Profiling Classroom Teachers Assessment Practice

Saw Lan Ong,
Malaysia Science University
osl@usm.my

Abstract: This study aims at developing profile of school teachers assessment practice in Malaysia.   The "Teachers Assessment Practice Inventory" was used for this purpose.   The inventory was given to 602 teachers from the states of Kedah, Penang and Perak in the northern region of Malaysia.   In addition to assessment practices implemented by school teachers, information about teachers' background, training and knowledge on assessment were also obtained.   The results showed that for paper-and-pencil test, the form of assessment frequently used by school teachers is multiple-choice objective test followed by esei test. The most commonly used performance assessment by teachers is homework followed by practical work.   The profiles of assessment practice were different for primary teachers, secondary teachers and pre university teachers in developing marking scheme, giving feedbacks of evelution results and the use of written test and the use of other strategies. However, the profiles of teachers teaching different subject area were almost similar except from the aspect of written test.

Key words: Assessment practice, Teacher Assessment Practice Inventory, Objective test, developing marking scheme, giving feedback

Introduction

Classroom assessment has been gaining much attention recently (Zhang & Burry-Stock, 2003) as it is regarded as an important activity during teaching and learning (McMillan, 2000). An importan aim in assessment is to help students acquired learning of contents (Akhbar Ibrahim & Siti Zaliha Reduan, 2002), improve students' learning (Gronlund, 2006; Roeber, 2002) and grading (Airasian, 2001; Black & William, 1998). Effective assessment can help teachers in determining students' knowledge and also effectiveness of teacher's instruction.

Teachers are responsible for assessing students' learning. All teacher must have assessment skills to implement the assessment. Teachers used various techniques in assessment even though they may not been given appropriate training on certain aspects of classroom assessement (Marso & Pigge, 1988b). However, studies showed that most teachers lack effective assessment knowledge and skills when evaluating students academic achievement (Cizek, Fitgerald, & Rachor, 1996; McMillan, 2001). Currently, not much is known about Malaysian teachers assessment practices and assessment skills. This study is carried out in an effort to identify teachers assessment practice to enable appropriate actions be taken to enhance school teachers assessment skills.

Common Assessment Practices by Teachers

The main aim of classroom asessment is to obtain information about student's progress and achievement (Airasian, 2001; Desforges, 1989; Jacobs & Chase, 1992; McMillan, 2008). Teachers use various methods of assessment to determine students progress in learning (Stiggins & Bridgeford, 1984) and their academic achievement. (Ng, 1991). In the classroom, teachers usually use written test (Abu Bakar Nordin, 1986; Airasian, 2001; Stiggins & Bridgeford, 1984) and performance assessment or authentic assessment such as observation and questioning to obtain information about students' learning (Airasian, 2001; Stiggins & Bridgeford, 1984). According to Chang (1988), most school teachers prefer to use tests and examination to evaluate students' learning, especially for teachers who are teaching English language. Classroom assessment activities include constructing written test and performance assessment, grading, interpreting test score results, giving feedback on assessment results and use of test results to make decision. When using written test and performance assessment, teachers need to be aware of the strengths and weaknesses for each assessment technique so as to select an appropriate technique to assess students' learning (Stiggins, 1992).

Teachers Assessment Practice, Subject Areas and School Levels

Studies showed that teachers assessment practice depend on the subjects they are teaching (Bol, Stephenson, & O'Connell, 1998; Marso & Pigge, 1987, 1988a; McMorris & Boothroyd, 1993; Zhang & Burry-Stock, 2003) and the school level they are teaching (Bol, et al., 1998; Donegan, 2001; Marso & Pigge, 1987, 1988a; Mertler, 1998, October; Zhang & Burry-Stock, 2003). Results from Bol et al.'s study (1998) showed that mathematics teachers use less tradisional assessment methods compare with teachers of other subjects. English language teachers frequently used essay items to assess students' learning (Marso & Pigge, 1987, 1988a). However, science teachers like to use multiple-choice items (McMorris & Boothroyd, 1993) and teachers of business studies and social study more frequently use true/false items. Social studies teachers also tend to use items of knowledge level only (Marso & Pigge, 1988a).

Bol et al. (1998), Mertler (1998, October) and Zhang & Burry-Stock (2003) found that primary school teachers frequently use alternative or performance assessment compare with secondary school teachers. They seldom use traditional assessment techniques, but use more informal assessmnet such as observation and questioning (Mertler, 1998). The secondary school teachers, however, tend to use traditional assessment techniques (Mertler, 1998) like written tests (Zhang & Burry-Stock, 2003) to assess students' learning. The type of written test used by secondary school teachers is usually multiple-choice test (Mertler, 1998) or teachers self-constructed objective test (Zhang & Burry-Stock, 2003) and essay quetions (Marso & Pigge, 1987; 1988a).

Marso & Pigge's findings (1987, 1988a) were slightly different from Mertler (1998, October) and Zhang & Burry-Stock (2003). They found that secondary teachers used less multiple-choice, and able to develop items of higher cognitive level. Donegan (2001) conducted a study that involved only primary school teacher and compare assessment practice of lower elementary school teachers with upper elementary school teachers. Most lower elementary teachers were using the one-to-one assessment, observation, check list and rating scale to assess students' learning. However, upper elementary school teachers were using more self-constructed test, written test, exercises from textbook to assess students' learning.

Aims and Objectives

The main aim of this study is to develop profile of teachers practices in assessing students learning. Specifically, the objectives of this study are as follows:
(1)   To examine assessment practices of school teachers in assessing students' learning.
(2)   Compare assessment practices of primary, secondary and pre-university teachers.
(3)   Compare assessment practices of language teachers, science & mathematics teachers and other subjects teachers.

Methodology

Sampling

The sample of this study consists of teachers in the northern region of Malaysia. The instrument used, that is, "Teachers Assessment Practice Inventory" was sent to the school with the help of 30 part-time post-graduate students in the School of Educational Stuides, Universiti Sains Malaysia. The questionnaire was administered to 602 teachers in 30 secondary and primary schools around Penang, Kedah and Perak during October 2009. The respondents consist of 228 male teachers and 374 female teachers.

To enable comparison of assesment practices between teachers according to subjects taught and school level, the respondents were group according to three school level (Table 1) and three subject areas (Table 2). The sample distribution according to school types is not balance with 396 primary and secondary school teachers and only 18 pre-university teachers.

Teachers teaching English, Malay, Chinese and Tamil languages were grouped as language teachers. On the other hand, science and mathematics teachers consist of teachers of Science, Physics, Chemistry, Biologi, Mathematics and Additional Mathematics. The group of

"Others" referred to teachers that teach Geography, History, Account, Economy, Physical Education, Arts, and Intergrated Living Skills.   The distribution according to areas of subjects taught is as shown in Table 2.

Table 1

Background of Sample according to school level

	Frekuency	Percentage
Primary School	188	31.2%
Secondary School	396	65.8%
Pre-University	18	3%
Total	602	100%

Table 2

Background of Sample according to subjects taught

	Frekuenscy	Percentage
Language	192	31.9%
Science & Mathematics	214	35.5%
Others	196	32.6%
Total	602	100%

Instrument of this study

For this study, an inventory known as "Teachers Assessment Practice Inventory" (IAPG-*Inventori Amalan Pentaksiran Guru*) was constructed. Items about teacher's background information, and teachers' assessment practice were used to collect information needed. Altogether, 63 items were constructed. The items encompasing five aspects: (1)   Test construction; (2)   Assessment types; (3) Use of assessment results; (4) Grading and scoring; (5) Marking scheme; and (6) Giving feedbacks about students' assessment results.

Data Analysis

Data collected was analized with descriptive statistics and "one-way MANOVA" based on school level and subjects taught by teachers.

Results

The results show that most teachers learned about assessment from in-service courses, that is, 68.3% of the respondents stated that they acquired knowledge on assessment while attending in-service courses. While 41.5% of the respondent acquired the asssessment knowledge from their colleagues as shown in Table 3.

Table 3

Training & Knowledge of Assessment

	Frequency	Percentage
Training	209	34.7%
In-service Course	411	68.3%
Graduate Course	43	7.1%
Colleagues	250	41.5%
Self Study	145	24.1%
Other Sources	13	2.2%

Table 4

The last time the teacher attended assessment courses

	Frequency	Percentage
Less than 1 year ago	131	21.8%
1 to 5 years ago	251	41.7%
6 to 10 years ago	60	10.0%
More than 10 years ago	36	6.0%
Don't remember	53	8.8%
Never attended any assessment course	71	11.8%

Based on Table 4, it was found that almost half of them, 41.7% admitted to attending the last assessment course from 1 to 5 years ago. Surprisingly, there were teachers who reported

never attend any assessment course. However, the percentage was low, only 11.8% of the respondents.

Table 5 showed that the major consideration for most teachers (78.9%) in selecting assessment methods is its suitability with learning objectives. The influence of the administrator on the assessment methods is less as only 3% of the respondents consider this.

<table>
<tr><td colspan="3" align="center">Table 5</td><td></td><td colspan="3" align="center">Table 6</td></tr>
<tr><td colspan="3" align="center">Major Consideration When Selecting Assessment Method</td><td></td><td colspan="3" align="center">Influence of Public Examination on Assessment</td></tr>
<tr><td></td><td>Frequency</td><td>Percentage</td><td></td><td></td><td>Frequency</td><td>Percentage</td></tr>
<tr><td>Ease to score</td><td>55</td><td>9.1%</td><td></td><td>None</td><td>16</td><td>2.7%</td></tr>
<tr><td>Ease to prepare</td><td>54</td><td>9.0%</td><td></td><td>Seldom</td><td>45</td><td>7.5%</td></tr>
<tr><td>Suitable for the learning objective</td><td>475</td><td>78.9%</td><td></td><td>Sometimes</td><td>177</td><td>29.4</td></tr>
<tr><td>Accepted by the administrator</td><td>18</td><td>3.0%</td><td></td><td>Often</td><td>282</td><td>46.8%</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Very Often</td><td>81</td><td>13.5%</td></tr>
</table>

From Table 6, teachers' assessment practice is clearly influence by the public examination as 46.8% of them reported they were 'often' influence by the public examination and another 13.5% 'very often' influence by the public examination. Only a mere 2.7% of the respondents selected their assessment methods without the influence of the public examination.

Most teachers are confident in implemeting assessment with 65% of them felt that they are prepared to assess their students, 11.0% were said to be 'very prepared' and 18.1% 'quite prepared' as shown in Table 7.

Table 7

Teachers Prepareness to assess Students

	Frequency	Percentage
Not prepared	4	0.7%
A little prepared	32	5.3%
Quite prepared	109	18.1%
Prepared	391	65%
Very Prepared	66	11.0%

The results showed that the multiple-choice objective questions seem to be the most common choice among the school teachers with 52.7% of them using it 'frequently', and another 22.9% used it 'very frequently'. Thus it has the highest mean (3.85) among the different types of written test. Matching question is the least used by school teachers with the lowest mean (2.83) as shown in Table 8.

Table 8

Use of Written Test

Assessment Methods	Mean	Scale									
		None		Seldom		Sometimes		Often		Very Often	
		Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Multiple-choice Objective	3.85	23	3.8%	35	5.8%	89	14.8%	317	52.7%	138	22.9%
Essay	3.49	57	9.5%	50	8.3%	134	22.3%	265	44.0%	96	15.9%
Fill in the blank	3.35	60	10.0%	59	9.8%	177	29.4%	255	37.4%	81	13.5%
Short response Question	3.56	22	3.70%	54	9.0%	176	29.%	266	44.2%	84	14.0%
Truel/False question	2.93	87	14.5%	114	18.9%	191	31.7%	177	29.4%	33	5.5%
Matching Question	2.83	102	16.9%	126	20.9%	183	30.4%	152	25.2%	39	6.5%

Based on Table 9, it was found that the most popular performance assessment used by school teachers is homework with 50.5% of them reported 'often" and 23.4% 'very often' use of homework to assess students. It has the highest mean (3.86) among the different form of performance assessment. However, the school teachers were not favouring use of portfolio (mean 2.69) to assess students.

Table 9

Use of Performance Assessment

Assessment Methods	Mean	Scale									
		None		Seldom		Sometimes		Often		Very Often	
		Fre	%	Fre	%	Fre	%	Fre	%	Fre	%
Project	2.76	108	17.9%	140	23.3%	182	30.2%	131	21.8%	41	6.8%
Practical	2.91	109	18.1%	107	17.8%	168	27.9%	167	27.7%	51	8.5%
Portfolio	2.69	120	19.9%	127	21.1%	211	35%	109	18.1%	35	5.8%
Homework	3.86	22	3.7%	27	4.5%	108	17.9%	304	50.5%	141	23.4%
Course Work	3.01	96	15.9%	79	13.1%	196	32.6%	183	30.4%	48	8.0%

Analysis according to school level taught by teachers show significant difference from the aspect on marking scheme, with F=15.85, p<0.05, feedback of evaluation F=7.91, P<0.05, written test F=19.72, p<0.05, and other strategy F=3.20, p<0.05, as shown in Table 10.

Table 10

Assessment Practice of School Teachers According to Schoole Levels Taught by Teachers

	Primary School	Secondary School	Pre University	F values	Sig.
(1) Test Construction	63.08	62.44	63.72	0.80	0.448
(I) Test Procedure	19.19	19.30	20.28	1.89	0.152
(II) Constructing Test Resources	21.56	21.02	21.61	1.71	0.182
(III) High Cognitive Levels	22.33	22.10	21.83	0.59	0.557
(2) Asssessment Types	54.65	52.39	49.78	5.76	0.003
(I) Written Test	21.42	19.42	17.83	19.72	0.000
(II) Performance Assessment	17.46	17.15	17.39	0.70	0.499
(III) Other strategies	18.13	17.70	16.56	3.20	0.042
(3) Use of Assessment Results	38.77	38.43	38.28	0.43	0.653
(I) Formative Assessment	27.26	26.94	26.72	0.75	0.473
(II) Summative Assessment	11.55	11.44	11.56	0.28	0.754
(4) Grading & Scoring	36.93	36.40	36.72	0.66	0.517
(5) Marking Scheme	17.90	19.36	16.72	15.85	0.000
(6) Feedback of assessment Results	13.92	13.29	12.28	7.91	0.000

There was significant difference in the use of marking scheme among teachers of different school levels. This suggests that teachers develop and use marking scheme according to students schooling levels. Based on Table 11, pre university teachers (mean=3.78) usually construct marking scheme for essay questions compare with teachers for other levels. Secondary school teachers found to use more scoring rubric to evaluate students' answers (mean=3.52). and the scoring rubrics were constructed by referring to those used in public examinations (mean=3.70), textbooks or reference books (mean=3.77). Primary school teachers, however, develop scoring rubric based on information given by peers (mean=3.41).

In the case of providing feedback of evaluation, primary school teachers (mean=13.92) are giving more feedback compared with secondary and pre-university teachers as shown in Table 10.   Detailed examination of each item in Table 11 found that primary school teachers (mean=3.22) were giving feedback more frequently to parents compare with teachers from other levels. Pre-university teachers is the group that give the least feedback of evaluation results to parents(mean=2.06).   Nonetheless, they were giving a lot feedback directly to their students (mean=4.00). Primary school teachers were also giving a lot of feeback on assessment results (mean=3.04) to school administrators compared with pre-university (mean=2.67) teachers.

Table 11

Mean for each item for the Aspect of Feedback of Evaluation Results

Item	Primary School	Secondary School	Pre University
Feedback of Evaluation Results to Students	3.94	3.95	4.00
Feedback of Evaluation Results to Parents	3.22	2.86	2.06
Feedback of Evaluation Results to Other Teachers	3.71	3.60	3.56
Feedback of Evaluation Results to School Administrators	3.04	2.87	2.67

Table 12 showed the mean value of each item for the written test aspect. When examine each items, it was found that pre-university teachers (mean=4.00) used essay questions more frequently to assess students compare with other teachers. The primary school teachers, however, used the least essay questions (mean=3.35) to assess students. Instead, they frequently used fill-in-the-blank (mean=3.72), true/false questions (mean=3.36) and matching questions (mean=3.41) to assess students compare with other teachers which were however not common for the pre-university teachers.

Table 12

Mean of Each Item for the Aspect of Written Test based on School Levels

Item	Primary School	Secondary School	Pre-University
Multiple-choice Objective	3.92	3.83	3.61
Essay	3.35	3.53	4.00
Fill in the blank	3.72	3.20	2.50
Short Constructed Response	3.63	3.52	3.78
True/False Questions	3.36	2.76	2.11
Matching Questions	3.41	2.60	1.83

Primary school teachers tend to use other strategies (mean=18.13) to evaluate students, while pre-university teachers (mean=16.56) seldom use 'other strategies' to evaluate students (table 10). Referring to Table 13, the primary teachers were found to (mean=4.15) use more observation technique compared with other teachers. Pre-university teachers (mean=3.72) rarely used observation technique to assess students. Primary school teachers also used more oral questioning technique (mean=4.26) and interview (mean=3.33) to evaluate students compare with other teachers.

Table 13

Mean of each Item on the Aspect of Usage of other strategy to assess Students

Item	Primary School	Secondary School	Pre-University
Oral Questioning	4.26	4.13	4.00
Observation	4.15	3.92	3.72
Other project	3.31	3.33	3.22
Self evaluation	3.04	3.13	2.67
Interview	3.33	3.17	2.94

The results show that there is no difference in teachers' assessment practice acoording to their teaching areas. As shown in Table 14, teachers of different subject areas differ significantly in the written test scale with F=3.58. $p < 0.05$. This means teachers of different subjects areas do not have different assessment practices, except for written tests. School teachers that teach language used more written tests to assess students (mean=20.52) while science and matemathics teachers (mean=19.38) seem to use less of written tests according to the analysis.

Table 14

School Teachers Assessment Practices According to subject areas

	Language	Science & Mathematics	Others	Nilai F	Sig.
(1). Constructing Tests	62.87	62.74	62.39	0.26	0.771
(I). Test Procedurre	19.31	19.41	19.12	0.55	0.580
(II).Resources for Constructing Test	21.22	21.29	21.11	0.16	0.856
(III).High Cognitive level	22.34	22.04	22.12	0.63	0.535
(2).Assessment Types	53.32	52.00	53.69	2.16	0.177
(I). Written Test	20.52	19.38	20.14	4.38	0.013
(II). Performance Assessment	17.57	16.93	17.29	2.23	0.108
(III).Other Strategies	17.88	17.59	17.95	0.87	0.421
(3) Use of Assessment Results	39.02	38.48	38.03	2.62	0.074
(I) Formative Assessment	27.39	26.98	26.72	2.19	0.113
(II) Summative Assessment	11.63	11.50	11.30	1.76	0.173
(4) Grading & Scoring	37.15	35.91	36.72	3.00	0.051
(5) Marking Scheme	19.04	18.85	18.59	0.83	0.437
(6) Feedback on Assessment Results	13.59	13.45	13.32	0.72	0.489

From Table 15, Science and Mathemathics teachers found to be using less fill-in-the-blanks questions (mean=3.11), true/false questions (mean=2.75) and matching questions (mean=2.64) to assess students compared with teachers of other subject areas. Language teachers used a lot of essay questions (mean=3.75) to assess their students compare with other teachers.

Table 15

Mean of each Item on Written Test Aspect according to Teaching areas

Item	Language	Science & Mathematics	Others
Multiple-choice Objektive	3.90	3.90	3.75
Essay	3.75	3.41	3.32
Fill in the blanks	3.41	3.11	3.54
Short Answer Questions	3.57	3.54	3.57
True/False questions	2.98	2.75	3.06
Matching Questions	2.92	2.64	2.96

DISCUSSION AND CONCLUSION

Most teachers learned about assessment while attending in-service courses. However, most of them undergone training after 1-5 years. School teachers in this study are confident and prepared to assess students and have selected assessment methods by considering its suitability with learning objectives.

The results showed that school teachers often used multiple-choice objective test in assessing their students, while matching question is the least used assessment methods. This may be due to the influence of public examinations that rarely use such item format as school

teachers assessment methods are greatly influenced by public examination. This is expected as public examination play an important role in making decision about a person future and the education system in Malaysia. To ensure students succeed in public examination, school teachers prepare students so as to be familair with the format of question in the public examinations. Besides multiple-choice objective questions, schools teachers also use homework to assess students' performance.

The practices in developing and using marking scheme were different for teachers from different school levels. Pre-university teachers usually construct the marking scheme themselves for the essay questions they used in assessing students. This may be due to the fact that essay is the most common assessment method used at the pre-university level. On the use of rubrics for scoring students' work, secondary school teachers found to use the most in assessing students' responses. As such they were also found to be the group that frequently developed scoring rubric by refering to guidelines of public examinations and textbooks or reference books. However, the primary school teachers depended on advice from their colleague when constructing scoring rubrics.

The pattern of providing feedback is different with teachers at different school levels. Primary school teachers provide feedback about students assessment results to parents and school administrator while pre-university teachers provide assessment feedback directly to students themselves. This practice may be the result of pre-university students being more mature and are able to take control of their own learning.

Contradict with Mertler's findings (1998, October), primary school teachers in this study used more written tests. Mertler (1998, October) found that primary school teachers used less traditional techique such as written tests. The written test used were those that required only selection or one word response such as fill-in-the-blanks, true/false and matching questions. In addition, observation, oral questioning and interview were used to assess primary chidren.

Similar to Zhang & Burry-Stock's study (2003), there is no significant difference in assessment practice between teachers of different subject areas for all aspects except on the use of written test. Language teachers were found to frequently use written test to assess students. Similar to finidngs for McMorris & Boothroyd's study (1993), science and mathematics teachers in the present study were using mostly multiple-choice objective questions. However, the science and mathematics teachers were found to use less of written test to assess their students compare with the language teachers .