



Kuram ve Uygulamada Eğitim Yönetimi
Educational Administration: Theory and Practice

2021, Cilt 27, Sayı 4, ss: 1180-1189
2021, Volume 27, Issue 4, pp:1180-1189
www.kuey.net



Teaching and Learning Assessment: An Empirical Study at Advanced Technology Training Center (ADTEC) Malaysia

Asri bin Selamat¹, Mohd Taufik Syazeli bin Zaidi², Nurfirdawati binti Muhamad Hanafi³,
Jumintono⁴

Article History	Abstract
<p>Article Submission 22 August 2021 Revised Submission 13 October 2021 Article Accepted 18 November 2021</p>	<p>Along with the rapid growth of science and technology, the country is forced to provide educational services that can be early to be observed by the public, including non-formal educational institutions such as the Advanced Technology Training Center (ADTEC) in Malaysia. This study was conducted toward lecturers in industrial training institutions in order for them to meet the assessment practices in education. The respondents consisted of 45 lecturers in ADTEC Batu Pahat, which is one of the industrial training institutes located in Batu Pahat, Johor. A questionnaire was developed as an instrument for data collection. Data were analysed using the Statistical Package for Social Science (SPSS) version 11.5. The findings show that ADTEC lecturers have a high level of knowledge about educational assessment. Besides, there are eight (8) forms of assessment applied by lecturers ADTEC Batu Pahat. The results of the study also found that the lecturers ADTEC Batu Pahat perform test plans based on the assessment procedure. With the perfect and industrial equipment combined with the latest methods of teaching and good learning and at the same time evaluated by an effective's education evaluation system, ADTEC mission to produce competitive workers will be achieved. The study is useful for non-formal educational institutions in all Malaysian country to evaluate and improve their role in all days.</p> <p>Keywords: Teaching and Learning, Assessment, Practical Study, Advanced Technology Training Center.</p>

¹ Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Johor 86400, Malaysia, asri@uthm.edu.my

² Nilai Polytechnic, Kompleks Pendidikan Nilai, Labu, Negeri Sembilan 71760, Malaysia, campine2011@gmail.com

³ Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Johor 86400, Malaysia, nurfirda@uthm.edu.my

⁴ Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia, Johor 86400, Malaysia, masmentosragen@gmail.com

1. Introduction

Various efforts have been made by the Ministry of Education Malaysia (MOE) and the Ministry of Higher Education (KPTM) to improve and improve the education system in Malaysia. The learning methods introduced will ensure that the country's education system reaches a proud level and thus produces a spiritually, emotionally and physically balanced people as embodied in the National Philosophy of Education [1].

Education in Malaysia is an ongoing effort further to develop the potential of a holistic and integrated individual to create intellectually, spiritually, emotionally, and physically balanced people based on trust and obedience to God. This effort is to produce Malaysians who are knowledgeable, skilled, well-behaved, responsible, and capable of achieving personal well-being and contribute to the harmony and prosperity of the community and nation.

In the education system, the assessment process is crucial for assessing the effectiveness of lecturer teaching and assessing students' level of understanding and knowledge [2]. Assessment in education is a system or process that involves gathering information about teaching and learning strategies and activities in which it needs to make analysis and decisions aimed at taking appropriate action [3]. In a broader context, assessment is an attempt to express ideas about the value of an idea, solution, method, material. It involves the use of criteria and standards to determine the extent to which something is accurate, useful, economical, or satisfactory. Indirectly, it enables teachers to make informed or informed decisions about their teaching and learning [4].

Besides, assessment for learning is a process for giving students opportunities to learn and inform students of their progress to give them the option to take action necessary to improve their performance [5]. Teachers need to create and provide opportunities for all students, where they can grow based on their capabilities and perform reinforcement activities when necessary [6].

Technical and vocational education plays an essential role in increasing the progress of the country [7]. Malaysia needs a large number of skilled and semi-skilled workforce, especially in technical and vocational areas [8]. Thus, to meet the demand for skilled and semi-skilled workforce, technical and vocational programs were created in line with technological improvements [9]. Understanding from various perspectives that need to be considered when applying technology is theoretical and practical aspects [10]. The main objective of technical and vocational education is to provide students with a primary education in science and technology who have an interest and interest in the field and enable them to pursue relevant studies at higher levels.

The technical and vocational fields need to be taken seriously to ensure that they are consistent with time and are at their optimum level [11]. Therefore, testing, evaluation, and measurement are essential elements that need to be emphasized in order to produce high quality and quality workforce that can meet the industrial market. For example, ADTEC Batu Pahat creates opportunities for post-secondary students to enable them to obtain jobs in various engineering and technical fields after receiving skills training at ADTEC. The main objective of the ADTEC is to produce a skilled workforce in the field of advanced technology and improve the quality of the skilled workforce in the industrial sector.

Based on the description of the problem, it can be taken several questions that underlie this research, among others: How well do the lecturers of industrial training institutions know about the assessment of education in the teaching and learning process. What forms of assessment are often applied by lecturers of industrial training institutions in the teaching and learning process? Do the lecturers of industrial training institutions carry out test planning based on the Education assessment procedure?

2. Methodology

2.1 Research Design

This study is a survey study using quantitative methods for data collection. Survey-based studies are appropriate, systematic, and very effective in obtaining the information needed [12]. The design of the survey type is chosen because it involves assessment practices in education [13].

2.2 Study Locations

The study was conducted at an industrial training institute in the state of Johor, the High Technology Training Center (ADTEC) in Batu Pahat, located on Jalan Tanjung Labuh, Batu Pahat. The main factor in choosing this location is because ADTEC Batu Pahat is one of the ADTECs nationwide under the Ministry of Human Resources. Besides, ADTEC Batu Pahat has yet to conduct a review of the evaluation practices implemented.

2.3 Population and Sampling

The population of this study was 45 lecturers teaching at ADTEC Batu Pahat. The entire study population was used as a sample of the study.

2.4 Study Instruments

This study was conducted using a questionnaire. The selection of instruments is essential to ensure that the data obtained can answer the research questions. Therefore, the researcher used the questionnaire form as a research instrument. The questionnaire gave the respondents more time to think and answer these questions. That can provide more accurate results or data because they do not need to rush to provide answers [14]. Besides, more data can be obtained from respondents in the short term [15].

The questionnaire is divided into two parts. Part A contains five items related to demographic factors, including gender, department, highest academic qualification, duration of teaching experience, and past educational evaluation course. Part B consists of three parts, namely B1, B2, and B3. B1 is an item to determine the extent to which the knowledge of the industrial training institution's knowledge of education is assessed in the learning and teaching process. Section B2 identifies the forms of assessment that are often applied by lecturers of industrial training institutions in the teaching and learning process. Whereas, Section B3 is also an item to determine whether the lecturers of industrial training institutions carry out test planning based on educational assessment procedures. Table 1 shows the distribution of items in the questionnaire.

Table 1. Discussion of The Inquiry Form

Part	Case	No. Item	Amount Item	
A	Respondent's background	1-5	5	
B1	Knowledge of the participants of industrial training institutions on Education assessment	1-17	17	
B2	The form of assessment that is often applied by industrial training institutes	18-30	13	
B3	See the same there Looters training institute industry carries out design examination based on a procedure educational assessment	Determine the purpose of the exam	31-35	5
		Fostering exam specifications	36-38	3
		Choose the type of question	39-41	3
		Provides exam questions	42-45	4
		Gathering questions	46-47	2
		Test your exam	48-56	9
		Assess the exam	57-58	2
Using decisions	59-61	3		
Number of Questions		4.66		

The items formed in this questionnaire for sections B1 and B3 using the scale are Likert Scale. The Likert Scale method is well used in this study as it is an inventory showing respondents' agreement using the scale set from one extreme to the other extreme [15]. Likert Scale loadings are shown in Table 2

Table 2. Item Marking (Likert Scale)

Scale Value	Statement
1	Strongly Disagree (STS)
2	Disagree (TS)
3	Agree to Less (KS)
4	Agree (S)
5	strongly agree (SS)

Whereas for section B2, researchers have modified the Likert scale to enable respondents to answer section B2 items on the questionnaire form. The weighting of the items is shown in Table 3.

Table 3. Item Marking

Scale Value	Statement
1	Never
2	Not often
3	Often
4	Very often

2.5 Validity of Instruments

Research methods in Education describe the research process by answering the formulation of research questions, referencing current literature in the field, using appropriate research designs, writing, and refining the research [15]. The questionnaire used was referenced by expertise in the field of item evaluation and presentation to ensure that the content met the requirements of the research title, research objectives, scope of research and research questions before the pilot study

2.6 Pilot Study

A pilot study was conducted on ten lecturers of the Mechanical Department at ADTEC Batu Pahat. Data analysis from the pilot study was done using the Statistical Package for Social Science (SPSS) computerized application. Table 4 shows the reliability coefficients obtained from the pilot study analysis. According to, the alpha value of 0.65 to 0.95 is considered satisfactory.

Table 4. Cronbach's Alpha Values, A For Each Part of The Questionnaire

Part	Value <i>Alpha Cronbach</i> α
B1	0.8722
B2	0.7595
B3	0.9500

3. Results

Descriptive statistics such as frequency and percentage were used to explain the data distribution as well as to answer the research questions [16]. All data analysis was performed using Statistical Package for the Social Science (SPSS) software. Table 4.1 shows respondents' background information by number and percentage.

3.1 Demographics

From the data collected, 45 respondents participated in the survey. Table 5 shows the detailed background information of the respondents. Of the total respondents, 66.7% were male respondents, while 33.3 % of respondents were female. As an industrial training institution, it is common for men to be monopolized. That is because the ADTEC institution involves the use of machinery and machines. Of the total respondents, 55.6% who answered the questionnaire were electrical department lecturers, while 44.4% were mechanical lecturers.

Next is the highest academic qualification of the respondents. The results showed that the majority of respondents had the highest qualification of diploma equivalent to 66.7%. Respondents with undergraduate qualifications have a value of 31.1%. This number was followed by a rep with a bachelor's degree of 2.2%. Overall, most of the lecturers at ADTEC only have diplomas. That is because diploma holders have more skills than bachelor's and master's degrees.

The duration of the teaching experience is also essential in this study. As a result, researchers have allocated teaching experience into four categories. As many as 68.9% of respondents are in the 0-5 years category while as many as 17.8% are in the second category, which is 6-10 years. For the third category, which is 11-15 years, only 4.4%. When the fourth category is 16 years and over, that is as much as 8.9%. It clearly shows that the majority of pilgrims at ADTEC consist of young youth who are just beginning to teach and teach.

Furthermore, investigators found that 53.3% of respondents stated that they had taken the same assessment course when they were still demanding or when they were working. Respondents stated that they had never taken an assessment course at 46.7%. It clearly shows that there are many more lenders at ADTEC that have not yet been exposed to formal education assessments.

Table 5. Respondents' Background Information

Category	Information	Number of Responses	(%)
Gender	Man	30	66.7
	Girl	15	33.3
	TOTAL	45	100
Department	Mechanical	20	44.4
	Electricity	25	55.6
	TOTAL	45	100
Highest Academic Qualifications	Diploma	30	66.7
	Bachelor	14	31.1
	Scholar	1	2.2
	Doctor of Philosophy	0	0
	TOTAL	45	100
Teaching experience	0-5 years old	31	68.9
	6-10 years old	8	17.8
	11-15 years old	2	4.4
	16 years and over	4	8.9
	TOTAL	45	100
Have been to Assessment Course	Yes	24	53.3
	No	21	46.7
	TOTAL	45	100

3.2 Knowledge of Industrial Training Institution Liaisons Regarding the Assessment of Education in The Teaching and Learning Process

Section B1 is used to answer Study Issue 1, which is "To what extent is the knowledge of the participants of industrial training institutions on the assessment of education in the teaching and learning process?". Schedule 4.2 shows in detail the min score of the knowledge stage of industrial training institutions on educational assessment. Overall, it can be stated that the respondent, namely the ADTEC Batu Pahat participant, has a high level of knowledge about education assessment. For items that have the lowest score is related to the skills of building the prosecutor with a score of minimum together with 3.07.

Table 6. Mean Score of The Knowledge Stage of Industrial Training Institutions on Educational Assessment

No.	Item	Mean score	Std. dev	Knowledge level
1	Have studied Education Assessment during demanding	3.47	0.99	Medium
2	Be clear about assessment in education	3.58	0.54	Medium
3	Understand each type of educational assessment (placement, formative, summative, diagnostic)	3.56	0.59	Medium
4	Use of educational assessment in the teaching and learning process	3.91	0.60	Hight
5	Has the knowledge to plan tests	4.20	0.41	Hight
6	Have a clear knowledge of the Test Schedule	3.40	0.72	Medium
7	Proficient in building Test Schedule	3.07	0.54	Medium
8	Use every level of Bloom's Taxonomy skill in building a Test Schedule	3.09	0.70	Medium
9	Have an explicit knowledge of test characteristics (objective, validity, reliability, usability)	3.67	0.71	Medium
10	Uses the interpretation of normative reference method evaluation	3.58	0.62	Medium
11	Uses the interpretation of the criterion reference method evaluation	3.76	0.77	Hight
12	Uses objective teaching and learning type assessment	3.64	0.93	Medium
13	Uses subjective type teaching and learning assessment	4.16	0.42	Hight
14	Make teaching assessments in question	3.69	0.67	Hight
15	Evaluate teaching and learning by observation	3.89	0.61	Hight
16	Conducting an assessment of teaching and learning in writing	4.16	0.38	Hight
17	Distribute subject syllabus to all students	4.16	0.64	Hight
	Overall	3.71	0.64	Hight

3.3 Form of Assessment Often Applied by Lecturers of Industrial Training Institutions in The Teaching and Learning Process.

Section B2 is used to answer Study Question 2, "What forms of assessment are often applied by lecturers of industrial training institutions in the teaching and learning process? ". Table 4.3 above shows the types of assessment and the types of questions that are included in educational assessment. Most of the lecturers at ADTEC Batu Pahat often apply the assessment through essay questions. A total of 84.4% of respondents stated that they regularly evaluate through essay questions. This number was followed by observations in which 75.6% of respondents said they practised this method regularly. Ratings by basic questions were also the most frequently performed assessments of 71.2%. This rate is because these skills are assessed while students are working in the workshop. Most of the respondents were found to be lacking in the pre-qualification or placement test for their students, where 66.7% of respondents said they did not perform the type of assessment regularly. Besides, assessments are less affected by diagnostic type assessments and match type assessment.

Table 7. Form of Assessment Commonly Applied by Lecturers of Industrial Training Institutions

No.	Item	Percentage	
		Not often	Frequent
1	Qualifying examination at the beginning of the lesson	66.7	33.3
2	Assessment of formative types during teaching and learning	40.0	60.0
3	Diagnostic assessment of poor students	62.2	37.8
4	Assessment through multiple choice questions	53.3	46.7
5	Rating through the right / wrong questions	57.8	42.2
6	Evaluation through blank questions	48.9	51.1
7	Evaluation through matching questions	66.7	33.3
8	Evaluation through interpretation questions	40.0	60.0
9	Assessment through essay questions	15.6	84.4
10	Assessment through structural questions	28.8	71.2
11	Verbal assessment	48.9	51.1
12	Assessment by observation	24.5	75.6
13	Summative type assessment	33.3	66.7

3.4 To See If the Lecturers of Industrial Training Institutions Carry Out Test Planning Based on Educational Assessment Procedures.

Section B3 is used to answer Study Question 3, "Do lecturers of industrial training institutions conduct test planning based on educational assessment procedures? ". Table 4.4 shows the mean score of practice levels of industrial training institutions in performing test planning. Referring to Table 4.4 shows 29 items out of 31 items have a high mean score of 3.69 and above. It is clear that lecturers at ADTEC not only perform well in test planning but also have great knowledge of every aspect of test planning.

Table 8. Minimum Score Level of Practice of Industrial Training Institution Lecturers in Performing Test Planning

Item	Mean score	Std. dev	Level of Practice
Make sure the students understand the content of the syllabus	4.16	0.48	Height
Creating assessment questions (quizzes, tests, final exams) based on the subject syllabus	4.44	0.50	Height
Creating assessment activities (projects, assignments, projects) based on the subject syllabus	4.33	0.48	Height
Do not take questions from last semester's questions	2.78	0.80	Medium
Determines the purpose of a test run	3.91	0.82	Height
Build a public school at the beginning of the semester	3.71	0.84	Height
Use the Test Schedule as a guide to test questions	3.62	0.78	Medium
Build Test Schedule based on the subject syllabus	3.69	0.87	Height
Ensure that the test skill level is aligned with the subject syllabus	4.29	0.55	Height
Build questions based on the level you want to assess	4.07	0.62	Height
Uses all skill levels in the Test Schedule to create test questions	3.84	0.52	Height
Develop accurate and straightforward questions	4.20	0.63	Height
Developing questions that students can easily understand	4.27	0.54	Height
Create question papers in the format specified by the institution	4.16	0.52	Height
Make sure the instructions for answering the questions are clearly stated on the question paper	4.27	0.62	Height
Arrange questions according to skill level	4.27	0.50	Height
Arrange questions in the order of the chapters	3.80	0.73	Height

Print your test questions	4.11	0.57	Height
Make sure every student is on the test	4.24	0.68	Height
Provide verbal instructions before the test begins	4.27	0.58	Height
Ensure a comfortable testing environment	4.31	0.63	Height
To ensure there is no imitation among students	4.53	0.59	Height
Self-check student test answers	4.49	0.51	Height
Examine test answers based on answer scheme	4.38	0.54	Height
Examine student test answers within the allotted time	4.16	0.56	Height
Examine the student's test answer honestly	4.44	0.50	Height
Analyze test questions / items	4.13	0.66	Height
Perform analysis of student answer marks	4.13	0.76	Height
Provide test results to students	4.18	0.61	Height
Report the results of the study honestly	4.22	0.67	Height
Report the test results to the Head of Department	4.00	0.77	Height
Overall	4.11	0.63	Height

4. Discussion

These discussions include Part B1 about the level of knowledge of lecturers about educational evaluation, Part B2 about the form of assessment that is often applied by lecturers, and Part B3 about implementing test planning among lecturers.

Overall, ADTEC lecturers have a high level of knowledge about assessment in education. Nonetheless, the level of knowledge of the lecturers towards the general public is still low. The public school district is significant because it is a guide in the development of questions to test students [17]. This may be related to the background of the respondents, in which almost half of the respondents had never taken an assessment course [18]. Students will be able to contribute their ideas through essay questions based on their experiences and imagination [19]

The result of the analysis, essay questions, and structure can create more critical, creative, and innovative thinking. There are five forms of poor performance evaluation: pre-qualification testing, diagnostics, multiple-choice, right/wrong, and weak form of matching may be due to several factors. In conclusion, eight of the 13 forms of evaluation are frequently conducted at ADTEC.

5. Conclusion

In conclusion, for the third study question, there are eight steps to implement test planning, and researchers have developed 31 question items. The analysis showed that the lecturers at ADTEC Batu Pahat carried out test planning based on educational assessment procedures. Among the eight steps to implement the test, planning is: Define the purpose of the exam, Build test specifications, Select the type of question, Prepare test questions, Collect questions, Administer the test, Assess the exam, and Apply results.

The purpose of this study is to look at the extent to which the assessment practices implemented by the lecturers at ADTEC Batu Pahat meet the educational evaluation practices. Based on the findings and the discussions that have been made, it is evident that the lecturers at ADTEC have implemented assessments for students in line with educational assessment practices. Therefore, as an industrial training institution, ADTEC can be believed to be an institution capable of producing a calibre and competitive workforce in line with ADTEC's mission of "to produce a competitive workforce."

Acknowledgements

The author would like to thank Research Fund E15501, Research Management Centre, UTHM for its support and funding.

References

- A. Ahmad and N. Jingga, "Pengaruh kompetensi kemahiran guru dalam pengajaran terhadap pencapaian akademik pelajar dalam mata pelajaran Sejarah," *J. Kurikulum Pengajaran Asia Pasifik*, vol. Bil 3, no. 2, pp. 1–11, 2015.
- Aslan, G. (2019). Learning organizations as predictors of academic achievement: An analysis on secondary schools. *Educational Administration: Theory and Practice*, 25(2), 191-240. doi:10.14527/kuey.2019.006
- C. Y. Piaw, *Kaedah dan statistik penyelidikan: kaedah penyelidikan*. (2nd ed.). McGraw-Hill Education, 2011.
- Eranil, A. K., Özcan, M., & Özek, B. Y. (2019). Examination of classroom management competencies of faculty of education students. *Educational Administration: Theory and Practice*, 25(1), 119-138. doi:10.14527/kuey.2019.003
- Hashim Fauzy Yaacob., *Pembangunan sumber manusia di Malaysia : cabaran abad ke-21*. Penerbit Universiti Teknologi Malaysia, 2000.
- H. Y. Emat, "pendidikan vokasional ke arah perkembangan tenaga manusia: cabaran dan strategi pendidikan teknik dan vokasional ke arah mencapai wawasan 2020," *J. Pendidikan, Kementerian. Pendidik. Mlaysia*, 2020.
- I. Yusuf and R. Ismail, *Pendidikan di malaysia, pembangunan sumber manusia*. Universiti Malaysia, 2011.
- J. Jani, O. K. Boon, M. S. Madon, H. Ahmad, N. H. M. Khalid, and Y. Ahmad, "Pendekatan Pengajaran, Gaya Belajar dan Jenis Penilaian dalam Mata Pelajaran Sains Sukan di Sekolah Menengah (Teaching Approach, Learning Style and Types of Evaluation in Sport Science Subject at Secondary Schools)," *J. Pendidik. Malaysia*, vol. 34, no. 2, pp. 81–91, 2009, Accessed: Mar. 30, 2020. [Online]. Available: 10.17576/JPEN-2009-%25x.
- Jumintono, Suyatno, M. Zuharty, and H. Said, "Vocational schools leadership reinforcement model," *Indian J. Public Heal. Res. Dev.*, vol. 9, no. 11, pp. 1549–1557, Nov. 2018, doi: 10.5958/0976-5506.2018.01669.8.
- Jumintono, Suyatno, M. Zuhaery, H. Said, and M. N. A. Azman, "Vocational education principal of leadership: A case study in East Nusa Tenggara," *J. Soc. Sci. Res.*, vol. 2018, no. Special Issue 6, pp. 825–831, 2018, doi: 10.32861/jssr.spi6.825.831.
- K. Mohd Majid, "Kaedah Penyelidikan Pendidikan.," vol. 6014, no. 1, p. 599, 1990.
- L. Kong Teong and T. Swee Mei, "AMALAN PENGURUSAN KUALITI MENYELURUH DALAM PROSES PENGAJARAN DAN PEMBELAJARAN," pp. 59–69, 2001, Accessed: Mar. 30, 2020. [Online]. Available: http://repo.uum.edu.my/448/1/Lim_Kong_Teong.pdf.
- M. C. Heitink, F. M. Van der Kleij, B. P. Veldkamp, K. Schildkamp, and W. B. Kippers, "A systematic review of prerequisites for implementing assessment for learning in classroom practice," *Educ. Res. Rev.*, vol. 17, pp. 50–62, Feb. 2016, doi: 10.1016/j.edurev.2015.12.002.
- M. D. Gall, J. P. Gall, and W. R. Borg, *Educational research: an introduction*, 8th ed. Pearson, 2006.
- M. D. Abd. Gafar, *Prinsip dan amalan pengajaran*. Kuala Lumpur: Utusan Publication & Distributors Sdn Bhd, 2003.
- M. I. Mukhtar and J. Ahmad, "Assessment for Learning: Practice in TVET," *Procedia - Soc. Behav. Sci.*, vol. 204, pp. 119–126, Aug. 2015, doi: 10.1016/j.sbspro.2015.08.124.
- M. N. Abdul Ghafar, *Pembinaan dan analisis ujian bilik darjah*. Johor: Penerbit UTM, 2011.

M. S. Sang, "Pedagogi 2 : Strategi Pengajaran - pembelajaran, pengajaran mikro, persediaan untuk pengajaran praktik," p. 2, 1992.

N. M. Nordin and N. C. Hong, "Pembangunan dan Penilaian Bahan Pengajaran dan Pembelajaran Berasaskan Web – Webquest bagi Mata Pelajaran ICT (Development and Evaluation of Webquest for Information and Communication Technology Subject)," *J. Pendidik. Malaysia*, vol. 34, no. 1, pp. 111–129, 2009, Accessed: Mar. 30, 2020. [Online]. Available: doi: 10.17576/JPEN-2009-%25x.

S. Noah, *Reka bentuk penyelidikan: falsafah, teori dan praktis*. Universiti Putra Malaysia, 2002.

W. Wiersma, *Reserach Methods in Education: An Introduction*, 7th ed. Allyn and Bacon, 2000.