

An Exploratory Study on Assessment Literacy of Teacher Educators in Pakistan

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Received: July 3, 2017

Accepted: September 29, 2017

ABSTRACT

Assessment literacy leads to effective assessment and instructional practices. This study investigated the assessment literacy of teacher educators in Pakistan working in teacher education institutes in Khyber Pakhtunkhwa and Punjab. The objectives of the study were; to investigate assessment literacy of teacher educators and to compare the assessment literacy of teacher educators in the province of Khyber Pakhtunkhwa and Punjab. The study was quantitative and survey was conducted to investigate the research problem. The population of the study were include all four hundred and eleven teacher educators of both provinces from which a sample of two hundred and six teacher educators constituted the sample group. The data were collected though a test designed to measure the assessment literacy of the respondents. All the collected data were analyzed through descriptive statistics and comparison was made through t independent sample test. The results indicated that the teacher educators competent in designing learning in selecting appropriate assessment tools and in grading practices. However, there was need of improvement in the designing of assessment tools, feedback practices and using assessment results for educational decisions. Assessment training workshops and separate assessment standards were recommended for the respondents and assessment studies in Pakistan.

KEYWORDS: Assessment literacy, Assessment tools, Feedback, Grading, Teacher Educators

INTRODUCTION

Assessment literacy is the understanding of assessment concepts, knowledge and skills and its usage in educational decisions. It is the ability of teachers which enable them to comprehend assessment purposes, implementation and uses in classroom learning of students. A teacher is considered assessment literacy if he/she can formulate assessment goals, selected suitable assessment tools for assessing students' learning, can develop assessment tools, provide effective feedback to students on their performances, grad students on different grading systems and use assessment results to make the teaching learning process more effective. Teachers are not supposed to be assessment experts in the psychometric properties of assessment tools and they must need to be awareness of the pros and cons of assessment tools, it's appropriate uses for assessing students' learning and to communicate assessment results to students' parent in an understandable manner [1].

Assessment literacy is different for a college graduate, a school teacher and for an assessment expert. They need different knowledge and skills of assessment which are required in their routine jurisdictions. Newfield [2] pinpointed important standards for students' assessment literacy which includes;

- i. The basic understanding of assessment and measurement
- ii. Understanding differences in different data sets
- iii. Basic understanding of statistics in data analysis
- iv. Awareness of ethical consideration in assessment practices

These standards are important for students as it enable them to perform in a better way in classroom and standardize tests. Furthermore, it enhances their metacognitive skills which leads them towards self-independent learning. New fields discussed the standards for the assessment literacy of school teacher where he/she was considered to master the standards which enable them to follow their instructional and assessment responsibilities in more effective manner. These standards include;

- i. Usage of various assessment tools that has less or minimal assessment bias
- ii. Design assessment tools for the assessment of multiple learning styles
- iii. Can estimate the psychometric properties of classroom tests
- iv. Have the understanding of norm-reference and criterion reference testing
- v. Know how to refrain the students from unethical practices in assessment

- vi. Can communicate students' assessment results to their parents in a suitable manner

These standards are extra that a teacher need to know and understand from the standards discussed for students. Furthermore, Newfield identified some more standards besides the standards already discussed for a student and school teacher that an assessment expert need to know, understand and have the skills to apply. These standards include;

- i. The knowledge and skills required for the use of assessment tools for specific learning targets
- ii. To know about the strengths and weakness and proper use of different assessment approaches, tools and mechanisms
- iii. An assessment attitude which leads to ensure tests security and confidentiality of students' performances and tests protocols
- iv. The ability to estimated test validity, reliability and can identify the low performing items in the test that negatively affect the overall results

Keeping in view this discussion the assessment literacy of teacher educators and specific standards for them is an important dimension of assessment literacy. Currently, a study conducted on teacher educators approach to assessment revealed that teacher educators need more knowledge and skills of not only assessment but he/she must be aware of social context [3]. Furthermore, the assessment literacy of teacher educators along with the above mentioned standards may also need to be included the appropriate teaching methodologies and classroom activities for the teaching of assessment and evaluation to prospective teachers. Furthermore, Beziat, and Coleman [4] revealed that assessment literacy is important for prospective teachers. The results of the study indicated that besides the study of assessment and evaluation in teacher education program majority of prospective teachers have low assessment literacy while those attended professional training have higher assessment literacy. The authors recommended that pre-service trainings along with teacher educators' training may be further improved to enhance the assessment literacy of prospective teachers.

Similarly, the studies of Stiggins' [5], Popham [6] reflected that teachers' assessment literacy significantly affects the assessment beliefs of teachers which affect the learning process negatively and affect students' academic achievement. Popham [7] criticize his initial teaching life for having low knowledge and skills of assessment which was a hurdle in the effectiveness of his teaching for he confesses. Another study conducted by Khadijeh, and Amir [8] discussing the importance of assessment literacy revealed that the quality of classroom teaching is closely related to the quality of applied assessment practices in classroom. The assessment practices of teachers enable them to analyzed, criticize and judge students' performance and made the teaching learning process more effective.

Research problem

Laconically, the importance of assessment literacy has been well established as it is indispensable for teacher educators as they educate and training the prospective teachers who are sending to school and college are expected to be literate in assessment along with other professional skills and competencies. Therefore, this study intended to investigate the assessment literacy of teacher educators.

Research objectives

The research objectives were;

- 1. To investigate assessment literacy of teacher educators
- 2. To compare the assessment literacy of teacher educators in the province of Khyber Pakhtunkhwa and Punjab

LITERATURE REVIEW

In the era of accountability assessment, assessment has been recognized the most important and powerful tool in educational sector which is used for the process of accountability of institutions, students and teachers' performance. From last two decades assessment has been significantly emphasis in education and therefore, the understanding of assessment has been prioritized. Teacher education programs offer separate courses on assessment and evaluation. Similarly, in-service trainings on classroom assessment have been offered for in-service teachers to make them competent in classroom assessment. Coombs [3] investigated teacher educators approach to classroom assessment in Canadian teacher education. The study investigated teacher educators on four dimensions of assessment that is; purposes of assessment (assessment of learning, assessment for learning and assessment as learning), process of assessment (design, scoring and communication), fairness in assessment (equitable, standard and personalized) and measurement theory (reliability, validity and balance). The sample of the study was comprised of teacher educators of nine provinces in Canada. Furthermore, the sample respondents were teacher of

assessment. The results revealed the majority of teacher educators do follow assessment for and of learning purposes, traditional assessment designs and mechanism of assessment were followed, objectivity in students' assessment were found consistent among the respondents and the reliability and validity was estimated mostly by teacher educators.

Classroom assessment practices and explicitly planned assessment experience are the foundation of assessment knowledge and skills of students. As human beings we learn through observation and practical work. Therefore, investigating students' assessment experiences has been investigated by Santos, Maximiano, Matos, Mello, Schneider, and Ferreira Neto [9] in physical education training. The respondents who were the students of eighth semester revealed that their assessment experiences at the training are not in accordance with the applied practices of assessment in the field. The study results also indicated the need of proper intervention.

Experts in the field of students' assessment believe that there is dire need of prospective teachers' knowledge and skills in assessment because of the current accountability demands in educational institutions. Teachers do conduct assessment of students' learning; they design assessment tools and interpret students' performances. Therefore, teachers' literacy in assessment is more important than ever it was. Because a wrong tool or wrong interpretation can lead to wrong conclusions. A study conducted by McGee, Colby [10], measuring the impact of assessment course on the assessment literacy of prospective teachers revealed that prospective teachers are exposed to a course on assessment and evaluation, which aim to enhance their assessment knowledge and skills and prepare them for their future role of assessing students' learning. The results indicated that they need more knowledge and skills in classroom assessment as the course didn't properly prepare them. Furthermore, it was identified that there is gap between the desired assessment experiences and the required practices of classroom assessment [7].

Similar studies, not only emphasis the importance of assessment literacy but also contributed in the standards and levels of assessment literacy among general teachers, students and administrators [11]. Furthermore, these studies focused on the role of teacher education and teacher educators in enhancing assessment literacy of teachers and students [12, 13]. Initially assessment was the part of educational psychology where the basic knowledge and skills were incorporated only, but with these results and conclusions in teacher education separate course on assessment and evaluation have been designed and implement and the purpose was to improve the assessment literacy of prospective teachers so that they could do their duty more efficiently and effectively.

METHODOLOGY

Research design that was adopted for this study was quantitative and survey was conducted to collect the data from the respondents of the study. Quantitative research design was adopted to investigate the problems objectively. Further, most of the studies conducted on assessment literacy were also quantitative in nature, therefore following the footsteps of the previous researchers this study was designed on quantitative research design.

The population of the study was comprised of teacher educators in Pakistan. Teacher educators are the teachers who are educating the prospective teachers in teacher education colleges and institutions at different part of the country. In this study, teacher educators of Punjab and Khyber Pakhtunkhwa working under the provincial government were the part of the population. Through proportionate random sampling techniques two hundred and six teacher educators were selected from a total of four hundred and eleven teacher educators of both provinces.

An assessment literacy test was used for collecting data from the respondents of the study. The test was designed keeping in view the standards of assessment literacy designed by different international federations and councils of assessment and measurement. The test was first pilot tested to measure the reliability co-efficient and its validity and problems if exist in the process of data collection. The reliability co-efficient of the test was estimated through Kuder Richardson method the reliability value was .71 which is acceptable level in social sciences. Furthermore, the content validity of the instrument was estimated with expert opinions. Changes recommended by the experts were incorporated and the instrument was administered to the respondents personally.

The respondents were informed about study objectives, benefits and risks in taking participation in the survey through an informed consent letter. Furthermore, the respondents' participation was voluntary and they were allowed if they want withdrawal or refuse to participant in the survey, all these protocols were followed for the purpose of fulfilling ethical considerations in the study. During the process of data collection four respondents refused to participate for whom four other respondents were selected from the population of the study. After data collection, the data were analyzed with the help of SPSS following descriptive statistics, to compare the performances of teacher educators of Punjab and Khyber Pakhtunkhwa t-test was applied to the data. The results were of presented in tabulated and descriptive manner.

RESULTS AND DISCUSSION

Assessment literacy of teacher educators was measured through assessment literacy test which was comprised of sixty three items following different formats. These formats includes; dichotomous, multiple choice questions, and completion items. Every correct answer was given one mark and the rest of the options were marked with zero.

The demographic results reflected that a substantial majority (69%) of teacher educators has no in-service training in assessment. They were serving as teacher educators from the last fifteen years (45%) and more than 20 years (39%). Furthermore, teacher educators from teacher education institutions of Punjab were one hundred and forty five (145) and sixty one (61) from Khyber Pakhtunkhwa. Similarly, the data were collected from one hundred and thirty (130) male and seventy six (76) female respondents.

There were seven standards reflecting assessment literacy, these standards were developed by National Council for Measurement Education and American Federation of Teachers. Further, these standards are used for teacher's professional entrance exams and for teaching licensing in most of the states of America. The same measures were adopted for measuring the assessment literacy of teacher educators in study.

1. Gender-wise differences of assessment literacy level

Gender	N	Mean	Std. D	Df	M.D	t	Sig
Male	130	35.12	5.35	203	-.572	-.815	.416
Female	76	35.71	4.96				

As discussed above the gender-wise details of study respondents their mean differences were measured which aim to identify if there are any differences between the assessment literacy of male and female teacher educators. The mean scores of male and female respondents reflected a slight difference but the t value showed that this different is not significant and both genders have same level assessment literacy.

Both of the respondents have same background, same qualification level and approximately same teacher experiences which were the reasons for their similar performances on the assessment literacy test in the study. Laconically, gender has no impact on the assessment literacy of teacher educators but these are their qualifications, in-service, pre-service and classroom assessment practices that positively contribute into their assessment literacy.

2. Assessment literacy Standards and Teacher educators' literacy

S. No	Assessment Standard	Minimum	Maximum	Mean Scores	Standard Deviation
1	Assessment purposes	1.00	7.00	4.3117	.83966
2	Clear Learning Outcomes	3.00	12.00	8.5356	2.0754
3	Designing of assessment	2.00	13.00	4.8624	1.2299
4	Assessment of Learning outcomes	.00	4.00	2.4141	1.1688
5	Assessment Approaches MCQs, observations, and questioning	2.00	8.00	5.4917	1.3371
6	Communicating results of assessment	2.00	8.00	6.1585	1.2824
7	Grading, feedback and scores	2.00	8.00	4.4680	1.2938

Purpose of assessment includes the specification of assessment objectives, specifying the desired targets of assessment and assessment procedures appropriateness. Similarly, identifying the learning targets in accordance with the purpose of assessment all the respondents have average level understanding on these two standards. On the contrary, the results reflected low level performances of teacher educators in designing assessment protocols and appropriate assessment tools. Furthermore, most of teacher educators were not clear on the selection of appropriate assessment tools for assessing students' learning targets.

Multiple choice question, true/false, matching columns, observation and questioning were different approaches in assessing students' thinking process where most of the teachers were moderately aware about its uses assessment practices at classroom level. Antagonistically, teacher educators' feedback and grading awareness was not up to the level. To conclude, teacher educators have a moderate level assessment literacy which they are practicing in classroom assessment practices for measuring students' learning outcomes.

Teacher educators' assessment literacy is a major concern as it is important for the assessment literacy of prospective teachers. Coombs, [3] conducted a study on teachers' approaches to assessment which concluded that teachers mostly follow assessment of learning approach and their feedback practices are not effective for assessment experiences of prospective teachers which shows that the study of Coombs supports the results of current study.

Similarly, the study concentrates on the effective use of assessment, feedback practices and grading practices at classroom where teachers' understanding is important as discussed by Stiggins, [5] Beziat, and Coleman [4] that effective assessment enhance student's learning and make the teaching learning process more conducive.

Provincial-wise difference on assessment literacy of teacher educators

Provincial	N	Mean	Std. D	Df	M.D	t	Sig
Punjab	145	37.51	5.59	203	5.39	2.388	.006
Khyber Pakhtunkhwa	61	32.12	3.85				

Teacher educators belong to the province of Punjab in provincial teacher education colleges are supervised by Directorate of Staff Development (DSD) and in Khyber Pakhtunkhwa its elementary and secondary education and Provincial Institute of Teacher Education. There are mean differences of the teacher educators both provinces, the teacher educators of Punjab are more assessment literacy than of Khyber Pakhtunkhwa and these differences are significant as shown by the t and significant values.

These differences are because of the in-service trainings and continuous staff appraisal practices which are conducted by the Directorate of Staff Development for teacher educators of Punjab. Furthermore, there may also be some other reasons for high assessment literacy of Punjab teacher educators.

Studies shows that assessment literacy can be enhanced with frequently occurs assessment practices and experiences. Teacher who are more exposed to assessment practices, and are involved in assessment related activities are more assessment literate as compared to other group of teachers.

Keeping in view the results of this study, it was concluded that teacher educators of both provinces need more assessment oriented trainings and workshops. They need more concentration in the development and selection of assessment tools and procedures. Teacher educators taught assessment and evaluation to prospective teachers. They follow different teaching methodologies while teaching assessment knowledge and skills to prospective teacher which needs their in-depth understanding of the concepts of assessment and the pedagogical demands of assessment.

Recommendations

Based on the study results, it was recommended that;

1. Teacher educators may be provided continues field-based trainings in assessment of students' learning, feedback practices and students learning grading
2. There is need teacher educators orientation in emerging demands of assessment, particularly, the use of integrated assessment activities in teaching of assessment to prospective teachers
3. The provincial government with the consultation of universities education departments may arrange awareness campaigns among teacher educators and prospective teachers.
4. The course of assessment for prospective teacher also need re-organization and inculcation of new research oriented for the complete assessment literacy of teacher educators as well as of prospective teachers.
5. This study also recommends that an assessment wing which may work for the promotion of knowledge and skills of assessment in Pakistan.

For future researchers this study recommended that a pedagogical study may be conducted to investigate the appropriate and currently prevailing pedagogical practices for the teaching of assessment to prospective teachers.

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