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Original Research

Perception of Students about Teaching and Assessments in a Nigerian Pharmacy School

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Abstract

Background: Students have been identified as the first stakeholders of the teaching profession and their perspectives on teaching and learning should be considered. The study aimed to assess the perception of pharmacy students about teaching, learning and assessments.

Methods: The study was a cross-sectional survey of Pharmacy students (200L-500L) in Obafemi Awolowo University (OAU) Ile-Ife. At 95% confidence interval, the sample size used was 510. Data collection involved the use of pretested structured questionnaire. The instrument was administered to all the four levels using hard copy questionnaire. The data collection lasted about two weeks and the forms were retrieved from respondents immediately after completion. Data were analysed using descriptive statistics such as frequencies, percentages, standard deviations and mean while Kruskal Wallis test was employed for inferential determinations.

Results: Majority of the respondents (76.7%) had positive perception of lecturers and teaching across all the levels. However, there was a significant ($\chi^2 = 10.81$; $df = 3$; $p = 0.002$) increasing negative perception with students in higher levels. Majority of the students (91.1%) had positive perception about class participation and learning though not statistically significant ($\chi^2 = 3.68$; $df = 3$; $p = 0.298$) across the different levels. Most of the respondents (69.3%) had positive attitude about assessments in Pharmacy. There was a statistically significant increase in negative attitude about the impact of teaching and learning on assessments with level of the students ($\chi^2 = 8.836$; $df = 3$; $p = 0.032$).

Conclusion: The study concluded that the students had positive perception about teaching, learning and assessment. However, the students in the lower levels had more positive perception than those in the higher levels. Therefore, student in higher levels should be encouraged more during classes and clerkship trainings.

Keywords: Pharmacy education, Teaching, Learning, Assessment

Introduction

The global education system is evolving, and learning has gone beyond the four walls of a classroom.¹ There are various skills set needed by students for local and global relevance and such skillsets can be better harnessed by first understanding the perception of the students about teaching and assessment and then making the necessary reforms. Education is a process of teaching and learning whereby knowledge communicated effectively facilitates learning at different levels, and the knowledge acquired is assessed by a structured template to determine the degree to which learning has taken place.² Teaching is a system of actions intended to induce learning while learning is a change in performance or performance potential with the intent of providing the learner with the capability to perform actions that the individual had not previously accomplished.²

Education plays an important role in the life of an individual alongside its other numerous purposes, and quality education exerts major influences on the advancement of any country.^{3,4} It exposes an individual to a whole world of possibilities and equips the individual with a good sense of responsibility and necessary skills to be an impact on their immediate society and the world at large.^{3,5} Education is becoming dynamic and multi-layered, leaving behind its rigid structures of the mere student to teacher classroom-based relationship and hence, professionally competent teachers

are needed to drive this advancement alongside a flourishing and proficient educational system.¹ The approach students have adopted to learning influences their thoughts about classroom assignments and tests.⁶ Students should also be involved in the process of developing assessment tools so as to add more value to the learning process.⁷

According to Bhargava and Pathy, to attain a proficient educational system, there should be periodic reviews of the teaching system, which include the curriculum, library and the entire staffing system.³ The system should drive towards the build-up of the self-esteem and level of professionalism of the teachers, to instil positive attitudes towards the profession and thereby raise their level of competency. Wade and Moor stated that teachers need knowledge of pedagogy and training to develop themselves as adept teachers confident of their own ability and faith in the potentials of the students.⁸

Assessment, an essential component of teaching, is defined as a systematic process for gathering data about students' achievements.⁹ Struyven *et al.* are of the opinion that the impact of assessment is significantly observable on student performance.⁶ Dhindsa *et al.* noted that examining students' perceptions of assessment, stimulates students to develop an authentic and realistic assessment approach that rewards genuine effort and in-depth learning rather than measuring luck.⁹ Hence, assessment is perceived to serve two different purposes:

1) Informative: to improve instruction, and,

2) Summative: to measure students' achievement.¹⁰

In addition, assessment can be improved upon in order to increase learning. Some of the areas that can be improved upon include, the content and the characteristics of assessment, utilisation of assessment results, and integration of assessment as a course-in-teacher education programme. Recent assessment approaches attempt to increase the correspondence between what students need to learn and what is expected for them to know once they finish their studies.¹¹ The question remains whether students are taught so that they can excel on a test or whether they are taught to understand well enough to apply the knowledge acquired. As Dhindsa *et al.* summarised, teachers, sacrifice learning for drilling students in the things that their superiors will hold them accountable for.⁹ This claim needs to be treated carefully because the accountability of teachers may vary on the long- and short-terms. Goodrum *et al.* stated that, ideally, assessment enhances learning, provides feedback about student progress, builds self-confidence and self-esteem, and develops skills in evaluation. In addition, they argued that effective learning occurs when correspondence exists between teaching, evaluation and results. Therefore, due to its close relation with instruction and learning outcomes, assessment has a key role in learning.¹²

In a study carried out by Joshi and Pant in India on the perception of pharmacy students towards the profession, it was discovered that majority of the students indicated a high level of dissatisfaction with the level of the pharmacy education, i.e. poor student learning tools, poor teaching methods and poor evaluation methods.¹³ This points towards a need for reform in the education system within the pharmacy profession.

Furthermore, Dinesh *et al.* indicated that students' perspective towards teaching and evaluation methods plays an important role in judging the effectiveness of a teaching system. Implementation of the students' suggestions from the study showed improvements in the results of the students.¹⁴ In Nigeria, Maiwada admitted to students being stakeholders of education and should, therefore, be involved in evaluating the standard of classroom teaching.¹⁵ In addition, lecturers in Nigerian universities were found not to accept students' evaluation, but Iyamu and Aduwa-Oglebaen stressed that evaluation should be made mandatory and conducted regularly.¹⁶

The perception of the students about their teachers or lecturers is very important because according to a particular study on teaching, perception of the student affects the attitude of the student to his courses and inadvertently affects academic performance.¹⁷ Ibrahim also highlighted that the self-concept of the student develops in response to an external-stimuli from the learning environment of which lecturers form

an important part.¹⁸

In view of the foregoing, it is important to assess the perception of students to teaching and assessment in order to suggest ways to improve teaching and achieve better learning. The specific objectives of this study were to assess the perception of pharmacy students about teaching, learning and the impact of teaching and learning on assessments.

Methods

The study was a cross-sectional survey of pharmacy students at Obafemi Awolowo University (OAU), Ile-Ife. The participants' population were 553, comprising 200-500 level Pharmacy students. Stratified random sampling method was employed across different levels. The Krejcie and Morgan formula for determining sample size from a known population was used in the calculations.¹⁹ At 95% confidence interval, the sample size calculated was 455. An average of 15% was added to the calculated sample size to accommodate the unreturned questionnaires giving a total of 510. A set of pretested structured questionnaire was employed for data collection. A pilot study was conducted with 30 students from the population (who were excluded from the main study), to evaluate the instrument and the possible problems associated with data management were corrected. This questionnaire was designed using close-ended questions. The questionnaire had four sections with three dimensions, the dimensions directed the sectioning of the

questions : Section A: demographic information, while section B on 'the perception of students about lecturers and teaching' (first dimension) had eight questions on a Likert type scale rated: 1 = Not at all, 2 = Sometimes, 3 = Most of the time, 4 = All the time, and also rated the perception of the students about the overall teaching in the each department on a Likert scale of 1-10 (1 representing poor and 10 excellent). Section C had 18 questions in two parts, the first relating to 'the perception about learning' (second dimension) on a Likert type scale rated: 1 = Not at all, 2 = Sometimes, 3 = Most of the time, 4 = All the time, while the second part made inquiries about preferred lecturing methods. Section D, which was on 'the perception on courses and assessments' (third dimension) rated the perception of respondents about assessments on the same likert type scale stated above and others on a scale of 'Yes, No and Do not Know'. The professional judgment of senior faculty members ascertained the construct and face validity of the questionnaire. The internal consistency of the questionnaire was determined and gave a Cronbach alpha value of 0.87. Permission was obtained from the Dean before the questionnaires were administered to the different levels using the hard copy. Oral consent was obtained from each respondent before filling the questionnaire and it was also indicated clearly on the instrument. It took an average of 4 minutes to fill each copy. Data collection lasted about two weeks, and the questionnaires were retrieved.

The analysis of data was performed using SPSS version 20. Demographic data were presented as frequencies, percentages while perceptions were presented as descriptive statistics such as mean, standard deviations and weighted averages (WA). The weighted average was calculated using the formula, $(\sum fx / \sum f) = \text{Sum of (Number} \times \text{Weighting Factor)} / \text{Sum of all the Weights}$. Kruskal Wallis test was employed for inferential determinations for an association between the variables.

Results

A total of five hundred and ten (510) Pharmacy students filled the questionnaire properly, with a returning rate of 100%. The internal consistency of the questionnaire gave a Cronbach alpha value of 0.87.

Demographic data

There were more male respondents (61.4%) than female respondents (38.6%). A majority (92.4%) of the respondents were within the ages of 19-26 years, and less than 1.5% were above 30 years (Table 1). There were 154, 119, 112 and 130 students in 200L, 300L, 400L and 500L levels respectively.

Students'

Perception of Lecturers and Teaching

The results showed that many of the respondents (WA= 1.99) were sometimes satisfied with the way they were taught in pharmacy school, more than average (WA= 2.34) sometimes understood what they were taught in class, a good number (WA= 2.61) believed the lecturers have a good understanding of what was taught most of the time

while most (WA= 2.20) considered that lecturers in Pharmacy sometimes sympathise with students. Many considered lecturers sometimes (WA= 1.77) make unnecessary demands in class and a good number (WA= 2.05) were of the opinion that lecturers sometimes admitted when they were wrong. Out of the number that indicated lecturers made unnecessary demands, 36.6% highlighted demands such as assignments and laboratory reports, compulsory weekend class attendance (42.9%) and unnecessary impromptu presentations (17.9%).

Majority of all the respondents (76.4%) had a positive perception of their lecturers and teaching across all the levels. However, there was an increasingly negative perception with higher levels while there was decreased positive perception with increasing academic level. There was a significant association between academic level and perception of students about lecturers and teaching using Kruskal Wallis Test ($\chi^2 = 14.98$; $df = 3$; $p = .002$). It seemed that the longer the students stayed in school, the more negative their perception of lecturers and teaching were (Figure 1).

Evaluation of teaching across the different Departments in the Faculty was rated on a scale of 1 to 10 (1 representing poor and 10 excellent). The respondents in the lower levels (200L and 300L) rated Pharmaceutical Chemistry highest (mean = 6.7±2.) followed by Pharmacology (mean = 6.4±2.19) and rated Pharmaceutics the least (mean = 5.9±2.17). The students in

400 and 500 levels combined gave the highest rating to Clinical Pharmacy, and Pharmacy Administration (CPPA) department (overall mean = 6.5±1.88), followed by Pharmacology (mean = 5.9±1.77) the least rated was also Pharmaceutics (mean = 5.6±2.15). Pharmaceutics was rated least by 400 level students whereas Pharmacognosy was rated least by 500 level students (Table 1).

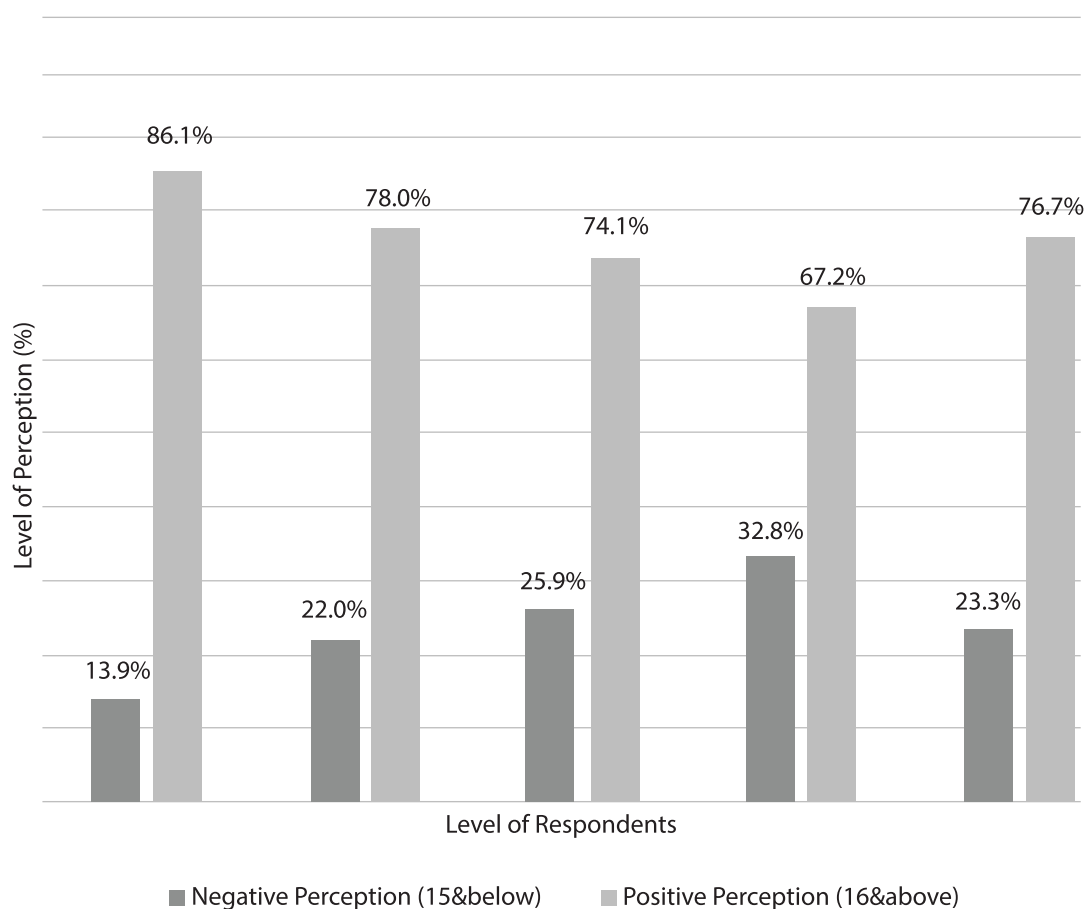


Figure 1: Perception of students about Lecturers and Teaching

Table 1: Students' Rating of Teaching in each Department in the Faculty of Pharmacy

Department/Level of the respondents	Mean±SD					Average Mean
	200	300	Average Mean	400	500	
Pharmaceutics	6.1±2.58	5.7±1.76	5.9±2.17	5.3±1.99	5.4±1.97	5.4±1.98
Pharmacognosy	6.1±2.46	5.9±2.25	6.0±2.36	6.0±1.93	5.4±2.21	5.7±2.07
Pharmacology	6.5±2.31	6.2±2.07	6.4±2.19	5.9±1.76	5.8±1.77	5.9±1.77
Pharmaceutical Chemistry	6.7±2.35	6.6±2.15	6.7±2.25	5.8±2.10	5.3±2.16	5.6±2.13
*Clinical Pharmacy and Pharmacy Administration				6.0±2.04	7.0±1.71	6.5±1.88

Mean (n =510)

*Courses in Clinical Pharmacy and Pharmacy Administration Department were taken only in 400 Level and 500 Level

The differences in the mean values obtained were significant across the levels from 200 to 500L for Pharmaceutics ($\chi^2 = 11.02$; $df = 3$; $p = 0.012$), Pharmacology ($\chi^2 = 12.54$; $df = 3$; $p = 0.006$), Pharmaceutical Chemistry ($\chi^2 = 32.36$; $df = 3$; $p = 0.000$) and CPPA ($U = 3829.5$, $p = .000$) but not Pharmacognosy. The students at the lower levels gave a more positive response about teaching in the different departments than students at higher levels except for CPPA where students in 500L gave the highest rating.

Students' Perception of Learning

The students indicated their preferred instructional style. Most

(56.0%) preferred a combination of didactic and interactive teaching methods, followed by those who preferred the interactive method only (42.5%). The result in Table 2 reveals that the traditional lecturing methods most preferred by the students were handouts (35.6%) and use of whiteboard (30.7%); whereas the most preferred electronic aid was the PowerPoint (64.0%). Majority of the students indicated they learn better when they had fewer courses to study (67.7%), and when asked about their ideal lecturer, they mostly considered lecturers who were competent and can deliver effectively (66.9%) to aid learning.

The students speak up and share

ideas in most classes (WA= 2.2). A good majority of the students also learn better by what they hear most of the time (WA= 2.8), what they see (WA= 3.1), and what they do (WA= 3.2).

Also, the students get encouraged when they were allowed to ask questions (WA=2.5), and when they answer questions (WA= 2.7). Furthermore, some were motivated to read more after lectures (WA= 2.4), get feedback from lecturers that help them to learn (WA= 2.2) and were motivated by assignments/homework (WA= 2.2) (Table 3).

Table 2: Preferred Lecturing Methods of Respondents

		Freq	%
Traditional	Blackboard	7	1.4
	Whiteboard	152	30.7
	Dictation	100	20.2
	Hand-written notes	60	12.1
Electronic aids	Handouts	176	35.6
	Powerpoint	311	64.0
	Videos	143	29.4
I can learn better by	Pictures	32	6.6
	More homework	150	31.1
	Fewer courses to study	327	67.7
Ideal lecturer profile to aid learning	Others	6	1.2
	Reasonable & compassionate for students	75	26.1
	Competence and can deliver effectively	192	66.9
	One who gives practice questions for exams	20	7.0

Table 3: Perception of Pharmacy students about Learning

	not at all		sometimes		most of the time		all the time		Weighted Average
	f	%	f	%	f	%	f	%	
Students speak up and share ideas easily in most classes	57	11.1	315	61.5	113	22.1	27	5.3	2.2
I learn better by what I hear	27	5.3	163	31.8	233	45.4	90	17.5	2.8
I learn better by what I see	18	3.5	76	14.8	259	50.6	159	31.1	3.1
I learn better by what I do	15	2.9	66	12.9	217	42.5	213	41.7	3.2
I get encouraged when I ask questions	60	11.8	192	37.9	175	34.5	80	15.8	2.5
I get encouraged when I answer questions	43	8.4	185	36.3	176	34.5	106	20.8	2.7
I am motivated to read more after most lectures	66	12.9	234	45.7	157	30.7	55	10.7	2.4
I get feedback from lecturers that helps me learn	128	25.2	221	43.6	126	24.9	32	6.3	2.1
I am motivated by assignments/homework	102	19.9	226	44.1	142	27.7	43	8.4	2.2

Key: Not at all= 1 Sometimes= 2 Most of the time= 3 All the time= 4

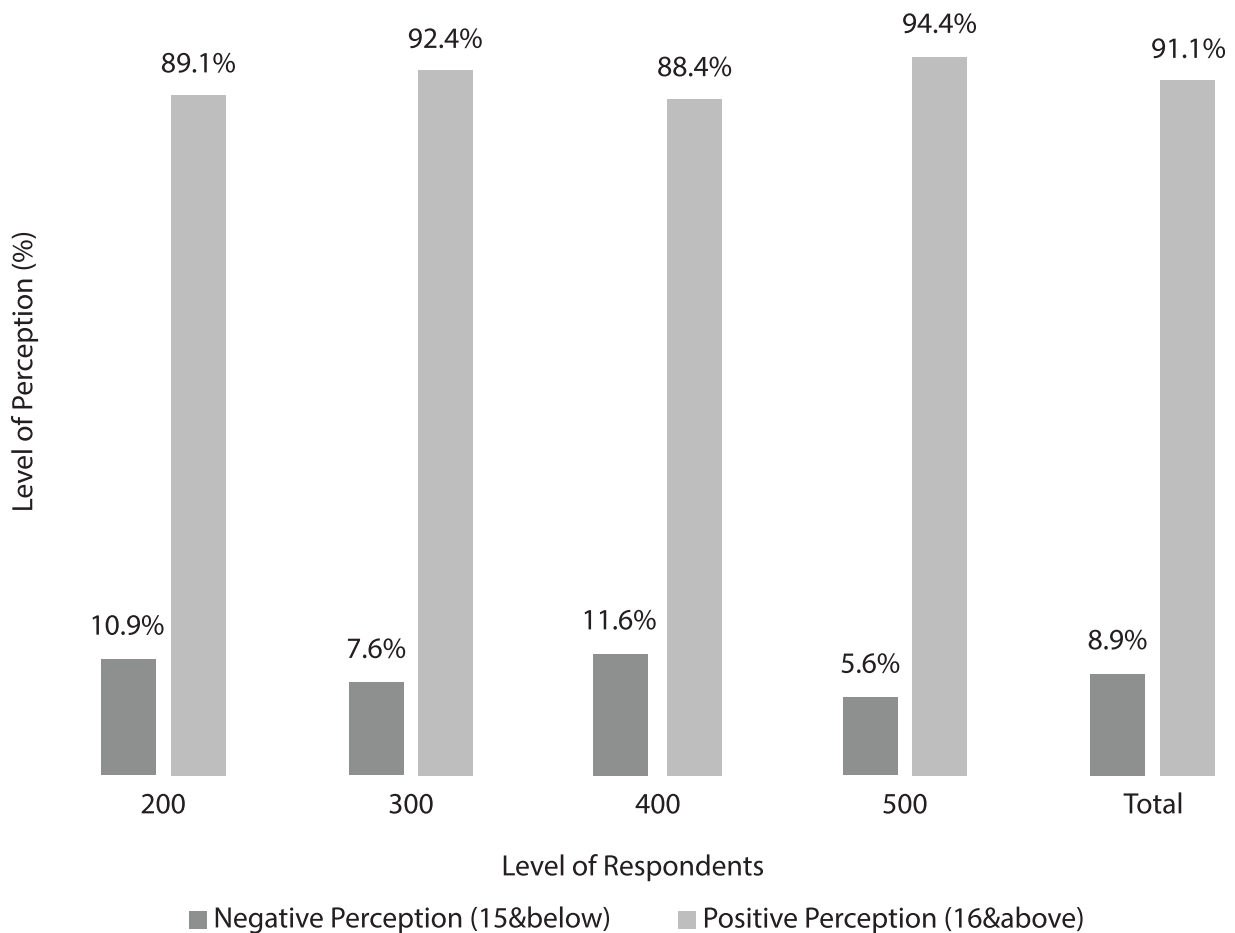


Figure 2: Perception of Class Participation

Most of the respondents in this study had a positive perception about class participation, the highest being the 400 level students (94.4%) (Fig. 2). There was no significant difference between the positive and negative perceptions across the different levels ($\chi^2 = 3.68$; $df = 3$; $p = 0.298$). The results also showed that the respondents would appreciate more class discussions (49.7%) and to be given class notes by all lecturers (38.7%).

Perception of Courses and Assessment

Majority of the students did not agree that making their own notes will help them perform better in tests and exams (69.2%); most consider that they do well in tests and exams because they were well taught in class (51.7%); the test and exams questions were understandable (69.7%), and the questions in test and exams were relevant to what they were taught (75.6%) (Table 4). More than half of the students believed that lecturers were sometimes considerate by giving practice questions for tests and exams (WA = 2.2) and felt they were

expected to memorise their notes for tests and exams most or all of the time (WA = 3.1). They were sometimes afraid before tests and exams (WA = 2.1); they were sometimes confident about themselves before any test or examination (WA = 2.3).

Table 4: Teaching and Performance of students in Examination

	Yes		No		Do not know	
	Freq	%	Freq	%	Freq	%
Will your performance in tests and exams be better if you are asked to write up your note?	156	30.8	219	43.3	131	25.9
Because I am taught very well, I have consistently done well in my tests and exams	259	51.7	138	27.5	104	20.8
Are test/exam questions understandable?	352	69.7	73	14.5	80	15.8
Are these questions relevant to what you were taught?	379	75.6	65	13.0	57	11.4

Respondents also indicated that tests and examination in pharmacy school, sometimes truly assessed understanding of the courses taught (WA=2.1) (Table 5).

Table 5: Perception of Respondents about Assessments in OAU Pharmacy school

	Not at all		Sometimes		Most of the time		All the time		Weighted Average
	Freq	%	Freq	%	Freq	%	Freq	%	
Lecturers in Pharmacy are considerate with what you are expected to know for tests and examination	82	16.2	265	52.3	136	26.8	24	4.7	2.2
I am expected to memorise my notes to write examinations and tests	24	4.7	95	18.7	199	39.3	189	37.3	3.1
I am afraid before any test or examinations because I am not sure I really understand the courses	95	18.8	276	54.8	103	20.4	30	6.0	2.1
I am confident about myself before any test or examination	52	10.3	262	52.1	159	31.6	30	6.0	2.3
Tests and examinations in Pharmacy school truly assess understanding of the courses taught	135	26.7	229	45.3	107	21.1	35	6.9	2.1
Tests and examinations in Pharmacy school do not go beyond what has been taught	75	14.8	198	39.1	166	32.8	67	13.2	2.4

Key: Not at all= 1 Sometimes= 2 Most of the time= 3 All the time= 4

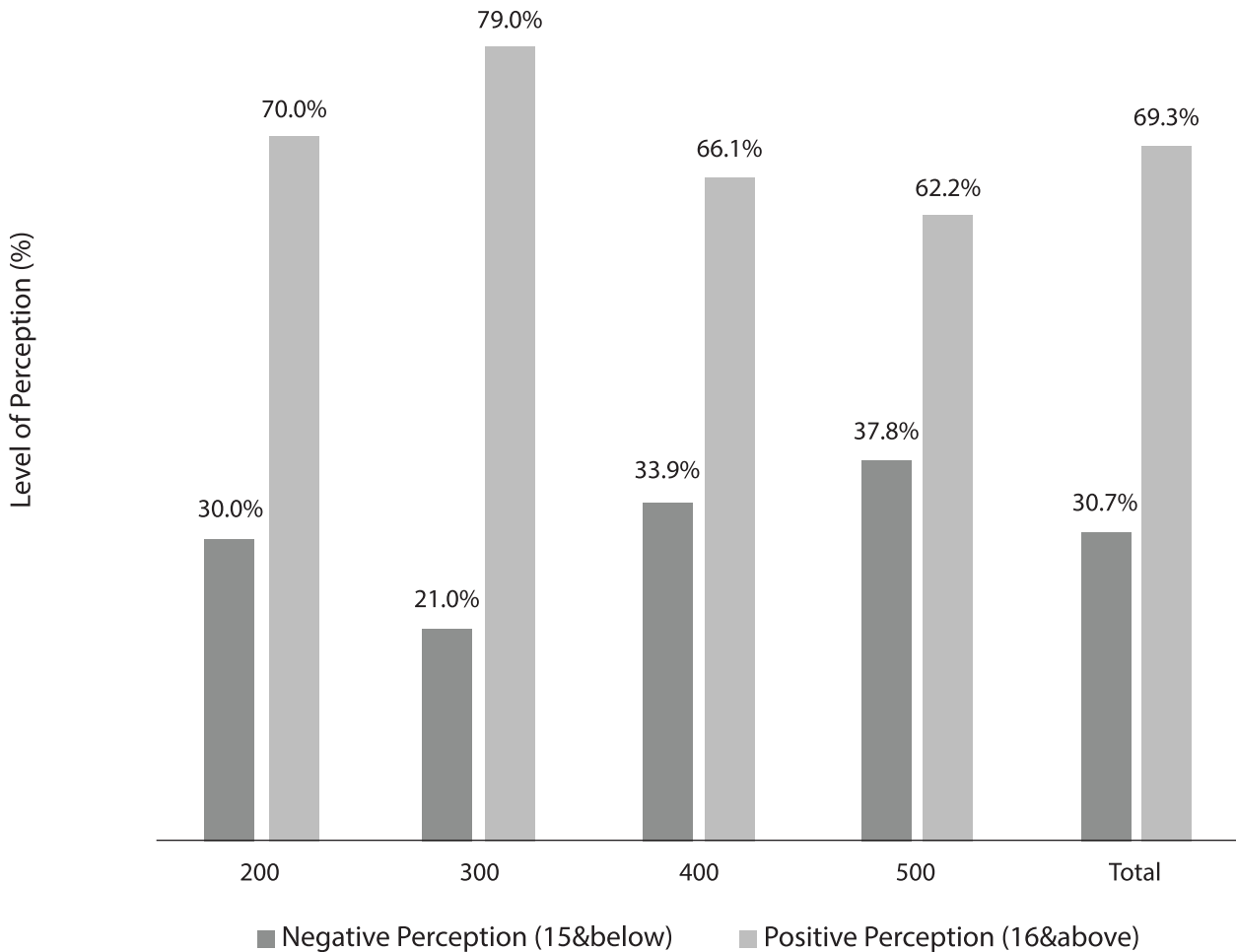


Figure 3: Perception of the Pharmacy students about Assessments by Level

Figure 3 shows that majority of the students had a positive attitude about assessments in Pharmacy. It could also be seen that there was an increasingly negative attitude about assessments with higher academic level. Kruskal Wallis test shows that there was a significant association between academic level of respondents and their attitude to the impact of teaching and learning on assessments ($\chi^2 = 8.836$; $df = 3$; $p = 0.032$).

Discussion

Students have been identified as the first stakeholders of the teaching profession, and their perspectives should be taken seriously.¹²⁰ In this study, the students, had a mostly positive perception about teaching and satisfaction with how they were taught in pharmacy school. This contrasts with a study involving pharmacy students in India, who showed dissatisfaction with their teaching environment and methods.¹³ Even though some of the students indicated some lecturers made unnecessary demands like impromptu presentation and classes, they summarily had a positive perception about their lecturers which was reflected in their responses to other inquiries. The positive perception decreased significantly from the lower to the higher levels showing that students in lower levels were more satisfied with their lecturers teaching than those in the higher levels. This could be as a result of the enthusiasm fresh students normally have when they start their professional year, and this zeal has been shown to gradually diminish as the student progresses in their training.²¹ There is also the possibility that the judgment of students in the lower classes is limited when compared to students in higher levels who have had more experience and exposure to the spectrum of courses offered in all the departments.²² The students in the lower levels were more positive about the way courses were taught in pharmaceutical chemistry when compared to pharmaceuticals probably because

their previous knowledge of chemistry might have aided their understanding as compared to pharmaceuticals which has no relevant prerequisite. The evaluation of students in the lower and higher classes were however comparable for pharmacognosy probably due to the nature of the course, as each new level reveals unfamiliar territory from 200L to 500L.

The students in the higher levels, however, ranked the Department of Clinical Pharmacy and Pharmacy Administration highest in teaching which could be because its courses are practice-related, i.e. in hospital and community pharmacy settings. It is also possible that the students welcome new things more readily since the CPPA courses are introduced in their 400L.

The students in this study preferred a combination of didactic and interactive learning methods even though a good percentage preferred only the interactive type. The study of Sempere *et al.* shows that students appreciate interactive learning which increases learner's participation in the learning process and reduces boredom. Some students however do not agree with the continuous application of this method because it is in contrast with the passive listener status, they have become accustomed to in the direct teaching method.²³ The students' learning is just as important as the teaching; in fact, learning gives feedback about the effectiveness of teaching. When lecturers understand that learning is the goal of teaching, they will adopt better approaches to teaching.²⁴

The use of PowerPoint and handouts have been associated with taking fewer notes during lectures which can aid better concentration and participation in-class activities that can contribute to better performance in tests/examinations.²⁵ The students found learning easier with lecturers who were competent in the delivery of their courses. Furthermore, the students had a positive perception of 'class participation' improving their learning experience.

According to the students, being asked to make their own notes after lectures did not improve their grades which could be due to their laziness or because they believe this is time-consuming and can be a distraction to studying properly for exams. When assessments are properly done, the teacher helps the students understand their deficiencies and seek improvement.²⁶ Thereby, the lecturers are able to fill the information gaps and improve the learning process.²⁷ The skill of the lecturer is made apparent by his/her proficiency in adapting the appropriate assessments to achieve teaching goals.²⁸ However, it has been reported that note-taking (which requires students to identify important material and transcribe into their own notes) can improve learning.²⁹

Many of the students reported being taught well enough to pass their exams, although most of the students felt they were expected to memorise their notes for assessments. This will not facilitate active learning which helps students make a connection between theory and practice.³⁰ The practice of giving

students questions to work on before assessments appeared helpful, although a disadvantage may be that the students would not revise all the course content but focus on the questions. Many students were afraid of assessments. Teachers should strive to help students understand rather than merely memorising the notes because it was observed from this study that the students were afraid, they might forget what they crammed.

Generally, the students had a positive attitude about the impact of teaching and learning on assessments, even though there was an increasingly negative attitude with students in higher academic levels than the lower level. Consequently, instructors of Pharmacy students should encourage the students in the higher classes to have a positive perception in the profession. School management should provide multimedia facilities to aid teaching. In addition, bulky courses can be made more interesting with the use of teaching aids.

Conclusion

The study concluded that the students generally had a positive perception about teaching, learning and assessment, which was higher in lower levels. It also concluded that the students preferred a combination of both didactic or teacher-directed and interactive instructional methods for study.

Recommendations

It is important lecturers are aware of the perception of their students to

their teaching so that they teach more effectively in the classroom. The skills of explaining, describing and questioning should be acquired by all teachers to achieve teaching goals. Effective teachers have a good knowledge of the subject matter, use various instructional strategies and have a good knowledge of assessment, thereby improving the students' academic performances.

^{31,32,233}

Conflicts of Interest

There are no conflicts of interest for this study.

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