SELF – ASSESSMENT PRACTICES AMONGST ENGINEERING STUDENTS: THEIR EVALUATION AND FEEDBACK

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ABSTRACT

Uncovering to what extent students assess themselves accurately is imperative in understanding classroom assessments. This study seeks to investigate how accurate are UniKL’s Faculty of engineering students at assessing their own essays as well as finding out their feedback with regard to the use of self-assessment in their course. The main purpose of this study was to investigate and evaluate the implementation of self-assessment method as one of the assessment tools in assessing students. A total of 144 diploma students of various engineering courses participated in this study. Both content analysis and a survey were employed for data collection. The results showed that most students’ tend to under rate themselves and a handful would over rate themselves. However, it was also found out that the levels of discrepancy between lecturers’ and students’ ratings were not too extreme. Based on the feedback, the students also perceived the use self-assessment as a tool for evaluation as something positive and meaningful experience.

Field of Research: Self-assessment, content analysis, students’ feedback.

1. Introduction

In general, the traditional method of testing is still strong in Malaysia despite some changes to the assessment landscape especially with the introduction of school based assessment and learner centered learning. There is now some gradual shift from the traditional assessment to more unconventional assessment methods practiced in schools and universities in the country. It is surprising that some higher learning institutions are undergoing the change as they are notably moving from the traditional teacher-centered approach to a more student-centered approach. This shift is from an 'instruction paradigm” in which universities deliver instruction to “transfer knowledge from faculty to students” to a “learning paradigm” in which universities produce learning through “student discovery and construction of knowledge” (Barr and Tagg, 1995). The student-centered approach also includes the involvement of...
students in assessing their own work. This is in line with the concept of “learning centered-assessment” which focuses on the transition of instruction and assessment from teaching to learning as suggested by Huba and Freed (2000).

In Malaysia as in most other countries, the self-assessment practice is still not widely implemented due to several reasons. One of the utmost reasons is teachers’ empowerment or the lack of it. It is quite common in traditional Asian learning environment that teachers and lecturers do not trust their students in assessing their own work. It is because they strongly believe that “only teacher knows best”. Therefore, they (the teachers) still hold the rein of power in the assessment process (Tiew, 2010). Time constraint is another issue that limits the use of self-assessment since teachers and lecturers in the school and university are overburdened with workload. It is not uncommon to see lecturers having a maximum of twenty hours per week with large number of students for each class. It is also a normal sight to witness English lecturers in particular usually having the minimum of 40 students per class for proficiency classes. Therefore, the notion of using alternative assessments such as self-assessment is not very enticing for these teachers and lecturers who are overburdened with work.

Learner centered–assessment is also not widely practiced by educators due to several reasons particularly issues related to validity, reliability and objectivity of implementing self-assessment among university students (Froyd and Simpson, 2010). Furthermore, in general students are prone to overate themselves as shown in literature related to self and peer assessment. Hoskins, Hale, Engler and Sick (2012) for instance in their study: self- assessment of high – stake tests: an exploratory study in English for Liberal Arts Program, have proven that when students are given the authority to assess their own work, they tend to rate themselves too highly. However, this could not be said about students from the science and engineering faculties who may might have different sets of behaviors. It is a well-known fact that the science and engineering students are of the introvert type and might lend themselves to more accurate assessment of themselves. Thus, this study intends to investigate the assessment practices of the non-arts students particularly the Engineering students.

In addition to that, the number of studies done on self-assessment in Malaysia is also very limited. One quite recent local study which was done by Tiew (2010) investigated business students’ views of self and peer assessments on class participation. This study however focused more on peer assessment rather than self-assessment itself. As such, it is vital to carry out a study on self-assessment especially involving engineering students. The results of the findings might have some imperatives on the contribution of knowledge to the discipline on self- assessment.

This study therefore seeks to investigate the use of self-assessment as one of the tools in assessing students. Specifically, the objectives of this study are:

1) To find out how accurate are the engineering students at assessing their essays and
2) To identify the students’ feedback with regard to the use of self-assessment

2. Methodology

2.1 Subjects

This research was conducted with the cooperation of 144 engineering students at University Kuala Lumpur in Gombak. They were first semester diploma students who had to take Foundation English course to prepare them with the fundamental of English. This group of students came from various
engineering courses such as Electrical Engineering, Electronic Engineering, Medical Engineering and Telecommunication.

In addition to that, three English lecturers also participated in this study as facilitators as well as the examiners of the scripts. All of them have taught this subject more than one semester and are very familiar with the syllabus as well as the assessments methods. They also have three to ten years of teaching experience.

2.2 Materials /Procedures

Three types of procedures/materials were used in the experiment. They are as follows:

1. A total of three writing assignments with three different topics were given to the engineering students. These writing assignments are known as the “journal entry”. All three journal entries were designed by the coordinator or subject leader of this course. In developing this task, much attention was paid to content validity as it was highlighted by Henning (2013).

2. A rating scale or essay marking scheme was provided and explained well to all the students. The essay marking scheme consists of a range of grades, ranging from 0 to 100 as well as the criteria for each range of grade.

3. A set of questionnaire consisting of seven statements eliciting students’ personal opinions on the implementation of self- assessment as one of classroom assessment tools. Students were required to select their desired responses based on a Likert scale, starting from 1 as strongly disagree to the scale of 5 indicating strongly agree with the statement.

2.3 The Assessment Procedure

The assessment procedures are divided into four stages. Although the students assessed their own work, they were closely monitored by the lecturers who also served facilitators in guiding and assisting them with this procedure.

The assessment procedures are as follows:

**Stage One (Week 1)**
The students were given a writing assignment with a topic of their own choice. After completing the essay, the lecturers introduced and explained in detail about self-assessment as well as their involvement in the classroom assessment. Then, the students were also explained on how to grade their essays based on the given essay grading scheme provided. The lecturers thoroughly explained the five ranges of grades and the criteria that described each grade. A total of 30 minutes were allocated for the students to read, assess and grade their own essays. The lecturers who were also the second rater later evaluated the students’ essays, however no marks were awarded. It is because this is just a trial stage so as to familiarize them with the process of marking and grading of their essays. The main objective of this stage is to help prepare the students mentally and physically with the upcoming stages.

**Stage Two (Week 2)**
A total number of 144 students in six classes were given an additional half an hour of training using the essay marking scheme. Once they were briefed and were very clear about the assessment procedures, they were 30 minutes to an hour to assess their own essays. They were officially recognized as the first rater of the essay. Then, they were informed that their respective lecturers would mark their essays and provide them the feedback as soon as possible. Journal entry number two was then given to the students as their next writing task.

Stage Three (Week 3)
Before the students were told to assess and mark their second essays, the lecturers gave them their first essays with the score and feedback. They were allowed to check on the score and feedback given. Next, the lecturer explained in detail the strengths and highlighted weaknesses of their essays. This is done to clarify and set the standards on how their essays were assessed by the lecturers in terms of language, content and creativity. Once the students were ready and understood, they were then given as much time as they needed to assess their essays for the second time. Before the class ended, the students were given their third and final journal entry as their homework over the weekend.

Stage Four (Week 4)
The rating process of the third essays was similar to that of the previous stages. In addition, the lecturer distributed a set of questionnaire to the students and they were given approximately half an hour to complete it. After class, and outside the classroom, all the lecturers rated all the essays.

3. Data Analysis

3.1 Journal Entries

All the three journal entries which have been graded by both the students and lecturers were analysed manually. No specific computer software was used. Overrated and underrated essays were then identified and separated accordingly then the total number of essays was counted. Accurately assessed journal entries were also group together. Any differences between marks were also considered. The results then were transferred in the form of charts for presentation purposes.

3.2 Questionnaire

A total of 144 sets of questionnaire comprising seven questions were analyzed manually. The questions were 1-7: 1) Does self-assessment promotes a sense of ownership, engagement and personal responsibility in my learning experience, 2) Does my involvement in the assessment process increases my personal motivation, 3) Does self-assessment promotes self-evaluation and develops critical thinking and professional skills, 4) Does the rating scale provided is helpful, 5) Is self-assessment fair in helping to determine grade for this subject, 6) Participated more since involve in the assessment process and 7) Assessment is the sole responsibility of lecturers. Then results of the students responses were transferred into charts for data presentation.

4. Results

4.1 Students’ accuracy for self-assessment
As can be seen in Figure 1, a total of 72 out of 144 (50%) of students underrated themselves by grading their essays lower than they actually deserved in journal entry 1. The scores given by the students were between 50 to 65 marks. The other 25.7% or 37 students however overrated themselves by giving higher marks than the marks awarded by their lecturers. The ranges of marks were between 85 and as high as 96 marks upon 100. Only small number students (28) or 19.4% of them rated themselves rather accurately. This clearly shows that Engineering students have the tendency to over inflate the marks.

Figure 4.2 shows the number of students who rated their journal entry 2. It is found out that a large number of students or 78% of them underrated their journal entry. The ranges of 60 to 75 were the marks given by the students for their essays. This is followed by students who overrated and have rated themselves accurately with 11% each. Again, as in journal entry 1, the students also rated their essays higher than the marks given by their lecturers.

Based on figure 4.3, the chart illustrates the percentage of students who were asked to assess their own writing. The biggest figure is 73% for those who have underrated themselves. On the other hand, only 15% of the students managed to mark their essays accurately since the grade given by them and the lecturers were the same. As predicted, the remaining 12% overrated themselves. It is obvious that most of the students actually over rated their ability and this is not surprising as proven in other studies on self-assessment. The fact that these students were non arts students has no bearing on how they assessed their own essays.

4.2 Students’ feedback
The students were given a set of questionnaire and the responses to the questions were as follow.

![Question 1](image1)

Based on the survey, it is found that 65.9% or 85 respondents agreed that self-assessment boosts a sense of ownership, engagement and personal responsibility in learning experience. A total of 20% of them agreed or disagreed and another 1.6% disagreed with this statement. So it can be safely presumed that most of them embraced self-assessment positively.

![Question 2](image2)

The pie chart above shows the number of respondents who believed their involvement in the assessment process increased their personal motivation. It is clear that 50% of the respondents agreed that their personal motivation in class increased because of their involvement in the assessment process. The other 28% of the respondents chose to be neutral while the other 4.7% agreed as they did not think that self-assessment helped to increase their personal motivation in class. It can be concluded that half of the respondents agree that their involvement in the assessment process increases their personal motivation.

![Question 3](image3)

Figure 4.6 illustrates the number of respondents who responded to question three. A total of 81 students agreed that self-assessment encouraged self-evaluation and that it developed their critical thinking and other professional skills. In contrast, only 6 of the respondents disagreed and the rest did not agree nor disagree. It is obvious that the large number of students agreed that they could develop their professional skills, critical thinking as well as self-evaluation through self-assessment practices.
The students were asked if the rating scale given was helpful in doing the self-assessment. A total of 47.3% of them agreed that the rating scale helped as it served as a reference for students to determine the marks given based on ranges of marks and expectations. Meanwhile, a total of 22.5% disagreed with this statement and the remaining 30.2% neither agreed nor disagreed that the rating scale helped them in anyway.

In question 5, more than half or 54.3% of the Engineering students agreed that they felt self-assessment was fair in helping them to determine their grades for this subject. In contrast, 21% of them disagreed and the remaining 24% neither agreed nor disagreed as they believed self-assessment did not affect or help to determine their grades.

From the survey that was conducted, it is found that more students or 42.6% were neutral when they were asked whether they participated more because they knew they were involved in the evaluation. With a slight difference of 40.3%, some of the students admitted that they participated more because of the self-evaluation process and that a very small percentage or 11.6% of the students disagreed with this statement.
Figure 5.0
Figure 5.0 illustrates that almost half or 43% of the students were not sure if assessment should be the sole responsibility of lecturers. While, only 32% of them agreed to this statement and the remaining 25% disagreed that it is the sole responsibility of the lecturers to mark and assess the assignments.

5.0 Conclusion and Discussion

In short, this study attempted to find out to what extent were the UniKL engineering students accurate at assessing their own essays. Based on the results, it is found that these students are not reliable as the arts students in other studies at assessing their own essays. They are considered as inaccurate assessors since the majority of them underrated themselves in all the essays. Only small figures were reliable and accurate at assessing their own essays. These findings of this study are not dissimilar in terms of accuracy with another study done by a group of Japan researchers in which the findings of their research showed that the students too overrated and awarded marks which are too high from their achievement (Hoskins, Hale, Engler and Sick, 2012). Indirectly, this study also highlights the students’ level of self-confidence. Malaysian students generally underrate their own essays because they have low self-confidence. This is particularly true of UNIKL students who are mainly Malay students. It seems that they do not believe in their own capabilities. However, according to a study done Vijchulata & Lee, (1985), Malaysian university students proved to be both interactively and instrumentally motivated to learn the English language.

Apart from measuring students’ accuracy in assessing their own work, this study also takes into consideration of students’ feedback on self-assessment. Surprisingly, the students perceived self – assessment positively despite under-rating themselves. They also agreed that self-assessment process is part of learning process and they believed that their involvement in the assessment process motivate them to learn the language. This finding is in line with a local study which found that Malaysian students were highly motivated to learn a foreign language for extrinsic and intrinsic reasons (Ainol Madzhiah and Isarji Sarudin, 2009).

References


