educ Asse Eval Acc*, 28, 251-272.
- Gess-Newsome, J. (2015). A model of teacher professional knowledge and skill including PCK. In A. Berry, P. Friedrichsen, & J. Loughran (Eds.), *Re-examining pedagogical content knowledge in science education* (pp. 28-42). New York: Routledge.
- Koloi-Keaikitse, S. (2017). Assessment of teacher perceived skill in classroom assessment practices using IRT Models, *Cogent Education*, 4(1), 1-14.
- Mannix, L. D. (2014). *What are the effects of standards-based grading on student learning and behavior in the secondary science classroom?* [Doctoral dissertation, Montana State University], accessed on 15 January 2021 at <https://scholarworks.montana.edu/xmlui/handle/1/3572>
- Mellati, M., & Khademi, M. (2018). Exploring Teachers' Assessment Literacy: Impact on Learners' Writing Achievements and Implications for Teacher Development. *Australian Journal of Teacher Education*, 43(6), 1-18. <http://dx.doi.org/10.14221/ajte.2018v43n6.1>
- Michigan Assessment Consortium. (2015). *Assessment literacy standards-a national imperative*. Lansing, MI: Author.
- Ohlsen, M. T. (2007). Classroom assessment practices of secondary school members of NCTM. *American Secondary Education*, 36, 4-14.
- Pastore, A., Andrade, H. L. (2019). Teacher assessment literacy: A three-dimensional model. *Teaching and Teacher Education*, 84, 128-138.
- Phelan, J. (2010). Classroom Assessment Tasks and Tests. In P. Peterson, E. Baker & B. McGaw (Eds.), *International Encyclopedia of Education* (Third Edition, pp. 2009-2019). Elsevier.
- Stiggins, R. J. (2001). *Student-involved classroom assessment* (Third Edition). Upper Saddle River, NJ: Merrill Prentice Hall.
- Tomasevic, B. I., Trivic, D. D., Milanovic, V. D., Ralevic, L. R. (2021). The programme for professional development of chemistry teachers' assessment competency. *J. Serb. Chem. Soc.*, 86 (10), 997-1010.
- Zhang, Z. & Burry-Stock, J. A. (2003). Classroom Assessment Practices and Teachers' Self-Perceived Assessment Skills. *Applied Measurement in Education*, 16(4), 323-342.

Authors

Roxana S. TIMOFTE, Babes-Bolyai University, Faculty of Psychology and Education Sciences, Department of Science and Mathematics Education, Cluj-Napoca (Romania). E-mail: roxana.timofte@ubbcluj.ro

Ioana TODOR, "1st December 1918" University, Alba-Iulia (Romania). E-mail: ioana.todor@uab.ro

Acknowledgement

Roxana S. Timofte is grateful to Chemistry student Bogdan Timișag and to teacher Dana Lung for help in collection of data.