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Assessing feedback practices in classroom assessment at federal government educational institutions of Lahore, Pakistan

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ABSTRACT

This study aimed at investigating current feedback practices in classroom assessment. A sample of 300 participants including 150 teachers and 150 students each was selected using a stratified random sampling technique. Under the positivist paradigm, a survey method was deployed to conduct the research. In this study, a self-developed questionnaire comprising 20 items was used for data collection from the participants. The collected data was analyzed using SPSS (24.0). Frequencies and percentages were calculated in descriptive stats, whereas an independent sample t-test was used to verify research hypotheses. The study explored that class tests, class exercises, homework, and trial work during lessons were the most commonly used assessment tools whereas essay-type questions, and multiple-type questions were the most commonly used assessment formats. Moreover, it was found that delayed marking and returning of assessment tasks, less or no motivation for better performance, and lack of contact with parents were the major issues in feedback on classroom assessment at Federal Government Educational Institutions (FGEIs). The study recommended that the workload of teachers should be reduced so that they may have sufficient time to design and evaluate assessment tasks. Professional training on assessment on regular basis may be arranged for the faculty. A comprehensive plan of classroom assessment may be proposed by school principals along with a defined syllabus and be timely communicated the same to all stakeholders. An effective mechanism of monitoring to assess classroom assessment feedback practices may also be established.

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1. INTRODUCTION

Educational assessment is a systematic process in which information regarding the abilities, comprehension, and knowledge of students are assessed [1]–[3]. It has significant importance in the process of teaching and learning [4]–[6]. It has a great impact on students' performance. There is a direct link among students learning approach, classroom assignments, and assessment. Researchers have explored that classroom assessment is a very important part of the education process [7]–[10]. A large majority of teachers keep on assessing the performance of their students throughout the session. So, they must know basic techniques of classroom assessment. They should also keep on updating their knowledge and learn modern techniques of classroom assessment [11]. This has also been explored that the learning achievement of students and classroom assessment are interconnected [12]. The attitude of teachers towards classroom assessment enhances the quality of teaching and learning achievement of their students [13], [14].

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Federal Government Educational Institutions (FGEIs) aim at ensuring to provide quality education to the students. These institutions are located in cantonments and garrisons throughout the country. As stated earlier, classroom assessment has an important role in the whole teaching-learning process, so the academic achievement of the students of FGEIs can be improved by using better classroom assessment practices. To achieve this goal, the teachers should hold proper understanding and skills in the latest assessment techniques. This study aimed at exploring feedback practices in classroom assessment among the teachers of FGEIs at the secondary level in the Lahore region. The major objective of this study was to explore the common classroom assessment tools, formats, and feedback practices used by teachers in secondary schools. The findings of this research can help improve the performance of the students at the secondary level in FGEIs.

It is a process of data collection about the skills, comprehension, and knowledge of a student or a group of students. Several techniques are used in this process. These include both quantitative and qualitative techniques. From a broader perspective, assessment can be divided into two categories. One of these is formative assessment. Here the process of assessment is done during the semester and the academic achievement of students is measured and their learning issues are explored. Summative assessment is termed the second category. This type of assessment is carried out at the end of a year, session, or semester. It helps the teachers to evaluate the overall learning achievement of students. Class tests, class exercises, classroom observation, and creative writing activities are methods that can be used for assessment. The process of assessment not only helps to assess the learning of the students but also enhances their academic achievement. However, it is very important how do teachers assess their students [15].

Improving student academic achievement has been a significant factor in the whole teachinglearning process and the teachers have been focusing upon it throughout the world. It has been given importance in developed countries during the 18th century. Teachers have been using modern techniques for the assessment of their students since that time [16]. During the 1850s, the authorities of education and instruction in Massachusetts state have used on paper examinations for judgment of academic achievement of students. School authorities were held responsible and answerable for the progress of student learning achievement and the results of their students [17]. Teachers have been using different assessment techniques to explore and evaluate the academic achievement of their students. They have been informing students and parents about the results of the assessment through grades and report cards. Teachers believe that the process of assessment is very helpful in improving the academic achievement of their students [18]-[20]. Different opinions of teachers can be seen on how to conduct the process of assessment. Some of them believe that it is better to use traditional techniques to assess the performance of the students. Essay type and multiple-choice items are included in such techniques. They advocate that these techniques help them to measure the learning achievement of the students when the syllabus is lengthy. Using these techniques, knowledge, understanding, and application can be judged appropriately. Other teachers advocate for modern techniques of assessment. In this way, the opinion of the teachers between traditional and modern assessment [21]. During the last decade, modern and advanced assessment techniques have been developed and implemented by teachers. Such new techniques have caused to change the views of the teachers about student learning and assessment. Students are now becoming able to have capabilities like self and active learning, self-writing, and critical thinking skills among themselves [22]. Presently, the teachers are being instructed to follow modern and advanced assessment techniques to measure the complex mental capabilities of the students. Extended selfwriting and deep problem-solving skills are included in such complex mental capabilities. These capabilities cannot be measured using traditional assessment [23].

Depending upon the purpose of assessment, teachers adopt different assessment techniques. The following types of assessments are mainly used by teachers in many countries [24]: i) School-based assessments, these assessments are conducted at the institutional level. Teachers and other instructional staff are normally considered to be responsible to conduct such assessments. These assessments are held on a short-term basis and the results are quickly available to the stakeholders. In this way, both teachers' and students can find their shortcomings. Students in schools are promoted to the next classes based on the results of these assessments; ii) Public examinations, public examinations are conducted at the end of secondary education. These assessments allow the students to get admission to higher education institutes. These assessments can also be used to judge the performance of teachers. In developing countries, a large number of students appear in these examinations. A public examination body normally conducts these assessments. Both multiple-choice questions and essay-type questions are asked from candidates in these examinations; iii) National assessments, national assessments are used to evaluate the educational system of a country. A whole population or a selected sample is allowed to appear in these assessments and results thus obtained are used by policymakers. These assessments are helpful to judge the performance of school administration; and iv) International assessments, international assessments are conducted to obtain to provide comparative data on certain educational issues in different countries of the world. Students of several countries take part in these assessments. Examples of these tests include, but are not limited to, trends in international mathematics and science study (TIMSS), progress in international reading literacy study (PIRLS), program for international student assessment (PISA), and medical licensing assessment (MLA).

In the process of assessment, teachers play a significant role. They are involved in data collection and analysis. They make decisions about student learning achievement in the light of results obtained therein. Here arises a question that whether teachers have such competency of data collection and analysis to decide about student academic achievement. Therefore it becomes extremely important that teachers should possess good knowledge regarding several assessment techniques [25]. Now adays, teachers are working following the concept of no child left behind (NCLB). In this way, teachers are to ensure that they are encouraging and guiding their students to reduce their learning difficulties and to improve their learning achievement. To achieve this objective, teachers are to understand the needs of students, improve their instructional methods, and continuously observe the level of student achievement. They are also required to use alternative and modern assessment techniques [15].

The information obtained through the process of classroom assessment helps teachers to improve their instructional strategies. This ultimately enhances student learning and improves their academic achievement. Teachers are therefore required to hold excellent proficiency in collecting, analyzing, and interpreting information obtained through the assessment process. According to National Council on Measurement in Education, teachers should have the capability to apply the most appropriate assessment technique.

The objectives of the present study were to determine classroom assessment tools, formats, and feedback practices in the process of assessment. Therefore, the research questions of this study were: i) What are the classroom assessment tools and formats commonly used by teachers in FGEIs?; and ii) What are the assessment feedback practices used by the teachers in FGEIs?

2. RESEARCH METHOD

2.1. Research design

A descriptive survey research design was employed in this study. Hence, the frequencies/percentages of the respondents were described. Survey methods help collect data using research questionnaires and analyzing the data for verification of research hypotheses.

2.2. Study population and sampling

The population of the study consisted of teachers and students of secondary schools located at Federal Government Educational Institutions (FGEIs) Lahore region, Pakistan. A stratified random sampling technique was used to select the sample, which consisted of 150 teachers and 150 students. Table 1 shows a complete population and sample of the study.

Table 1. Population and sample of the study [26]

Location	Total teachers		Selected teachers		Total students		Selected students	
	Male	Female	Male	Female	Male	Female	Male	Female
FGEIs Lahore	108	112	75	75	349	316	75	75

2.3. Instrumentation

In this study, a self-developed questionnaire comprising 20 items was used for data collection from the participants. It was prepared in the light of the most recent literature and was refined as per recommendations of the experts. Every effort was made to ensure content validity and internal consistency of items of the questionnaire. The instrument ranged from strongly disagree (SD) to strongly agree (SA) on a 4-point Likert rating scale. There were two versions of the research questionnaire, one each for teachers and students. It contained different dimensions of classroom assessment like tools, formats, and feedback practices.

2.4. Pilot testing and reliability

A pilot study was conducted to ensure the reliability of the research questionnaire. For this purpose, the research instrument was administered to 24 teachers and 36 students. Overall internal reliability of the instrument was found to be 0.76. Reliability values for different dimensions of classroom assessment have been mentioned in Table 2.

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Table 2. Reliability values for the classroom assessment dimensions

Element of assessment	Number of items	Cronbach's alpha
Tools	05	0.75
Formats	05	0.73
Feedback practices	10	0.80
Overall	30	0.76

2.5. Data collection and data analysis

Formal approval was obtained from the Division of Education, University of Education, Lahore, Pakistan to research the FGEIs Lahore region. Later on, the researchers visited the schools, along with approval letters, permission letters, and research questionnaires. Best guidance was provided to the participants to fill in the questionnaires. It helped the researchers for smooth and complete data collection.

After collecting the survey, it was saved into the computer using SPSS version 24.0. For descriptive analysis, frequencies and percentages were calculated, which provided answers to the research questions. An independent sample t-test was also deployed to find a meaningful difference in the opinions of male and female teachers on different dimensions of classroom assessment, using inferential stats.

3. RESULTS AND DISCUSSION

3.1. Descriptive analysis

3.1.1. Demographics of the respondents (teachers)

According to Table 3, teachers of age group 31-40 years formed the largest portion of the study with a frequency of 88, and teachers of age group 51-59 formed the smallest portion with a frequency of 12. Teachers of age groups 23-30 years and 41-50 years also presented a reasonable portion of the study with frequencies of 29 and 21 respectively. Similarly, teachers with experience of 11-20 years constituted the largest population of the study with a frequency of 102, and teachers with an experience of more than 21 years formed the smallest population of the study with a frequency of 11.

Table 3. Demographics of the respondents (teachers)

Tuote of Demographics	or the respondents	(teachiers)
Demographic	Variables	Frequency
Age	23-30 years	29
	31-40 years	88
	41-50 years	21
	51-59 years	12
Experience	1-10 years	37
	11-20 years	102
	21 years and above	11
Academic qualification	M.A./M.Sc.	104
	M.Phil/MS	41
	PhD	05
Professional qualification	B.Ed.	105
	B.Ed. (Honors)	17
	M.Ed.	06
	M.A. (Education)	22

Teachers with experience of 1-10 years presented a reasonable portion of the population with a frequency of 37. Teachers with M.A/M.Sc. academic qualifications were the largest group of the population of the study with a frequency of 104 and teachers with Ph.D. academic qualifications were the smallest group of the study with a frequency of 05. There were 41 teachers with M.Phil/M.S. degrees, included in this study. Moreover, teachers having professional qualifications of B.Ed. constituted the major part of the population of the study with a frequency of 105 and teachers having professional qualification of M.Ed. constituted the minor part of the population of the study with a frequency of 06. Teachers with B.Ed. (Hons) and M.A. (Education) as professional qualification were also part of the study with frequencies of 17 and 22 respectively.

3.1.2. What are the classroom assessment tools and formats commonly used by teachers in FGEIs?

Table 4 presents views of teachers and students on tools in classroom assessment. It can be analyzed that majority of teachers and students responded that class test, class exercise, homework, and trial work during lessons were the most commonly used assessment tools with frequencies of 135, 127, 114, and 130 for teachers, 135, 123, 113, and 121 for students, respectively. Moreover, group work was a relatively less used

assessment tool with a frequency of only 58 for teachers and 55 for students. Hence, it is concluded that the most common tools in classroom assessment included class tests, class exercises, homework, and trial work during lessons, whereas group work was the least common assessment tool.

Table 4. Teachers and students' views on tools in classroom assessment

			Response	s of teachers		Responses of students (Frequencies with percentages)					
	A	(Fr	equencies v	with percentages))						
	Assessment tools	Used very	Used	Used	Not	Used very	Used	Used	Not		
		often	often	occasionally	used	often	often	occasionally	used		
1.	Class test	90(60)	45(30)	10(07)	05(03)	90(60)	45(30)	09(06)	06(04)		
2.	Class exercise	90(60)	37(25)	10(06)	13(09)	81(54)	42(28)	12(08)	15(10)		
3.	Homework	84(56)	30(20)	20(13)	16(11)	75(50)	38(25)	21(14)	16(11)		
4.	Group work	31(21)	27(18)	68(45)	24(16)	38(25)	17(11)	50(34)	45(30)		
5.	Trial work during lessons	79(53)	51(34)	08(05)	12(08)	62(41)	59(39)	09(06)	20(14)		

Table 5 presents views of teachers and students on formats in classroom assessment. It can be analyzed that majority of teachers and students responded that essay-type questions and multiple-type questions were the most commonly used assessment formats with frequencies of 137 and 138, for teachers, 133 and 139 for students, respectively. Moreover, true/false questions, matching items, and completion items were relatively less used assessment formats with a frequency of only 15, 17, and 14 for teachers, 17, 12, and 17 for students, respectively. Hence, it is concluded that the most common formats in classroom assessment included essay-type questions and multiple-type questions whereas true/false questions, matching items, and completion items were the least common assessment formats.

Table 5. Teachers and students' views on formats in classroom assessment

	Assessment formats	(Fr	1	s of teachers with percentages)		Responses of students (Frequencies with percentages)				
		Used very	Used	Used	Not	Used very	Used	Used	Not	
		often	often	occasionally	used	often	often	occasionally	used	
6.	Essay type questions	104(69)	33(22)	10(07)	03(02)	109(73)	24(16)	06(04)	10(07)	
7.	Multiple choice questions	123(82)	15(10)	08(05)	05(03)	121(81)	18(12)	06(04)	05(03)	
8.	True/false questions	09(06)	06(04)	48(32)	87(58)	09(06)	08(05)	56(37)	78(52)	
9.	Matching items	08(05)	09(06)	50(33)	84(56)	03(02)	09(06)	36(24)	102(68)	
10.	Completion items	06(04)	08(05)	44(29)	93(62)	05(03)	12(08)	33(22)	101(67)	

3.1.3. What are the assessment feedback practices used by the teachers in FGEIs?

Results in Table 6 show views of teachers and students regarding feedback practices in classroom assessment. It is clear that a large majority of teachers and students responded the teachers did not check the assessment test quickly and return it to the students, did not put the result of the assessment task into order, did not indicate to the students about their mistakes in assessment test, did not provide motivation to the students for better performance in an assessment task, did not help the students to revise assessment task, did not inform parents of the students about the result of the assessment task, and did not arrange extra coaching classes for academically weak students with frequencies of 135, 127, 114, 130, 135, 127, and 114 for teachers, 101, 108, 107, 126, 142, and 99 for students, respectively. Moreover, the majority of teachers and students responded that the teachers provided a result of the assessment task along with comments, guided the students about improving performance in the assessment task, and used the result of the assessment test for guidance and counseling of the students with frequencies of 92,92, and 84 for teachers, 90, 96 and 87 for students, respectively. It can be deduced that issues of feedback on classroom assessment included delayed marking and returning of assessment tasks, less or no motivation for better performance, and lack of contact with parents.

Table 6. Teachers and students' views on feedback practices in classroom assessment

Tuble 6. Teachers and see			of teachers			Responses of students				
Assessment feedback practices	(Fre	equencies w	ith percenta	ages)	(Fre	(Frequencies with percentages)				
Assessment recuback practices	Never	Some times	More often	Always	Never	Some times	More often	Always		
11. I check the assessment test of my students quickly and return it to them.	90(60)	45(30)	10(07)	05(03)	46(31)	55(37)	20(13)	29(19)		
12. I put the result of the assessment task into order.	90(60)	37(24)	10(07)	13(09)	45(30)	63(42)	21(14)	21(14)		
13. I indicate to my students their mistakes in the assessment test.	84(56)	30(20)	20(14)	16(10)	81(54)	36(24)	18(12)	15(10)		
14. I provide the result of the assessment task along with my comments.	31(21)	27(18)	68(45)	24(16)	36(24)	24(16)	66(44)	24(16)		
15. I motivate my students for better performance in the assessment task.	79(53)	51(34)	08(06)	12(07)	75(50)	48(32)	06(04)	21(14)		
16. I help the students to revise the assessment task.	90(60)	45(30)	10(07)	05(03)	84(56)	42(28)	12(08)	12(08)		
17. I inform parents of the students about the result of the assessment task.	90(60)	37(25)	10(07)	13(08)	118(79)	24(16)	05(03)	03(02)		
18. I arrange extra coaching classes for academically weak students.	84(56)	30(20)	20(14)	16(10)	33(21)	66(45)	22(15)	29(19)		
19. I guide the students about improving performance in the assessment task.	31(21)	27(18)	68(45)	24(16)	30(20)	24(16)	66(44)	30(20)		
20. I use the result of the assessment test for guidance and counseling of the students.	36(24)	30(20)	66(44)	18(12)	39(26)	24(16)	69(46)	18(12)		

3.2. Inferential analysis

An independent sample t-test was used to test the following research hypotheses: i) Do the teachers differ in their opinions on tools in classroom assessment in FGEIs, based on gender?; ii) Do the teachers differ in their opinions on formats in classroom assessment in FGEIs, based on gender?; and iii) Do the teachers differ in their opinions on feedback practices in classroom assessment in FGEIs, based on gender?

This can be analyzed from the Table 7 that male and female teachers differed in opinions on tools in classroom assessment in FGEIs as there existed a mean difference of 3.15 with t equals to 4.01 at sig. value of .002. Similarly, male and female teachers have different opinions on formats in classroom assessment in FGEIs as there existed a mean difference of 3.13 with t equals to 4.19 at sig. value of .004. Moreover, male and female teachers have a meaningful difference in feedback practices in classroom assessment in FGEIs as there existed a mean difference of 3.24 with t equals to 4.36 at sig. value of .001.

Table 7. Differences in opinions of teachers on tools, formats, and feedback practices in classroom assessment in FGEIs, based on gender

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Classroom assessment dimension	Gender	N	Mean	Std.D	Df	M.D	T	Sig
Tools	Male	75	20.04	3.91				
					149	3.15	4.01	.002
	Female	75	23.19	3.76				
Formats	Male	75	24.54	3.81				
					149	3.13	4.19	.004
	Female	75	27.67	3.58				
Feedback practices	Male	75	22.50	3.94				
•					149	3.24	4.36	.001
	Female	75	25.74	3.89				

It was explored in this study that class tests, class exercises, homework, and trial work during lessons were the most commonly used assessment tools whereas essay-type questions, and multiple-type questions were the most commonly used assessment formats. These findings are in line with those of [15], [27]–[31]. Moreover, it was found that delayed marking and returning of assessment tasks, less or no motivation for better performance, and lack of contact with parents were the major issues in feedback on classroom assessment at FGEIs. These results are in contradiction with those of [32]–[37]. It indicated that teachers in FGEIs did not take interest in classroom assessment and their performance was not found up to the desired level.

4. CONCLUSION

This research concluded that class tests, class exercises, and homework were major classroom assessment tools whereas essay and multiple type questions are the major classroom assessment formats, used by the teachers in FGEIs. Most of the teachers and students responded the teachers did not check the assessment test quickly and return it to the students, did not put the result of the assessment task into order, did not indicate to the students about their mistakes in assessment test, did not provide motivation to the students for better performance in an assessment task, did not help the students to revise assessment task, did not inform parents of the students about the result of the assessment task, and did not arrange extra coaching classes for academically weak students. Similarly, a large number of teachers and students responded that the teachers provided the result of the assessment task along with comments, guided the students about improving performance in the assessment task, and used the result of the assessment test for guidance and counseling of the students.

The study recommended that school principals should focus on the performance of the teachers in classroom assessment. The workload of teachers should be reduced so that they may have sufficient time to design and evaluate assessment tasks. Professional training on assessment on regular basis may also be arranged for the faculty. School administration should motivate the parents to participate of their children in assessment tests. A comprehensive plan of classroom assessment may be proposed by school principals along with a defined syllabus and be timely communicated to all stakeholders. An effective mechanism of monitoring to assess classroom assessment feedback practices may also be established.

REFERENCES

- [1] C. R. Reynolds, R. B. Livingston, and V. Willson, Measurement and assessment in education, 2nd ed. Ohio: Pearson, 2016.
- P. Marriott and A. Lau, "The use of on-line summative assessment in an undergraduate financial accounting course," *Journal of Accounting Education*, vol. 26, no. 2, pp. 73–90, Jan. 2008, doi: 10.1016/j.jaccedu.2008.02.001.
- [3] H. S. Dhindsa, K. Omar, and B. Waldrip, "Upper Secondary Bruneian Science Students' Perceptions of Assessment," International Journal of Science Education, vol. 29, no. 10, pp. 1261–1280, Aug. 2007, doi: 10.1080/09500690600991149.
- [4] P. Black and D. Wiliam, "Assessment and Classroom Learning," Assessment in Education: Principles, Policy & Practice, vol. 5, no. 1, pp. 7–74, Mar. 1998, doi: 10.1080/0969595980050102.
- [5] D. Bryant and M. Driscoll, Exploring classroom assessment in mathematics: a guide for professional development. Reston: National Council of Teachers of Mathematics, 1998.
- [6] C. P. Sarmiento, M. P. E. Morales, L. E. Elipane, and B. C. Palomar, "Assessment practices in Philippine higher STEAM education," *Journal of University Teaching & Learning Practice*, vol. 17, no. 5, pp. 286–301, Dec. 2020, doi: 10.53761/1.17.5.18.
- [7] S. S. A. Rahim, G. Venville, and A. Chapman, "Classroom assessment: Juxtaposing teachers' beliefs with classroom practices," Australian Association For Research In Education: International Education Research Conference, 2009.
- [8] P. Wicking, "The Assessment Beliefs and Practices of English Teachers in Japanese Universities," JLTA Journal, vol. 20, pp. 76–89, 2017, doi: 10.20622/jltajournal.20.0_76.
- [9] A. Narathakoon, S. Sapsirin, and P. Subphadoongchone, "Beliefs and Classroom Assessment Practices of English Teachers in Primary Schools in Thailand," *International Journal of Instruction*, vol. 13, no. 3, pp. 137–156, Jul. 2020, doi: 10.29333/iji.2020.13310a.
- [10] J. H. McMillan, S. Myran, and D. Workman, "Elementary Teachers' Classroom Assessment and Grading Practices," *The Journal of Educational Research*, vol. 95, no. 4, pp. 203–213, Mar. 2002, doi: 10.1080/00220670209596593.
- [11] J. Nitko, A and M. Brookhart, S, Educational assessment of students, 5th ed. Prentice-Hall Order Processing Center, 2005.
- [12] H. Dixon and M. Haigh, "Changing mathematics teachers' conceptions of assessment and feedback," *Teacher Development*, vol. 13, no. 2, pp. 173–186, May 2009, doi: 10.1080/13664530903044002.
- [13] D. Allen and B. J. Fraser, "Parent and student perceptions of classroom learning environment and its association with student outcomes," *Learning Environments Research*, vol. 10, no. 1, pp. 67–82, Jan. 2007, doi: 10.1007/s10984-007-9018-z.
- [14] M. Elkams, "An analysis of perceptions of classroom teachers regarding their use of alternative assessment and evaluation techniques in the Turkish course," *Educational Research and Reviews*, vol. 7, no. 29, pp. 663–669, 2012, doi: 10.5897/ERR11.294.
- [15] R. Stiggins, "From Formative Assessment to Assessment for Learning: A Path to Success in Standards-Based Schools," *Phi Delta Kappan*, vol. 87, no. 4, pp. 324–328, Dec. 2005, doi: 10.1177/003172170508700414.
- [16] R. J. Marzano, Classroom assessment and grading that work. ASCD, 2006.
- [17] R. L. Linn and N. E. Gronlund, Measurement and Assessment in Teaching. New Jersey: Prentice Hall, 2000.
- [18] L. Cheng, T. Rogers, and H. Hu, "ESL/EFL instructors' classroom assessment practices: purposes, methods, and procedures," Language Testing, vol. 21, no. 3, pp. 360–389, Jul. 2004, doi: 10.1191/0265532204lt2880a.
- [19] L. G. Daniel and D. A. King, "Knowledge and Use of Testing and Measurement Literacy of Elementary and Secondary Teachers," The Journal of Educational Research, vol. 91, no. 6, pp. 331–344, Jul. 1998, doi: 10.1080/00220679809597563.
- [20] T. Kubiszyn and G. D. Borich, Educational testing & measurement: Classroom applications and practice, 10th ed. New Jersey: Wiley 2013
- [21] T. M. Haladyna, S. M. Downing, and M. C. Rodriguez, "A Review of Multiple-Choice Item-Writing Guidelines for Classroom Assessment," *Applied Measurement in Education*, vol. 15, no. 3, pp. 309–333, Jul. 2002, doi: 10.1207/S15324818AME1503_5.
- [22] J. H. McMillan, "Secondary Teachers' Classroom Assessment and Grading Practices," *Educational Measurement: Issues and Practice*, vol. 20, no. 1, pp. 20–32, Oct. 2005, doi: 10.1111/j.1745-3992.2001.tb00055.x.
- [23] S. Elango, R. C. Jutti, and L. K. Lee, "Portfolio as a learning tool: Students' perspective," *Annals, Academy of Medicine, Singapore*, vol. 34, no. 8, p. 511, 2006.
- [24] E. B. Fiske, "Education For All. Status and Trends 2000. Assessing learning achievement," 2000.

[25] Z. Zhang and J. A. Burry-Stock, "Classroom Assessment Practices and Teachers' Self-Perceived Assessment Skills," Applied Measurement in Education, vol. 16, no. 4, pp. 323–342, Oct. 2003, doi: 10.1207/S15324818AME1604_4.

- [26] Federal Government Educational Institutions. High Schools. Federal Ministry of Defence, [Online]. Available: https://www.fgei-cg.gov.pk (accessed Jan. 11, 2021)
- [27] W. D. Schafer and R. W. Lissitz, "Measurement Training for School Personnel Recommendations and Reality," *Journal of Teacher Education*, vol. 38, no. 3, pp. 57–63, May 1987, doi: 10.1177/002248718703800312.
- [28] C. Campbell and J. A. Evans, "Investigation of preservice teachers' classroom assessment practices during student teaching," The Journal of Educational Research, vol. 93, no. 6, pp. 350–355, Jul. 2000, doi: 10.1080/00220670009598729.
- [29] S. L. Senk, C. E. Beckmann, and D. R. Thompson, "Assessment and Grading in High School Mathematics Classrooms," *Journal for Research in Mathematics Education*, vol. 28, no. 2, pp. 187–215, Mar. 2020, doi: 10.5951/jresematheduc.28.2.0187.
- [30] M. Thomas, "Teachers' Beliefs about Classroom Assessment and their selection of Classroom Assessment Strategies," *Journal of Research and Reflections in Education*, vol. 6, no. 2, pp. 104–115, 2012.
- [31] E. K. Kipkorir, "Classroom assessment practices by mathematics teachers in secondary schools of Kenya," Master Thesis, The University of Nairobi, 2015.
- [32] A. Pauline et al., "Current assessment practices in schools in Malta and Gozo: a research report," Journal of Maltese Education Research, vol. 1, no. 2, 2003.
- [33] G. S. Kotze, "Issues related to adapting assessment practices," South African Journal of Education, vol. 22, no. 1, pp. 76–80, 2002
- [34] S. Shazadiy and A. Rafa, "A Study of Classroom Assessment Practices: Challenges and Issues in the Context of Public Secondary Schools of Karachi," American Journal of Educational Research and Reviews, vol. 3, no. 1, pp. 1–10, 2018.
- [35] S. Hussain, N. Shaheen, N. Ahmad, and S. U. Islam, "Teachers' classroom assessment practices: Challenges and opportunities to classroom teachers in Pakistan," *The Dialogue*, vol. 14, no. 1, pp. 87–97, 2019.
- [36] C. H. Chen, M. D. Crockett, T. Namikawa, J. Zilimu, and S. H. Lee, "Eighth Grade Mathematics Teachers' Formative Assessment Practices in Ses-Different Classrooms: a Taiwan Study," *International Journal of Science and Mathematics Education*, vol. 10, no. 3, pp. 553–579, Jun. 2012, doi: 10.1007/s10763-011-9299-7.
- [37] I. Buabeng, A. B. Atingane, and I. Amoako, "Practices, Challenges and Perceived Influence of Classroom Assessment on Mathematics Instruction," *International Journal of Assessment Tools in Education*, pp. 476–486, Oct. 2019, doi: 10.21449/ijate.616617.

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