STUDENTS' PROFILES THROUGH LEARNING APPROACHES USING BIGGS' STUDY PROCESS QUESTIONNAIRE

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Abstract
A number of studies show that students' approaches to learning are important elements to achieve success. Learning approache provides perspectives on the characterisics of good learners. Using R-SPQ-2F (Biggs, Kember, & Leung, 2001), a revised version of Biggs' (1987) Study Process Questionnaire (SPQ), this study attempted to explore the learning approaches of first year students of 2013 academic year at an English Education Program at a private university in Central Java. The purpose of the study was to find out if there was a correlation between the students' approaches to learning and their achievement in an Integrated Course (IC), and describe the profile of their approaches to learning English in the first semester. From 151 respondents participated in this study, it was found that, although weak, there was a positive correlation between students' achievement scores and their Deep Approach to learning, and a negative correlation between their IC scores and their Surface Approach to learning. This study also found that Deep Motive was associated with the students' achievement. However, the students' profile based on SPQ indicated that the study could not predict the students at risk. Other factors could have affected the students' achievement in their learning.

Keywords**:** learning approaches, Study Process Questionnaire, achievement

Introduction
To develop students' academic quality, academic measures are often strictly implemented since the first year of the study program. One course offered in the first semester at the department is called Integrated Course (IC). This is an eight-credit course which the students have to pass with a minimum grade of C in order to be eligible for the higher level courses in the following year(s). This course serves to 'filter' the students for more advanced courses in the following year(s). In other words, this course is a pre-requisite to other courses such as Literature, Linguistics, or language education courses.

The students who fail IC in the first semester have to repeat it in the second semester leading them to taking longer than four years to complete the whole program. The students can only repeat this course once, and if they fail a second time, they will have to drop out from the department because they are lacking the necessary skills to survive the study program. Given this situation, IC-repeater

students are considered as students at risk. Therefore, in order to help such students from repeating the course or failing the program, a tool is needed to identify these students early so that academic intervention strategies can be made available to the students.

In the light of the literature on learning in general and language learning in particular, students at risk may experience 'fear of failure'. This mentality in the system of English Education Program to some extent may prompt these students to look for and adopt learning strategies that they think can avoid unnecessary retaking the course in the second semester. The strategies may not help as much to improve the quality of their learning in the program which in turn may negatively affect their motivation for learning. Failure avoidance strategies tend to be more surface which do not last long because students adopting this study tactic tend just to manage to help them achieve the borderline cut point of the course assessment. Then, they move on to the second semester but their learning deficit still exists. If this academic attitude is maintained, it will be difficult to achieve the desired academic quality in the language department program. Therefore, it is necessary to look for an academic intervention tool that would be helpful to address the learning needs of the students who will be gauged through their approaches to learning.

In general, there are two kinds of learners; those who want to understand the subjects they are learning and those who just want to pass the subjects. Biggs (1999) calls the former academic learners and the latter non-academic learners. One of the features distinguishing these two kinds of learners might be the approaches they employ to learning. Since one of the key components of successful learning is how learners approach their learning, this could provide perspectives on good learner characteristics. These approaches to learning are in certain points related to learning styles. However, López (2013) states that learning approaches are more flexible than learning styles. When given a task in learning, a student might be predisposed to one particular approach but during the learning process, the student may adapt to the most relevant approach to perform and accomplish the task appropriately. Thus, learning approach is more than individual differences (Dornyei, 2005); it is the interaction of the learners' personal characteristics and the learning environment (Ramburuth & McCormick, 2001).

Learning approach is the integration between the reasons for learning, the contexts of the learning environment, and the strategies the learners use to engage in learning. To show the relationship between those three factors, Biggs (1987) proposed the 3 P model, the system comprising three fundamental stages in learning: presage, process, and product. Presage factors are those prior to learning; process factors are related to the learning process, and product or performance factors refer to the learning outcome gained.

Presage factors include personal and situational factors. Personal factors may consist of components such as students' previous knowledge of the subject, IQ, values, or personality. In ESL context, this could include cross-cultural students and language proficiency. Furthermore, situational factors are elements like curriculum, course structure, or the methods of teaching and assessment. These factors could provide a 'climate' for learning and have motivational consequences (Biggs, 1990 in Ramburuth & McCormick, 2001).

Process factors involve motives and appropriate strategies. López (2013) concludes that learning approaches are based on motives and learners employing particular approach adopt particular strategies in their learning process. The combination of these motives and strategies forms three principal approaches to learning: surface, achieving, and deep approaches.

A surface approach is employed when learners get a task done with minimum conceptual effort. Less information is likely to stay in memory since there is no emotional or cognitive investment in it. It refers to activities with inappropriately low cognitive level resulting in fragmented outcomes. Achieving approach is related to the efforts of succeeding in competition and getting good marks. It is related to ego and self-esteem. Deep approach is the involvement of personal investment in the task through associations and elaboration. Deep approach refers to activities that are appropriate to completing the task resulting in satisfactory outcomes.

Based on the three principal approaches to learning outlined earlier, Biggs (1987) proposed a tool for measuring students learning approach in tertiary levels, called Study Process Questionnaire (SPQ). The questionnaire operationalizes these approaches through their constituent motives and strategies. There are 42 items, and each item represents either surface motive, surface strategy, deep motive, deep strategy, achieving motive, or achieving strategy. The items in SPQ has been revised and validated which produced 20 items. The surface approach is generally associated with memorizing of facts and reproduction of information, deep approach often involves understanding meaning and utilizing information, and achieving approach is merely the pursuance of good grades.

Research has revealed that the measures in achieving approach, depending on the subjects and academic environment, could be categorized under either surface or deep approach. Consequently, also with the changing nature of tertiary education, Biggs, Kember, and Leung (2001) revised this SPQ into R-SPQ-2F with 20 items by looking only at two factors: surface and deep. This new model has been claimed to have good psychometric qualities of internal reliability-consistency and validity. Subsequent studies (e.g. Kember, Biggs, & Leung, 2004; Gijbels et al, 2005; Phan and Deo, 2007; and Bliuc et al, 2011) have validated the two-factor version as more appropriate to tertiary educational contexts. Moreover, Lake, Boyd, & Boyd (2017) have provided a comprehensive conceptual basis of the questionnaires, both the original SPQ and the revised version. In conclusion, either with the SPQ or the revised version R-SPQ-2F, in measuring students' approach to learning, researchers (e.g. Biggs, 1987; Bernardo, 2003; López et al, 2013) found that the deep approach has positive learning impacts, while surface approach shows negative impacts on learning processes. As López et al (2013) pointed out, greater academic achievement related to the deep approach and poorer academic achievement related to the surface approach. This leads us to a general claim that surface approach might have discouraging effects towards students' learning, while deep approach is encouraging.

It should be noted that the SPQ tool is used to measure learning approaches in general. The theoretical concept underlying this instrument can as well be applied to language learning approaches that have been discussed and elaborated in the literature (e.g. Wenden & Rubin, 1987; Oxford, 1990; Brown, 1994; and Hedge, 2000). According to Scharle and Szabo (2000), learning strategy, which is a sub-

scale in SPQ, serves as a tool to improve one's language competence, and learners should be responsible for their competence if they are aware of the tool. Learners have a variety of learning strategies, and a good learner may have specific strategies in learning.

Based on the discussion above, this study aims to answer the following questions:
1. Is there any correlation between their approach to language learning and their achievement in the IC course in the semester 1?
2. What is the profile of the students' approach to their language learning in semester 1 in the department?

Method

This study described the learning approach that the students used during their study at the English Department with respect to its main scale categories; deep approach or surface approach. Deep approach has two subscales; deep motive and deep strategy. Surface approach also has two subscales; surface motive and surface strategy. The study also attempted to find out if their learning approach related to their academic achievement in IC course. Therefore, the data analysis made use of descriptive and correlational statistics to provide answers to the research questions formulated above. There were 151 participants in this study drawn from the new cohort of students in the 2013/2014 academic year.

The study was carried out at an English Education Department at a private university in Central Java. The data for the study were collected using a questionnaire and distributed to the students in the class. Another set of data was collected from the students' IC tests with the consent from the IC course coordinator. Permission from the IC teachers was secured before the administration of the questionnaire. The researchers assisted the students when they had difficulty in understanding the questionnaire items and the instruction, but not to provide the answers.

The questionnaire used was The Study Process Questionnaire: R-SPQ-2F (Biggs, Kember, and Leung, 2001) which had been translated into Indonesian to avoid misinterpretation of the intended meaning of the items. The questionnaire had 20 questions about students' attitudes towards their study and their study habits. The questionnaire used a Likert Scale with five options for each item as follows:

A – this item is never or only rarely true of me,
B – this item is sometimes true of me,
C – this item is true of me about half of the time,
D – this item is frequently true of me,
E – this item is always or almost always true of me.

The responses to the items were scored as follows: A = 1, B = 2, C = 3, D = 4, E = 5. To obtain main scale scores (deep and surface approach), the scores to the following items were added:
1. Score for deep approach: item no. 1 + 2 + 5 + 6 + 9 + 10 + 13 + 14 + 17 + 18.
2. Score for surface approach: item no. 3 + 4 + 7 + 8 + 11 + 12 + 15 + 16 + 19 + 20.

Subscale scores were calculated as follows:

1. Deep motive = item no. 1 + 5 + 9 + 13 + 17
2. Deep strategy = item no. 2 + 6 + 10 + 14 + 18
3. Surface motive = item no. 3 + 7 + 11 + 15 + 19
4. Surface strategy = item no. 4 + 8 + 12 + 16 + 20

The results of the analysis were displayed in a table showing the profile of the students' study approach with respect to the main scale (study approach) and its subscales (motive and strategy).

Result and Discussion
Correlations between students' achievement and their approaches to learning

The table below shows descriptive statistics of the students' achievement in the IC course and the results of the questionnaire showing the scores of their approaches to learning.

Table 1. Descriptive statistics of the students' scores

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Ic1 Score	151	34.76	91.87	66.2195	11.11563
Deep Approach	151	1.70	5.00	3.2205	.55586
Surface Approach	151	1.00	3.30	1.9265	.52354
Deep Motive	151	2.00	5.00	3.2795	.60798
Deep Strategy	151	1.40	5.00	3.1616	.66401
Surface Motive	151	1.00	3.60	1.6755	.54491
Surface Strategy	151	1.00	3.80	2.1775	.64396
Valid N (listwise)	151				

As seen in the table, the mean score was not very high (66.22) and the range of the students' scores was quite large (57.11). In addition, the standard deviation was also relatively big (11.12). A similar result was also indicated by the Deep Approach scores; a range of 3.30 and a standard deviation of .55 points.

In order to calculate the relationship between the students' IC scores and their approaches to learning (Deep Approach), it was necessary to test the normality of both sets of scores. The table below is the results of the test of normality.

Table 2. Test of normality of IC scores

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ic1 Score	.054	151	.200[*]	.983	151	.058

Table 3. Test of normality of Deep Approach

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
	Statistic	df	Sig.	Statistic	df	Sig.
Deep Approach	.055	151	.200[*]	.990	151	.339

As indicated in Table 2 and Table 3, both sets of scores were normally distributed; sig value of .058 for IC scores and .339 for the Deep Approach to learning. Both values were bigger than .05. The following table is the correlation of both scores.

Table 4. The correlation of IC scores and approaches to learning

	Mean	SD	Correlation
IC Score	66.58	13.72	
1. Deep approach	3.22	.55	.17*
2. Surface approach	1.92	.52	−.15*
3. Deep motive	3.27	.60	.19**
4. Deep strategy	3.16	.66	.10
5. Surface motive	1.67	.54	−.07
6. Surface strategy	2.17	.64	−.18*

N = 151   * p< .05   ** p< .001

In general, it can be claimed that, although weak, there was a positive correlation between students' IC score and Deep Approach (r = .17), but the correlation between IC score and Surface Approach was negative (r = −.15). This data supports the findings from previous research (e.g. Biggs, 1987; Bernardo, 2003; López et al, 2013) showing that Deep Approach relates to the outcomes of student learning, while Surface Approach might have negative impacts on learning.

Further examination of the students' Deep Approach indicates that Deep Motive associated with achievement although it was very small (r = .19) while Deep strategy did not correlate with their achievement. It appears that the students' Deep Motive to learn English had some role in their achievements. Based on the questionnaire items corresponding to Deep Motive (i.e. Items no. 1, 5, 9, 13, and 17), It can be stated that Deep Motive is necessary to student achievements. Their achievement scores show that students with higher scores were those who responded that studying gave them a feeling of deep personal satisfaction, felt that any topic in their lesson was interesting and exciting to learn, and they came to class with questions that needed answers.

In other studies, motive is regarded as motivation, and its role in learning is unquestionable. Krashen (1981) mentions that motivation is important in L2 acquisition since it can encourage intake and enable the learner to utilise the language. Furthermore, Margoret and Gardner (2003) explain that motivation is responsible for the achievement in second language learning, which is later outlined by Dörnyei (2005) arguing that motivation is the primary force in the early stage of L2 learning and sustain the learning process. In other studies, Gass

and Selinker (2008) summarize that motivated learners will learn faster to a greater degree.

Looking at the two constituents of Surface Approach, it was noted that Surface Strategy negatively correlated (r = −.18) to the students' achievement in the course indicating that the students with higher scores tended to have lower value of Surface Strategy. The small correlation coefficient between students' achievement and their Surface Strategy indicates that the students' achievement was accounted for very insignificantly by this strategy. In other words, this strategy did not have a significant role to the students' achievement. Referring to the questionnaire items for Surface Strategy (i. e. Item no. 4, 8, 12, 16, and 20), it can be concluded that the students with higher scores wanted only to pass the course with minimum efforts and that they only wanted to study the materials given in class.

Despite the low correlation, this study is in line with López's et al (2013) research suggesting that a good achievement in learning is closely related to Deep Approach while those with poor achievement is related to Surface Approach. In the light of this finding, we can conclude that students with high IC scores have a tendency to utilize Deep Approach, rather than Surface Approach to their learning.

Student profile from SPQ perspectives

From SPQ perspectives, students at risk can be identified from those students who do not employ Deep Approach or those who employ Surface Approach to their learning. Using the criteria for low-group value (0.00-2.99) and high-group value (3.00-5.00) of Deep Approach, we can identify the students who are at risk, that is those students who fall between the values of 0.00-2.99. From 151 students participated in this study, there were 48 students at risk; those were students with low value of Deep Approach. Besides, there were seven students in the high group with high value of Surface Approach. However, the criteria for low and high-group value did not reveal consistency of student's utilization of approaches. The students with low value of Deep Approach were not necessarily those with high value of Surface Approach, and vice versa. In other words, the data for Surface Approach and Deep Approach did not show consistent inverse relationship.

Contrary to the expectation, out of 108 students with high value of Deep Approach, there were twenty-four students who failed the course, from seven students with high value of Surface Approach, there was only one student who failed the course, two out of those seven students even made good grades (A and AB) in the course. Therefore, based on the findings of this study, approaches to learning (Deep or Surface) cannot be used to predict students at risk in this course. This is in contrast to some studies on SPQ (e.g. Biggs, 1987; Bernardo, 2003; López et al, 2013) showing that students who employ Deep Approach have the tendency for good academic achievement while those with Surface Approach have the tendency for poorer academic achievement.

Conclusion

This research attempted to explore the learning approach employed by the students participating in this study. Using Biggs, Kember, and Leung (2001) revised version of Bigg's (1987) SPQ, this study revealed the learning approach

of the 151 students participated in this research. It was revealed that there was a positive correlation between students' IC score and Deep Approach and a negative correlation between IC score and Surface Approach. However, these correlations were weak. It was also found that Deep Motive was associated with the students' achievement in that course. This correlation was also weak.

It should be noted that this study could not provide a prediction of students at risk. The weak correlation and inconsistency between students' IC scores and the SPQ scores showed that relying only on SPQ scores would not offer reliable data of the students who were having problems with their learning. Therefore, it should be clear from the findings of the present study that the student approach to learning was not the only factor that could affect the students' achievement in the Integrated Course. Carroll (1962) proposes that aptitude, motivation, and exposure are the keys of success in second language learning. This is similar to de Boot, Lowie, and Verspoor (2005), where they list age, aptitude and motivation as the important factors. Furthermore, in regard to individual differences, Dörnyei (2005) mentions other factors such as personality, learning styles, and learning strategies. This becomes even more complex when Lamb (2007) reported that the sociocultural background and economic circumstances could affect motivation, one of the important elements for successful second language learning. One recent study by Ellis, Han, & Pardo (2017) also suggests another element in the discussion. Also using the revised version of SPQ (Biggs, Kember, & Leung, 2001) as one of the instruments, they found that students' with deep approach is likely to have a more frequent engagement in online environment.Those studies provide broader issues that can affect successful second of foreign language learning. The learning approach examined in this study is only one of the possible variables that relate to achievement, and that might be the reason why Deep Approach did not show a substantial relationship to the students' achievement scores. Further studies need to be designed in order to search for variables that significantly contribute to the success of language learning.

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