Leveraging Assessment Information for Enhancing Professional Learning in Educational Contexts

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Abstract: This article endeavors to provide a conceptual exploration of the multifaceted utilization of assessment information to enrich the sphere of professional learning. Employing a methodical review of secondary sources such as scholarly journal articles, authoritative reports, and pertinent online resources, the study adopts a foundation of content and thematic analysis. The findings of this study underscore the cyclical nature of assessment, encapsulated within the plan-do-check-act paradigm, and emphasize the paramount significance of assessment information for the continuous development of educators. Moreover, a central revelation of this inquiry pertains to the indispensable role of systematically collected assessment information in bolstering the quality of education through informed and tailored professional learning initiatives within educational institutions.
Keywords: Assessment, Assessment Information, Professional Learning, Academic Achievements, PISA, NASA

A. Introduction
Concept of Assessment
Assessment is the quantitative and qualitative description of results obtained from tests and non-testing devices. It is a process of value judgment after comparing outcomes with predetermined objectives. According to Huba & Freed (2000), assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences; the process culminates when assessment results are used to improve subsequent learning. Likewise, Erwin (1991) states that assessment is the systematic basis for making inferences about the learning and development of students. It is the process of defining, selecting, designing, collecting, analyzing, interpreting, and using information to increase students' learning and development.

Assessment can be expressed in form of cycle which includes four phases plan - do - chech - act that a teacher always are assumed to follow in the classroom.

Figure 1. Assessment cycle
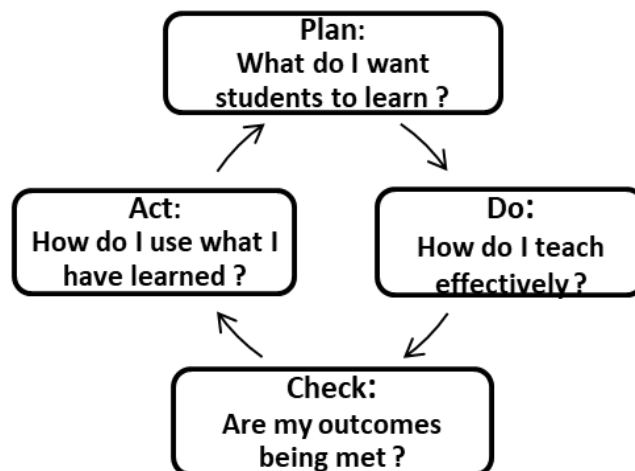
(Source: www.westminster.edu)

With regard to assessment, first of all a teacher needs to prepare plan of learning, then he needs to implement it in real setting. After implementing plan, he must be aware of whether outcomes have accomplished successfully, for this purpose he must check the output. As a result of checking, he must take remedial action for further improvements in students' learning.

Concept of Assessment Information

Assessment information refers to all facts, figures, information, or overall results of students as summarized by teacher. In short, it is a transparent reflection of student achievements so that anybody can have informed about the quality and quantity of student's learning. Chappuis et.al. (2011) mention their view as:

Who uses assessment information? The first answer that may come to mind is 'the teacher', followed perhaps by parents, students, administrators, and the public. They all need assessment information to make decisions, but they make different kinds of decisions. No one assessment can fill everyone's information needs; ... the different users at each level face different decisions and, therefore, need different kinds of information to do their jobs of (1) supporting and (2) certifying student learning (as cited by Torlakson, 2017, slide No. 7).

This view claims that teachers, students and school managers can use assessment information to improve learning of students. Data about students' achievement is only worthwhile if the information will be used to improve students' outcomes. ERO (2007) states that assessment of student achievement, examining and using information about what students know and can do - a fundamental of effective teaching and learning.

B. Results and Discussion
Practice of Assessment Information
Practice of New Zealand

In 2006, the Education Review Office (ERO) conducted an evaluation of how effectively schools collected and used assessment information in 314 schools in New Zealand. For the purpose of this evaluation, ERO evaluated six aspects of the collection and use of assessment information (ERO, 2007):

a. School-wide approach to assessment processes and information
b. The demonstration of students' achievement and progress
c. The interaction of assessment with teaching and learning
d. Students' use of achievement information for further learning
e. The use of school-wide information to improve student achievement
f. Reporting to the community

The findings of this study revealed that assessment activities of teachers of over 40% schools did not result in useful information; in most primary schools, teachers collected accurate and valid information on students' achievement in English and Math; in many secondary schools, teachers couldn't collect comprehensive information on students' achievement in Years 9-10 but better information in Years 11-13; and in about half the schools (52%), teachers used assessment information to inform their teaching and learning programs. Likewise, less than half the schools (44%) used worthwhile assessment information to give an accurate picture of achievement of students across the schools; in many schools (60%) teachers didn't use good quality formative assessment strategies; students weren't informed about their improvement; and half the schools were reporting achievement information effectively to parents and community.

The findings as shown above supported that in the context of schools in New Zealand the practice and use of assessment information seems not fully effective but in average level. Especially, in primary level assessment information has been well used. Half the schools reported achievement information effectively to parents and community which is assumed as a good practice of assessment information.

PISA Result

The Program for International Students Assessment (PISA) was launched by OECD (The Organization for Economic Cooperation and Development) which was the triennial (3- year) survey of 15-year-old students around the world from 2012 to 2015. The assessment was focused on the subjects science, reading, mathematics and collaborative problem. Approximately 540,000 students completed this assessment in 2015, representing about 29 million 15-year-olds in the schools of the 72 participating countries.

PISA 2015 results are presented in five headings, they are: (1) Excellence and equity in education, (2) Policies and practices for successful schools, (3) Students' well-being, (4) Students' financial literacy, and (5) Collaborative problem solving.

In this way, PISA, an international level assessment, has published out the results of the assessment in different five headings in detail which is also a well practice of assessment information in international level.

Practice of Nepal : NASA Result

In Nepali context, assessment information are used in different level from class level in school to national policy level in education. Assessment information consists of all those information concerning evaluation of student learning such as feedback to students' home assignment, marks ledger of exam, report card of students, NASA report of ERO etc. Education Review Office (ERO), Nepal has been carrying out the National Assessment of Student Achievement (NASA) in Grade 3, 5 and 8 from 2011.

ERO aims to carry out independent performance audit of schools and institutions to promote the accountability. It assesses the level of students' achievement in order to improve the quality of education. ERO executed NASA for different classes in different years i.e. in the years 2011, 2013, and 2017 the assessment for Grade 8 were conducted, and in the years 2012 and 2015 the assessment for Grade 3 and 5 were done. As an example of assessment information from NASA result has been presented below (ERO, 2016):

Table 1. Achievement by Gender

Grade	Grade 3				Grade 5						Grade 8					
Year	2012		2015		2012			2015			2011			2013		
Subjects	N	M	N	M	N	M	E	N	M	E	N	M	So	N	M	Sc
National average	63	60	52	45	60	53	54	46	48	47	49	43	49	48	35	41
Girls	64	60	54	45	61	53	53	48	50	47	49	41	49	48	33	39
Boys	63	60	51	45	59	54	55	46	48	47	48	45	50	48	38	43

(Note: E- English, M- Mathematics, N- Nepali, Sc-Science, So- Social Studies)

ERO is going to conduct NASA of Grade 5, 8 and 10 twice each during 2016-2022. NASA result-2017 of Grade 8 had already published out. This time ERO has made the criteria of national achievement average is 500 and standard deviation is 50. On the basis of this criteria, some of the results was (ERO, 2017a):
  a. Achievement by gender:
    - Boys- Nepali:500, Math:505, Science:503
    - Girls- Nepali:501, Math:495, Science:498
  b. Achievements in Math and Science seems poor and in Nepali seems better
  c. Achievement of institutional schools is better than community schools

d. Bullying by peer in school affected learning achievement

This assessment information show the quality of education in national standard and help MOEST to make central educational policies and schools to implement in local level on behalf of learners.

ERO: SPAT

ERO conducted external assessment and self-evaluation in schools by using School Performance Assessment Tool (SPAT) in 2074 B.S. SPAT applied three areas and total full marks has been calculated 264. Each indicator was assessed quality of school in four levels

(0 - poor, 1- average, 2 - fair, 3 - good). After assessing all indicators, final grading of the school is decided on the following basis (ERO, 2017b):

Less than 40 % marks	.... Poor school
40 and below 70 % marks	.... Average school
70 and below 90 % marks	.... Fair school
90 to 100 % marks	.... Good school

Based on assessment information so far discussed, it may be concluded with regard to understanding of assessment information in schools as follows:

a. *Input*
Input involves curriculum, content (textbook, reference materials), assessment tools (tests and non-testing devices), teachers, students, school principal.

b. *Process*
Process includes planning of assessment, developing and trying –out of assessment, administering of assessment, monitoring of assessment, measuring students' works.

c. *Output*
Output encompasses the result data, quality of achievement, learning level of student, satisfaction level of teachers and students.

Professional Learning

When teachers are engaged in to stimulate their thinking and professional knowledge, it is known as professional learning. It provides rich opportunities for teachers to develop and enhance their professional knowledge and practice. It aims to progress the quality of teaching   learning and school improvement. Professional learning models include learning that deepens knowledge and understanding, learning as collaborative, learning by engaging.

The Teachers Registration Board of South Australia defines professional learning as any planned or unplanned learning opportunities, processes or

experiences in which a teacher engages, both within their work time and their own time, that:

a. Continually builds their capacity as a professional
b. Furthers their professional growth
c. Assists them in supporting the learning of children and students, now or in the future.

Types of Professional Learning

Teachers may engage in different types of activities for professional learning. On the basis of different activities, The Teachers Registration Board of South Australia has given five types of professional learning which are listed as:

a. Face-to-face learning: lectures, seminars, conferences, workshops
b. Study: certificate/ diploma courses, degrees, post-graduate study
c. Research: self-conducted teaching and learning research, action research, professional reading
d. Online learning: e-learning, webinars, podcasts, multimedia
e. Communities of practice: partnerships, cluster projects, community projects, team/ site-based projects

The diagram as shown in figure 2 demonstrates all these activities of professional learning that are interrelated each other.

Figure 2. Types of professional learning

(Source: www.trb.sa.edu.au)

How to use Assessment Information for Professional Learning

"When our students fail, we, as teachers, too, have failed." ~ Marva Collins
Teachers should be actually professional. If he fails to be professional, the saying above mentioned may come true. The essence of the success of students lies behind how much information about learners, learning, assessment and educational system the teacher has collected and used for improvements. Each and every successes or failures of students are the source of teacher's professional learning. For example, if students had lower achievements in a subject of a teacher, he should start his solutions with research like case study or action research. Each assessment information guides a teacher to make him professionally responsible. School principle, teachers and students may use assessment information in the following process, ultimately it contributes to the professional learning of teachers:

a. Observing assessment information that may be quantitative or qualitative
b. Comparing them with predetermined objectives
c. Finding gaps
d. Planning for new intervention
e. Acting for learning improvement
f. Informing parents and community

E. Conclusion

Finally, assessment is not only for students but also for teachers, and therefore a teacher always should be conscious to all assessment information so that he can move each step of teaching - learning as per the needs of learners knowing where they are. When he comes to know there is weakness in students through assessment information, the teacher needs to learn how to make necessary improvements in students.

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