
Students' self-directed learning readiness, perception toward student-centered learning and predisposition towards student-centered behaviour

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Abstract

Background: Sultan Agung Islamic Medical School implements a student-centered learning strategy for all its learning activities, as a consequence of applying a student-centered, problem-based, integrated, community-based, early clinical exposure/elective, and systematic (SPICES) approach since the year 2005. As student-centered learning is a new culture for most students, a study was conducted to explore factors which may influence student-centered behaviour.

Method: Study population consisted of 205 students from the 2005 and 2006 academic years. Students' perception toward student-centered learning and reported behaviour were identified using questionnaires which was based on the Principles of Adult Learning questionnaire. Self-directed learning readiness scores were calculated. Relative Risks (RR) were calculated using Cox regression analysis in order to identify the factors predisposing towards student-centered behaviour.

Results: The results indicate that 123 (60%) subjects practise student-centered behaviour. The students' self-directed learning readiness score (RR adjusted (RRa)=1.76, CI=1.39–2.22), positive perception toward student-centered learning (RRa=1.51, CI=1.26–1.82) together with students' area of residence (RRa=5.96, CI=1.75–2.22) are dominant factors which influence the student-centered behaviour. Gender, age and year of entry do not seem to affect the student-centered behaviour.

Conclusion: In order to improve the practice of student-centered behaviour, self-directed learning readiness and a positive perception toward student-centered learning should be encouraged. Students from outside Java Island should be given major attention and guidance to go through student-centered learning atmosphere.

Key words: SPICES

Introduction

Medical schools in Indonesia have been experiencing significant changes since 2005, especially in the area of curriculum development. This change started with the Ministerial Decree No. 045/2002 which states that the curriculum is the responsibility of each institute of education.

According to the decree, there is no longer a 'national curriculum', but instead, core competencies for each study programme should be decided and agreed on nationally. Educational Standards have also been produced by the Indonesian Medical Council, and applied to all medical schools from 2006. One such standard is that in applying the curriculum, the schools should make use of the SPICES (student-centered, problem-based, integrated, community-based, early clinical exposure/elective, and systematic) approach. Due to this paradigm shift, the Sultan Agung Islamic Medical School applied a competence-based curriculum and student-centered approach since 2005. It is well known that a student-centered approach gives students opportunities to improve their analytical skills, problem solving skills, as well as skills in deep learning, lifelong learning, self-directed learning

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and reflective learning (Amin & Khoo, 2003; Billings & Kowalski, 2005). This approach also motivates students to take responsibility for and to control their learning. The fast change in medical science also motivates schools to apply this approach; therefore, lectures are not considered sufficient to transfer knowledge from teachers to students. Students have to motivate themselves to explore the needed knowledge in self-directed learning activities, the core type of activity in the student centered approach.

As student-centered learning is a novel educational culture for most Indonesian students, factors which may influence the student-centered approach should be identified. This study aims to identify factors that predict a student-centered approach.

Methods

This study was approved by the Ethical Committee of the Faculty of Medicine, University of Indonesia. The students of the Sultan Agung Medical School of the 2005 and 2006 entry years were the subjects of this study.

Questionnaires were used to collect data of student-centered behaviour, self-directed learning readiness, students' perception toward the student-centered approach, and demographic information of the respondents.

Student-centered behaviour was assessed using a questionnaire based on Liu's (2005) Adapted Principles of Adult Learning (APAL). Validity and reliability testing revealed that all questions were

valid and had a reliability score of 0.880. Self-directed learning readiness scores were calculated using a self-directed learning readiness scale which was based on Fishers' (2001) self-directed learning readiness scale. Statistical analysis indicated that the questions were valid and had a reliability score of 0.898. Students' perceptions toward student-centered learning were gathered using the original APAL (Liu, 2005). The questions were found to be valid and had a reliability score of 0.853. The author guided students through the questionnaire and was available to explain and provide some additional information.

Verbal or written informed consent was obtained from all respondents. Statistical analysis was done using STATA 9 software. Relative risks (RR) were calculated to identify the factors predisposing to student-centered behavior using Cox regression analysis (Barros & Hirakata, 2003).

Results

A total of 283 students participated in this study. Of these, 78 students who submitted incomplete questionnaires were excluded. Table 1 indicates that the number of girls is three times higher than boys and the number of students from Java 9 times that of students from outside Java Island. The study identified 123 (60%) subjects with good student-centered behaviour, whilst the rest were found to practise behaviour which could be categorized as teacher-centered.

Table 1: Some demographic characteristics of subjects

	Student-centered behaviour			
	Not Student-centered (N=85)		Student-centered (N=123)	
	n	%	n	%
Gender				
Male	26	31,7	31	25,2
Female	56	68,3	92	74,8
Age				
16 – 17	2	2,4	3	2,4
18 - 20	72	87,8	101	82,1
21 – 26	8	9,8	19	15,5
Year of entry				
2005	50	61	71	57,7
2006	32	39,0	52	42,3

Students who obtained high scores of self-directed learning readiness were more likely to practise good student-centered behaviour and have a 76% chance to have good student-centered behaviour compared to those who obtain low scores of self-directed learning readiness.

Those who had positive perception towards student-centered learning were most likely to

have good student-centered behaviour and have a 51% opportunity to have good student-centered behaviour compared to those who have negative perceptions.

Students from Java Island were significantly more likely to have good student centered behaviour when compared to those from outside Java Island.

Table 2: Relationship between self-directed learning readiness, students' perception, students' area of residence and predisposition towards student-centered behaviour

	Student-centered behaviour		Adjusted Relative Risk*	95% Confidence Interval	p
	Not Student-centered (n=82)	Student-centered (n123)			
Self-directed learning readiness score					
Low to moderate	60	43	1,00	Reference	
High (ready)	22	80	1,76	1,39–2,22	0,000
Perception toward student-centered					
Not supportive	69	68	1,00	Reference	
Supportive	13	55	1,51	1,26– 1,82	0,000
Students' area of residence					
Outside of Java	18	2	1,00	Reference	
Inside Java	64	121	5,96	1,75–2,22	0,004

* Adjusted for variables listed on this table

Discussion

There are several limitations that should be considered in this study. The data on behaviour would be more reliable if obtained using observational methods rather than questionnaires.

However, the questionnaires used in this study meet all the requirements needed as instruments used to collect data; the questionnaires were found to be valid and reliable. The author was available for any clarifications regarding the questionnaire, with further explanations given when needed. The problem of boredom may have occurred during filling of the questionnaires as there were four questionnaires to be completed. To solve this problem, only one questionnaire was delivered on each day with four days needed to gather data.

The results indicate that approximately 40% of the students did not practise good student-centered behaviour. However, it is lower than the result of a study conducted by Spoon & Schell (1998) who reported that 57.57% of the subjects of their study used a learning approach which was in continuum with the teacher-centered approach. Other studies have also reported that students tend to choose a teacher-centered approach as their learning style rather than a student-centered one (Foglesong, 2002; Allesio, 2004).

Since our findings and other studies show a tendency that a sizable proportion of students practice a teacher-centered approach, efforts should be made to guide them to be more student-centered. Medical students should be encouraged to understand the benefits of and have a positive perception towards a student-centered approach.

Our findings indicate that 50% of the students had low to moderate scores for self-directed learning readiness. This number is higher than the result of a study conducted by Shokar *et al.* (2002), which reported that only 11% of students obtained self-directed learning readiness scores below the American standard score. Other studies also reported that students who encompass high scores for self-directed learning readiness have a higher tendency to use a student-centered learning approach than those who obtain low scores (O’Kell, 1998; Kukkamalla & Shobha, 2006).

Our study indicates that there were 137 (66.8%) students who had a negative perception towards student-centered learning. A study conducted by McCollin (2000) reported similar results, but Wang’s (2004) study indicated that adult learners tend to have a positive perception towards student-centered learning.

The result of our study shows that students who have a positive perception toward student-centered learning had a better tendency to practise good student-centered behaviour. This indicates that the better their perception is, the better their student-centered behaviour will be.

Analysis of students’ demographic factors indicates that gender, age, and students’ academic year were not predictive of student-centered learning behaviour. However, McCollin (2000) reported that gender and age are factors that affect student-centered behaviour. This variation indicates that the demographic factors may have different effects in diverse situations.

Students’ area of residence was the strongest predicting factor of student-centered behaviour. Students from Java Island showed a higher tendency towards student-centered behaviour when compared to those from outside Java Island. This finding indicates that culture might impinge on student learning skills and preferences (Gulid, 1994; Gutierrez, 2003). Consequently, in a multicultural school such as the Sultan Agung Islamic Medical School, which caters to students from different ethnicities and cultural backgrounds, teachers have to explore the students’ learning styles in order to adopt compatible teaching styles. (Hmieleski *et al.*, 2003). These findings also suggest that the school should give more attention to students from outside Java Island in order to make them better prepared for the student-centered learning atmosphere.

Conclusion

Self-directed learning readiness and a positive perception towards student-centered learning are dominant factors that positively affect student-centered behaviour. Students from outside Java Island should be given more guidance to better adapt to the student-centered learning atmosphere.

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