

# Perceptions of first year pharmacy students in transition from school to university

## Abstract

**Introduction:** We studied the perceptions of the pharmacy students on the transition from school to university education.

**Method:** A cross-sectional study was conducted on 110 first-year students of the Bachelor of Pharmacy (B. Pharm) at University Sains Malaysia (USM). The data were analyzed using SPSS (v 16.0). Descriptive statistics (frequencies and percentages), Chi-square test and the Cramer's V test were used to find a possible association between the demographic profile and the students' perception on the comparison of the educational experience of school to university.

**Results:** The students were unprepared for the transition from secondary to post-secondary education settings. Most of the students felt that the transition from school to university was difficult. Results indicate that students were adequately prepared for university teaching in school, yet many factors hindered the transition such as disparity in high school teaching methods, teachers support and student's psychology. Instructors at both the school and university level dealt with their queries satisfactorily and the teaching in university was tailored to deliver the course syllabus. Analysis of the results suggested that the feedback received in school helped students to improve their performance, which suggests that prior academic preparedness and student's engagement can play an important role in the smooth transition.

**Conclusion:** Investment in high-quality transition programs at the secondary educational level is needed. The transition will be smooth when correlations between curricula and effectiveness of programs exist.

**Keywords:** transition, Universiti Sains Malaysia, student, school, education

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## Introduction

A major predictor of success in academic life is the student's integration into higher education by successful transition from school to university. The change is in the learning environment, from a directed to self-directed learning, from dependent to independent learner, from studying in a closely monitored environment with a highly regulated schedule to manage their own time.<sup>1</sup> The higher education is a foundation for economic wellbeing and linked to long-term cognitive and social benefits and enhancing the quality of life.<sup>2</sup> For the students coming from lower socio-economic and underprivileged background, the success in higher education is more important.<sup>3</sup> The transition from school to university is a stressful and challenging experience.<sup>4</sup> According to Rausch & Hamilton,<sup>5</sup> most of the students withdraw from university during the first year particularly in the first semester. If the students successfully finish their first year, they are most likely to complete their degree. There has been increasing concern about the students being unprepared for entry to university courses. A survey conducted in the USA, found that there was a major difference between students' current learning habits and those expected of them at the university.<sup>6</sup> In Australia, the first year students in 2009 were more organised, pragmatic, focussed, and ready to choose a university course, and they believed that the final year of school prepared them well for university and their university subjects were built on their schooling. They were more satisfied with the advice they received on subject choices.<sup>7</sup>

Failure to complete a degree course by school-leavers is international. Multiple factors are responsible for why students leave or withdraw from their courses. The reasons for it are the lack of a planned

transition; prior academic preparedness; poor study habits. There are personal reasons; unemployment in the county; and prior residence for poor students which are beyond the control of universities.<sup>8-10</sup> Factors which influence on the stay or quit decision include poor course match; lack of social support; funding or challenges and lack of 'fit' between student and university.<sup>11,12</sup> The universities are also less equipped to accommodate the school graduates, particularly from disadvantaged backgrounds.<sup>13</sup> The passage from secondary to tertiary education varies considerably from one country to the other, and even within one country, from one institution to another. Such transition presents major difficulties for students who intend to enter to the tertiary level institutions.<sup>14</sup>

Interventions to improve university readiness and students' positive experience in the first year of higher education could contribute to better outcomes, such as student satisfaction and retention by offering a variety of services, such as academic preparedness, financial aid, psychosocial and behavioural support.<sup>15</sup> On the other hand, students to be supported by faculty and university administration by understanding their prior learning experiences, prepare them for university style learning.<sup>1</sup> Additional interventions such as summer bridge programmes, induction programmes, collaborative groups, learning communities, frequent feedback, and academic assistance programmes are key designed by colleges and universities to improve the retention and prevent drop out or withdrawal.<sup>16,17</sup> Worldwide, especially in Australia, student engagement is accepted as a key factor in student retention and lays foundation for successful study in upcoming years.<sup>18,19</sup> Given its importance, if key interventions are not taken, dropout will have financial implications for students, their families, society and the economy through the loss of potential skills

and knowledge.<sup>20</sup> Therefore, in this research, we anticipate to obtain the opinions and point of views of the first year students undergoing this transition to have better understanding about how they feel about this experience so that future educators can do better to aid these students in their learning development at a higher education level.

## Methodology

### Study design

Cross-sectional study design was used for this study by using language corrected, pre-validated and field tested questionnaire to access the first year students of Pharmacy at University Sains Malaysia (USM).

### Participant size

The study population comprised of 110 students as per the list obtained from general office in School of Pharmaceuticals Science.

### Data collection instrument

The questionnaire was designed to serve the aims and objectives of this study. The questionnaire consisted of four sections; Section A captured the demographic data (gender, ethnic group, age and pre-university level), Section B found the students' educational experience at their school, Section C identified the students' university educational experience and Section D was meant to evaluate the students' transition from school education to university. Likert scale was used to collect the data (0=strongly agree, 1=agree, 2=neither agree nor disagree, 3=disagree, 4=strongly disagree). The questionnaire was designed in English, as most of the students were first year university students and proficiency in English was good. Ethical approval was obtained from School of Pharmaceuticals Science, Universiti Sains Malaysia. The students, who were willing to participate in the survey voluntarily, signed the consent form.

### Data analysis

The data was analysed using Statistical Package for the Social Sciences version 16.0. Descriptive statistics (frequencies and percentages), the Chi-square test and the Cramer's V test were used to evaluate possible association between the demographic profiles and the students' perception on the comparison of school educational experience to university. The statistical significance was determined by using the value of  $p < 0.05$ . There would be a significant difference if the  $p$ -value was less than 0.05. All the analysed data was entered in tables to enable easy study of data, conveniently, comprehensively and understand it.

**Table 2** Students' educational experience at their school and university

Questions		Frequency	Percentage (%)
My learning was mainly (school)	Directed	11	10.2
	Self-directed	16	14.8
	Directed and self-directed	81	75
My learning is mainly (university)	Directed	5	4.6
	Self-directed	41	38
	Directed and self-directed	62	57.4
I expected my learning at university to be mainly	Directed	13	12
	Self-directed	40	37
	Directed and self-directed	55	50.9

## Results

With a response rate 98.2%, the majority of the respondents were women (74.1%). Among the respondents, 56.5% were Chinese and most of the respondents (66.7%) took their Pre University in Matriculation, (Table 1). Table 2 shows that most of the respondents ( $n=81$ , 75%) believed that their learning in school was mainly directed and self-directed. More than half of the respondents (57.4%) felt that their learning in B Pharm degree is mainly directed and self-directed. Majority of the respondents ( $n=55$ , 50.9%) thought that they expected their learning at university was mainly directed and self-directed.

Majority (53.7%) of the respondents agreed that the feedback they received in school helped them to improve their performance, while 55.6% suggested that the feedback they received in university helped them to improve their performance. Interestingly, most of sample size 62% agreed that their teachers in school and university deal with queries in a satisfactory manner. The 59.3% and 60.2% of the respondents felt that majority of teaching in school and university was clearly mapped to a course syllabus respectively. However, only 34.3% of the students felt that the way they were taught at school has adequately prepared them for university teaching. More than four out of ten (42.6%) of the students agreed that the transition from school to university was difficult (Table 3).

**Table 1** Demographic profile of respondents

Characteristics	Frequency	Percentage (%)	
Gender	Men	28	25.9
	Women	80	74.1
Ethnic Group	Malay	33	30.6
	Chinese	61	56.5
	Indian	11	10.2
	Others	3	2.8
	18	4	3.7
Age	19	82	75.9
	20	22	20.4
	21	0	0
	A-levels	2	1.9
Pre University	STPM	15	13.9
	Matriculation	72	66.7
	Others	19	17.6

The p value for ethnic group in question 6 was found to be < 0.05, which was <0.01 and the Cramer’s V value were 0.373. This shows that the relation between the question and ethnic group is moderate. The p value for ethnic group with question 7 was 0.005 while the Cramer’s V value was 0.270, which shows that the relation is weak. The relation of ethnic group with question 6 is stronger than question

7 as the Cramer’s V value for question 6 is moderate while Cramer’s V value for question 7 is weak. The Cramer’s V value for pre-university with question 15 is 0.276, which shows the two parameters have weak relation. Lastly, the Phi value for gender with question 17 indicates weak relation, with value of 0.306 (Table 4).

**Table 3** Evaluating students’ transition from school education to university

QN	Survey questions/Statement	Frequency (%)									
		1	2	3	4	5	6	7	8	9	10
6	The feedback I receive (school)	29	-26.9	58	53.7	19	17.6	1	0.9	1	0.9
7	Teachers deal with queries in a satisfactory manner (school)	15	-13.9	67	62	24	22.2	0	0	2	1.9
8	The majority of teaching was clearly mapped to a course syllabus (school)	24	22.2	64	59.3	16	14.8	4	3.7	0	0
9	The main emphasis was on preparation for examinations (school)	38	35.2	43	39.8	20	18.5	7	6.5	0	0
10	My teachers ensured I was adequately prepared for examinations (school)	26	24.1	50	46.3	27	25	4	3.7	1	0.9
12	The feedback I received helped me to improve my performance (university)	9	8.3	60	55.6	35	32.4	4	3.7	0	0
13	Academic staff deal with queries in a satisfactory manner (university)	6	5.6	67	62	26	24.1	8	7.4	1	0.9
14	The majority of teaching was clearly mapped to a course syllabus (university)	14	13	65	60.2	25	23.1	1	0.9	3	2.8
15	The main emphasis was on preparation for examination (university)	10	9.3	37	34.3	40	37	18	16.7	3	2.8
16	Academic staff ensured I was adequately prepared for examinations (university)	5	3.6	36	33.3	37	34.3	26	24.1	4	3.7
17	I know how to perform well in assessments (university)	5	4.6	30	27.8	51	47.2	17	15.7	5	4.6
19	The way I was taught at school has adequately prepared me for university teaching	9	8.3	37	34.3	30	27.8	23	21.3	9	8.3
20	The transition from school to university was difficult	24	22.2	46	42.6	26	24.1	12	11.1	0	0

**Table 4** P values (Chi-Square test)

Question	P value			
	Gender	Ethnic Group	Age	Pre-University
My learning was mainly (school)	0.114	0.409	0.333	0.139
The feedback I receive (school)	0.21	<0.01	0.868	0.482
Teachers deal with queries in a satisfactory manner (school)	0.81	0.005	0.605	0.714
The majority of teaching was clearly mapped to a course syllabus (school)	0.365	0.761	0.565	0.372
The main emphasis was on preparation for examinations (school)	0.247	0.33	0.784	0.819
My teachers ensured I was adequately prepared for examinations (school)	0.814	0.534	0.166	0.367
My learning is mainly (university)	0.558	0.626	0.093	0.73
The feedback I received helped me to improve my performance (university)	0.299	0.329	0.087	0.146
Academic staff deal with queries in a satisfactory manner (university)	0.594	0.155	0.983	0.993
The majority of teaching was clearly mapped to a course syllabus (university)	0.485	0.848	0.832	0.119
The main emphasis was on preparation for examination (university)	0.576	0.521	0.927	0.008
Academic staff ensured I was adequately prepared for examinations (university)	0.342	0.773	0.071	0.086
I know how to perform well in assessments (university)	0.038	0.358	0.585	0.318
I expected my learning at university to be mainly	0.835	0.908	0.877	0.873
The way I was taught at school has adequately prepared me for university teaching	0.314	0.207	0.745	0.885
The transition from school to university was difficult	0.37	0.175	0.661	0.514

## Discussion

In the past half century, an academic revolution has taken place in higher education and each year millions of students go from secondary to post-secondary education environment worldwide and in Malaysia. Parallel to this change and transition, students face series of unfamiliar challenges.<sup>4,21</sup> Transition or change, whether wanted or unwanted, creates stress for an individual<sup>4</sup> and transition from school to university is not an exception.<sup>22</sup> The change in the learning environment, both the system and complexity of study, adds to the stress.<sup>23</sup> The change in students career is a daunting task, whether eternally imposed or voluntarily sought, and it is crucial to bring modifications in the process in order to permit the students to adjust to needs of the university.<sup>17</sup> View of Selesho has been supported by Pitkethly & Prosser<sup>24</sup> that academic preparedness is pivotal to adjust at the university level. Similarly, if the transition is systematic with coordination of school and university management, it is not challenging and stressful.<sup>25</sup> Emotions, feelings and moral support can also affect the transition process. According to Caplan<sup>26</sup> individual's emotions are involved in a career change and a key aspect of the transition experience and managing these emotions is important.<sup>4</sup> Along with the emotional factors the parental attachment and detachment also affects the transition from school to university.<sup>27</sup>

Diverse internal and external actors play positive and negative role in the transition process from school to university, e.g. the learning environment. We found that the learning was more self-directed in the university than in school and this could be a challenge for the students. This is supported by James<sup>28</sup> that at high school, the study plans and learning is structured (directed) and when they arrive at university, they often find themselves in different and challenging environment. A teacher is no longer guiding the students at university and most of the studies are self-directed, thus students may lack motivation and feel isolation and helplessness.<sup>13</sup> Therefore, teachers in higher education are obliged to accept greater responsibility for helping students to become self-directed learners.<sup>29</sup> There are various other factors which affect students in the transition such as age, ethnicity, gender, intellectual development, academic performance, academic preparedness, and skills in computer and information literacy, time management, reading and writing and computer-based interaction.<sup>30,31</sup> Research has shown that study and literacy skills are necessary for the students in order to recognize when information is required and have the ability to locate, evaluate, and use effectively the needed information. Deficiencies in these skills can lead to academic difficulties and attrition.<sup>32</sup>

The other factors that affect students in their first of year of studies after admission in the university are divided into internal (students perspective, institutional perspective) and external factors (level of cultural capital, student support).<sup>33</sup> The students' involvement and engagement (social and academic integration) in the educational process are essential elements for persistence and ultimate success. The persistency of students could be enhanced by major institutional practices such as recruitment practices, orientation and induction, administrative and academic regulations, stress management and career planning programs.<sup>34,35</sup> The external factors such as finances, hours of employment, adjusted working schedules, family responsibilities, life crises, sickness, divorce and loss of a job, can adversely affect the persistency and adherence of the students.<sup>33</sup>

We found that students agreed that the feedback did help them in improving their performance. Feedback is one of the most dominant

influences on learning and assist the students weigh up their own performance, identify areas where they are right on, which is in contrast to evaluation, where the performance is judged by others. Formative feedback on progress enables learning, reinforces belonging, facilitates the development of self-assessment and also encourages positive motivational beliefs and self-esteem.<sup>36,37</sup> Most of the students agreed that the academic staff, both in school and university, dealt with their queries satisfactorily. Therefore, it is indicated that the professionalism of the academic staff be determined in providing appropriate answers, which meet the levels of requirement of the students. Most students agreed that majority of the teaching, whether in school or university, was mapped to the course syllabus. This shows that the academic staffs of the school and university are dedicated to their teaching. As pedagogical approaches have the advantage of helping students, faculty should therefore incorporate the pedagogies that match diverse learning styles by tailoring instructional design to the medium and to the learning needs and styles of the diverse students. Access to support services such as bookstores, library, and academic advisers is important.<sup>38</sup>

Due to the emphasis given on the preparation for examination, the students think that the school gives more emphasis on the preparation, than the university. On the whole, the education system in Malaysia still practices one-way transfer of knowledge whereby the teachers still dominate the students.<sup>39</sup> However, it is easier for the students to approach teachers in schools. There are more in-class activities and after-class discussion with the teachers in school. Unlike the academic staff in the university, who are busy with other activities outside university, and have no time to prepare their students for exams. The other reason behind this uncertainty is the unavailability of previous question papers to practice on, as every examination paper is not allowed to be brought out of the examination hall.<sup>6</sup> Therefore, for students it is of paramount importance to bridge this gap by getting acquainted with university environment and build networks with teachers during the first semester and later at revision and examinations.<sup>36</sup> These strategies will optimize learning skills and exam preparation of the students.<sup>40</sup>

The change in the mode of teaching from school to university is responsible for the feeling among students that the transition from school to universities is difficult. In this dislocation, academic readiness is important to find the right institutional fit, especially for students from low-income families<sup>41</sup> and students, who do not know enough about themselves and their future goals.<sup>42,26</sup> Therefore, it is important to find the right balance and try to get to know the university, settle into course of study, make new friends, acculturate, and get involved in social and cultural activities.

## Conclusion

Our findings indicate that higher educational institutions, educationalists and policymakers need to support university preparedness by establishing a systemic and comprehensive approach. The findings lead to suggestions for smooth transitions into tertiary education when correlations between curricula are in place, to help the transition.

## Data availability

All data generated or analyzed during this study are included in this published article. However, the datasets of the current study available from the corresponding author on reasonable request.

## Conflicts of interest

Authors declare that they have no conflicts of interest.

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## Ethics approval and consent to participate

Ethical approval for this study has been given by School of Pharmaceuticals Science, Universiti Sains Malaysia. The students, who were willing to participate in the survey voluntarily, signed the consent form.

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