Original Research Article

Satisfaction with teaching and learning quality among undergraduate pharmacy students in a Nigerian university

Paul Otor Onah*, Siyaka Abdulateef, Ahmed Abdulmalik

Introduction

In many institutions of higher learning there is an increasing acceptance that student satisfaction with quality of teaching and learning environment is an important component of the overall educational experience. This came from the realization that there is a direct relationship between satisfaction with quality of learning environment and academic achievement. There is also awareness that high quality teaching and learning environment is critical to sustenance of improvement in student academic performance.\(^1\) There are reports that the information from student satisfaction assessment has found the use in designing programs intended to sustain improvement in the quality of teaching as well as learning.\(^2\) High level student satisfaction is reflected when there is positive perception of the quality of how well learning environment support their academic pursuit.\(^3\)

It is generally understood that University administrators have reasonable level of control over physical

ABSTRACT

Background: There is increasing acceptance that learning environment has significant impact on academic performance. Learning and teaching experiences influence satisfaction and perception of quality. Pharmacy education in Nigeria is evolving rapidly with new emphasis on acquisition of cognitive skills that upon graduation students can effectively implement pharmaceutical care. The evaluation of satisfaction can be used as a measure of quality and feedback system of teaching and learning experiences of students. The purpose of this study is to assess satisfaction with teaching and learning and their determinants.

Methods: This was a cross sectional survey study involving third to fifth year pharmacy students. The educational service quality instrument was used to elicit response on items related to satisfaction. The 37-item questionnaire was administered on consenting students to elicit responses on a five-point Likert scale. The data was analyzed using descriptive statistics and one way ANOVA with post Hoc test. Factor analysis using principal component analysis and varimax rotation was used to identify items that have the most impact on satisfaction. P≤0.05 was considered statistically significant

Results: Majority of students have less than average satisfaction across six domains of the instrument, though significant differences exist between lower and higher-level students in areas of administration and expertise (p<0.01). Several studies reported contrasting results some of which have comparable results with this study. Satisfaction and its determinants vary widely so emphasis should be in areas that produce the greatest impact on academic performance

Conclusions: Satisfaction with quality of learning is generally low and there is need for institutions leadership to improve learning environment for students.

Keywords: Satisfaction, Quality, Teaching, Pharmacy students, Determinants, Environment


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*Correspondence:
Dr. Paul Otor Onah,
E-mail: onahpaul439@yahoo.com

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In spite of arguments about inherent difficulties, measurement of satisfaction has found application across service industry and education.\(^1\) Satisfaction therefore represents the overall education experience, interactions with staff members and services received in and out of classroom, feedback system facilities, staff competence as well as administrative and social support services. Satisfaction involves multiple components, so availability of proper infrastructure, good services and supportive learning environment may not necessarily improve student perceptions of quality.\(^1\)\(^-\)\(^4\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\(^\)\[^{
Satisfaction score with interpersonal relationships was low (42%) and there was no significant difference based on level of study (Table 2).

There appeared to be declining level of satisfaction with perception of faculty expertise with increasing years of study. Satisfaction level was significantly higher with third year students compared to higher levels of study as shown in the Table 3.

Satisfaction with communication was less than average, and third year students satisfaction appeared to be higher compared to higher level students (Table 4).

Overall satisfaction level of this domain was less than average and appeared to decline with years of study. There was significant difference in satisfaction level between third year students and higher levels of study (Table 5).

The level of satisfaction level for this domain was less than average and there is no significant difference between years of study.

Table 1: Influence of facilities on satisfaction.

| F                                      | Satisfaction (%) | 300 L, mean (SD) | 400 L, mean (SD) | 500 L, mean (SD) | P value |
|----------------------------------------|------------------|------------------|------------------|------------------|---------|
| There are modern teaching tools and equipment | 0.743 40.5       | 2.69 (1.28)      | 2.27 (0.99)      | 2.42 (1.06)      | 0.104   |
| Physical facilities are appealing and comfortable | 0.811 33.7       | 2.74 (1.25)      | 2.11 (0.99)      | 2.31 (0.99)      | 0.003   |
| Facilities are convenient and accessible | 0.838 32.2       | 2.38 (1.13)      | 2.24 (1.09)      | 2.14 (0.91)      | 0.399   |
| Information systems are adequate for my needs | 0.784 47.2       | 2.68 (1.19)      | 2.58 (1.29)      | 2.69 (1.15)      | 0.836   |
| I think ICT facilities are an important asset | 0.473 50.1       | 1.74 (0.84)      | 1.74 (0.83)      | 1.82 (0.96)      | 0.832   |
| Facilities are available for my use all the time | 0.654 63.4       | 2.69 (1.29)      | 3.47 (1.37)      | 2.97 (1.22)      | 0.002   |
| Average                                | 44.5             |                  |                  |                  |         |

Table 2: Influence of interpersonal relationships on satisfaction.

| F                                      | Satisfaction (%) | 300 L, mean (SD) | 400 L, mean (SD) | 500 L, mean (SD) | P value |
|----------------------------------------|------------------|------------------|------------------|------------------|---------|
| Staff members are friendly and approachable | 0.809 39.0       | 2.12 (1.11)      | 2.44 (1.11)      | 2.46 (1.18)      | 0.141   |
| My lecturers are ready and willing to help | 0.741 34.6       | 2.09 (0.96)      | 2.21 (1.16)      | 2.51 (1.04)      | 0.067   |
| They are available outside class hours | 0.709 46.3       | 2.40 (1.22)      | 2.47 (1.18)      | 2.61 (1.09)      | 0.563   |
| The staff keep their promises | 0.805 45.9       | 2.38 (1.17)      | 2.70 (1.25)      | 2.66 (1.03)      | 0.221   |
| The behavior of staff instill confidence | 0.696 52.2       | 2.24 (1.29)      | 2.36 (1.17)      | 2.48 (1.13)      | 0.490   |
| I see honesty in their dealings with me | 0.808 47.8       | 2.38 (1.34)      | 2.71 (1.17)      | 2.52 (1.13)      | 0.292   |
| I am treated with deserved respect | 0.797 28.3       | 2.21 (1.23)      | 2.64 (1.33)      | 2.49 (1.27)      | 0.141   |
| Average                                | 42.0             |                  |                  |                  |         |

F=factor loading (Principal component analysis with varimax rotation).
Table 3: Influence of faculty expertise on satisfaction.

|                                    | Satisfaction (%) | 300 L, mean (SD) | 400 L, mean (SD) | 500 L, mean (SD) | P value |
|------------------------------------|------------------|------------------|------------------|------------------|---------|
| Lecturers have knowledge to answer questions | 0.891            | 34.6             | 1.69 (0.88)      | 2.08 (0.88)      | 2.28 (1.11) | 0.002   |
| Staff are current with new developments       | 0.931            | 25.4             | 1.71 (0.91)      | 2.12 (0.90)      | 2.28 (1.16) | 0.003   |
| They show understanding on relevant topics | 0.90             | 35.6             | 1.65 (1.01)      | 2.00 (0.89)      | 2.03 (1.03) | 0.012   |
| **Average**                           | **31.9**         |                  |                  |                  |         |

F=factor loading (Principal component analysis with varimax rotation).

Table 4: Influence of communication system on satisfaction.

|                                    | Satisfaction (%) | 300 L, mean (SD) | 400 L, mean (SD) | 500 L, mean (SD) | P value |
|------------------------------------|------------------|------------------|------------------|------------------|---------|
| There is consistency in grading and information | 0.756            | 38.5             | 1.84 (1.03)      | 2.32 (1.02)      | 2.20 (1.15) | 0.024   |
| I receive explanations in ways I can understand | 0.841            | 46.3             | 2.10 (1.17)      | 2.30 (1.02)      | 2.23 (1.02) | 0.553   |
| They have my best interest at heart | 0.733            | 42.4             | 2.15 (1.27)      | 2.42 (1.04)      | 2.52 (1.63) | 0.240   |
| There is attempt to understand my needs | 0.836            | 46.3             | 2.10 (1.19)      | 2.58 (0.99)      | 2.28 (1.17) | 0.052   |
| There is clarity of what is expected of me | 0.824            | 50.2             | 2.15 (1.19)      | 2.33 (0.90)      | 2.21 (1.13) | 0.601   |
| There is adequate feedback on my performance | 0.780            | 45.5             | 2.07 (1.33)      | 2.50 (1.15)      | 2.46 (1.24) | 0.088   |
| **Average**                           | **44.9**         |                  |                  |                  |         |

F=factor loading (Principal component analysis with varimax rotation).

Table 5: Influence of general administration on satisfaction.

|                                    | Satisfaction (%) | 300 L, mean (SD) | 400 L, mean (SD) | 500 L, mean (SD) | P value |
|------------------------------------|------------------|------------------|------------------|------------------|---------|
| There is sincerity/interest to solve student problems | 0.811            | 48.3             | 2.04 (1.32)      | 2.73 (1.17)      | 2.48 (1.32) | 0.008   |
| Leadership is friendly and approachable | 0.826            | 48.3             | 1.96 (1.29)      | 2.62 (1.16)      | 2.21 (1.27) | 0.009   |
| I feel they are dependable | 0.803            | 51.7             | 2.04 (1.29)      | 2.71 (1.15)      | 2.34 (1.22) | 0.008   |
| I believe there are attempts to understand my needs | 0.804            | 43.9             | 2.09 (1.36)      | 2.53 (1.09)      | 2.39 (1.26) | 0.110   |
| There is promptness of action to resolve problems | 0.826            | 42.4             | 2.15 (1.36)      | 2.68 (1.24)      | 2.49 (1.26) | 0.054   |
| I see willingness to help me | 0.903            | 42.4             | 2.01 (1.25)      | 2.53 (1.13)      | 2.28 (1.21) | 0.047   |
| I know they are honest with me | 0.825            | 43.4             | 2.07 (1.24)      | 2.50 (1.14)      | 2.14 (1.13) | 0.078   |
| Their behavior instill confidence in me | 0.868            | 46.3             | 2.13 (1.30)      | 2.56 (1.08)      | 2.28 (1.24) | 0.120   |
| They are sensitive to student confidentiality | 0.825            | 41.0             | 2.00 (1.23)      | 2.50 (1.18)      | 2.23 (1.19) | 0.058   |
| I am kept informed of issues that concern me | 0.789            | 39.5             | 2.04 (1.14)      | 2.53 (1.17)      | 2.32 (1.20) | 0.056   |
| They treat me with respect | 0.770            | 56.6             | 1.81 (1.39)      | 2.27 (1.21)      | 2.20 (1.38) | 0.097   |
| They have knowledge to answer my questions | 0.702            | 32.7             | 1.63 (1.17)      | 2.08 (0.93)      | 2.03 (1.19) | 0.040   |
| There is consideration of student opinions/concerns | 0.762            | 31.2             | 2.12 (1.57)      | 2.67 (1.32)      | 2.34 (1.36) | 0.082   |
| **Average**                           | **49.7**         |                  |                  |                  |         |

F=factor loading (Principal component analysis with varimax rotation).
Table 6: Comparison of determinants of satisfaction.

| F | Satisfaction (%) | 300 L, mean (SD) | 400 L, mean (SD) | 500 L, mean (SD) | P value |
|---|------------------|------------------|------------------|------------------|---------|
| I am satisfied with physical facilities | 0.796 | 42.9 | 1.84 (1.32) | 2.06 (1.11) | 1.90 (1.12) | 0.538 |
| I am satisfied with the high-quality education | 0.827 | 46.3 | 1.71 (1.17) | 1.92 (0.98) | 1.85 (1.08) | 0.409 |
| I am satisfied with the quality of teaching | 0.858 | 30.7 | 1.87 (1.13) | 2.33 (1.10) | 2.11 (1.20) | 0.087 |
| I am satisfied with the extent of teaching | 0.851 | 34.1 | 2.06 (1.38) | 2.33 (1.01) | 2.13 (1.16) | 0.385 |
| I am satisfied with library facilities | 0.792 | 43.9 | 1.66 (1.11) | 1.97 (0.93) | 1.86 (1.03) | 0.216 |
| I am satisfied with my intellectual development | 0.848 | 48.3 | 1.93 (1.26) | 2.12 (1.06) | 1.80 (0.94) | 0.227 |
| I am satisfied with the administration of faculty | 0.807 | 41.6 | 2.04 (1.41) | 2.33 (1.14) | 1.97 (1.12) | 0.198 |
| I am satisfied with the curriculum of my program | 0.808 | 34.7 | 2.18 (1.42) | 2.35 (1.17) | 2.23 (1.26) | 0.672 |
| Average | | | 2.18 (1.16) | 2.35 (1.17) | 2.23 (1.26) | 0.672 |

F=factor loading (Principal component analysis with varimax rotation).

**DISCUSSION**

Satisfaction with quality of teaching and learning is an important component of overall educational experience. The facilities and support services provided for students by the institution are aimed at enhancing their quality of learning. The results of this study showed low to moderate level of satisfaction across all the domains evaluated similar to some previous studies.19-21 This result is in contrast to high level satisfaction earlier reported, where it was added that there is a strong relationship between satisfaction and academic performance.2 Students with high level satisfaction were reported to have higher grades compared to those with low level of satisfaction. Pharmacy education is intensive with high work load, long hours of study and long duration of training, so organization of teaching and learning environment has the potential to influence satisfaction. The intellectual, physical, socioeconomic and psychological demands of training place enormous responsibilities on students, so teaching and learning environment should be as supportive as possible if satisfaction and positive academic outcomes is to be achieved.

While there was low level satisfaction with physical facilities; significant differences exist in between third-and fifth-year students with the latter expressing more dissatisfaction. Physical infrastructure has been reported to influence student satisfaction and the low level of satisfaction observed in this study is similar to several studies.10,19,23,24 There appear to be steady decline in the level of satisfaction as student’s progress in their academic programs. This observation is consistent with studies which reported that older students tend to be less satisfied compared to fresh students. Students at higher levels of study have greater demands and expectations and are more likely to be dissatisfied with low quality facilities.25-27 In addition older students’ expectations and perceptions have evolved through experiences and therefore more likely to express their views on satisfaction; though this view was disputed.28,29

Satisfaction with academic and administrative interpersonal relationships was also low. Students expect cordial, friendly, and approachable relationship with faculty staff, so where such relationship is strained, ineffective or difficult, dissatisfaction is highly probable. Some studies noted that out of classroom interaction with staff can have positive influence on academic outcomes and increase levels of satisfaction.30,32 There appear to be no significant differences between the various levels of study with regards to staff student interactions. Majority of fifth year students have low satisfaction with faculty expertise compared with third-and fourth-year students. This observation was consistent across other domains where higher-level students expressed lower satisfaction due to poor quality learning experience.33 The probable reason here may be related to ineffectiveness of teaching methods and absence of student feedback which often leads to frustration and dissatisfaction.

In the aspect of communication and administration, satisfaction was low to moderate similar to previous studies.34,35 Open channels of communication within the faculty that allows staff to show interest and willingness to help support students’ academic should be encouraged effort. It is also important that information from such interaction provides valuable feedback on student performance and how best to respond to their challenges in a timely way. It could also be related to deficiencies in availability of services and/or challenges with quality-of-service delivery. Modern day administration must lay emphasis on understanding the unique needs and problems of students, develop relevant and effective communication as well as support systems that deliver services timely. Where these elements are either missing
or are not being delivered optimally, there is likelihood of frustration and dissatisfaction.

**CONCLUSION**

The overall level of satisfaction of students is low to moderate and it tended to decline with higher levels of study. There is need for faculty authorities to consider changes to management systems to make it more acceptable and conducive for students.

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