



Undergraduate Medical Radiologic Technology students’ perceptions of the factors influencing their academic performance

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A thesis submitted to College of Health Sciences, Addis Ababa University in
partial fulfillment of masters of Science degree in Health Science Education

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This is to certify that the thesis prepared by Ali Beyene entitled “Undergraduate Medical Radiologic Technology students’ perceptions of the factors influencing their academic performance”, submitted in partial fulfillment of masters of Science degree in Health Science Education compiles with the regulations of the University, and meets the accepted standards with respect to originality and quality

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A Research Thesis submitted to department of Health Sciences Education in partial fulfillment of the requirement for the MSc Degree in health sciences education

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Contents

Acknowledgement	3
Abstract	4
Abbreviations	5
1. Introduction	6
1.1. Background.....	6
1.2. Statement of the problem	6
1.3. Significance of the study	7
1.4. Research Question.....	7
1.5. Objective of the Study.....	7
2. Literature Review	8
3. Theoretical Framework	10
4. Methodology	11
4.1. Setting.....	11
4.2. Recruitment and selection criteria.....	11
4.3. Interviews and data collection.....	12
4.4. Data Analysis	12
5. Results	14
Theme 1: Unsuitable College Environment.....	14
Theme 2: Inadequate Campus Facilities	15
Theme 3: Poor school management	19

Theme 4: Factors related to learning and teaching activities (teacher related factors)	21
Theme 5: Student related factors affecting academic performance.....	23
6. Discussion.....	26
7. Limitations & strength	31
8. Conclusion	31
9. Recommendations	32
10. Future Implications	32
11. Knowledge Dissemination	33
12. References.....	33
13. Appendix.....	36
A. Consent Form for Interviews	36
B. Semi-structured interview guiding questions.....	37

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Abstract

Background: Higher education institutions, including medical schools, still grapple with the challenge of poor academic performance of students. However, limited detailed insights and understanding of the factors contributing to academic performance of medical students who experience challenges that are more complex are available. **Objective:** The study aims to identify the factors that students perceive to affect their academic performance in undergraduate studies. Identification of the factors associated with poor academic performance and their root causes can help in improvement of students learning by suggesting remediation, appraisal and support mechanism to the concerning stakeholders within the educational institution.

Methods: This study was conducted at college of health sciences, Addis Ababa University, Ethiopia to determine Undergraduate Medical Radiologic Technology students' perceptions of the factors influencing their academic performance. Semi-structured interview was conducted with undergraduate final year MRT students. The Interviews were recorded and transcribed verbatim. Results were categorized and analyzed by thematic content analysis methods. **Results:** Different factors affecting academic performance of the students were identified: factors related to unsuitable college environment, factors related to inadequate campus facilities, factors related to poor school management systems, factors related to teachers and individual students. The root causes contributing to the students' academic performance were lack of interest on the department, fear of future career development and lack of strict follow up of the students. Inadequate facilities such as lack of transportations, library, demonstration and skill lab., and classrooms were directly related to academic performance of the students. Lack of student's supervision is the most common factor affecting performance at clinical learning areas. **Conclusion:** collection of factors related to the college environment and facilities, factors related to poor management of the students by the school, factors related to teacher and the students themselves were the determinant factors influencing academic performance of the students. Identification of these factors is crucial in devising a proper approach for better teaching- learning activities and creating a suitable learning environment to the students.

Keywords:

Undergraduate students, academic performance, factors, perceptions, health sciences, Ethiopia

Abbreviations

AAU: Addis Ababa University

CHS: College of Health Sciences

MRT: Medical Radiologic Technology

1. Introduction

1.1. Background

Students are most essential asset for any educational system. Schools, colleges and universities are meaningless without students. The quality of higher education system is directly linked with its academic performance or how well students meet the standards set out. The students' performance plays an important role in producing best quality graduates. Academic performance and competency are one of the indicators for educational quality, which are measured in terms of students' achievement and capability towards specific objectives of courses or academic programs. [1]

Student achievement is impacted on numerous levels including students' personal factors, their interactions with others such as parents, teachers, and administrators, and lastly the larger systems that surround the student e.g. school districts, neighborhoods, local economy, political policy, and multicultural relations.[2]

Understanding the status and determinants of academic performance of students is essential for successful and effective intervention to bring quality education [3]

1.2. Statement of the problem

From review of literatures, Students' academic achievement is affected by various factors including gender, tension and anxiety, students' previous education background and university entrance exam, students' behavior, learning methods, social, their families' economic status and so on .Poor academic performance is one of concerning issues at higher education. This problem is an area of concern for medical educators. Therefore, identifying the causes and getting to the root of the factors contributes to the betterment of students' academic performance dramatically. Unlike previous studies that approached the problem from teachers and/or academicians' point of view, the current study is a student-oriented research where the aim is to investigate the causes of poor academic performance from students' perspective.

1.3. Significance of the study

The study of academic performance of students may be helpful for the faculty advisors as well as the policymakers of colleges. Identifying factors influencing students' performance has the potential to provide a basis for helping students to reflect on their perceptions and expectations of learning in a way that improves their academic achievement. In addition, it helps the faculty advisors and university administrators better informed about ways in which they can facilitate student learning, enhance the influence of positive factors and minimize the influence of negative factors on student academic performance.

1.4. Research Question

This study aims to investigate the perceptions of undergraduate health science students' regarding the factors affecting academic performance. Thus, the study specifically focused on undergraduate (year IV) Medical Radiologic Technology students in Ethiopia, AAU-CHS. Hence, the research questions that are going to be addressed in this study are:

What are the key factors that contribute to poor academic performance of MRT students?

What attitudes, behaviors and motivations of the students appeared to contribute to poor academic performance at MRT department?

1.5. Objective of the Study

Identifying the causes of poor academic performance and getting to the root of them contributes to the betterment of students' academic achievement. The aim of the current study is to explore the students' own perceptions of determinants of their academic performance in an attempt to provide a deeper understanding of the challenges that they face.

Specific objectives:

- To identify undergraduate MRT students' perceptions of the factors related to poor academic performance
- To recommend corrective measures in attempt to improve academic achievement of the students

2. Literature Review

At higher educational institutions, it is believed that there are various factors directly or indirectly correlating to academic performance of students. These factors are directly or indirectly correlated with the students' performance. There exist different opinions regarding the impact of these factors. Some educators believed that personal characteristics, learning habits are more important whereas others argue that previous academic background and college environmental factors are more related with the students' performance. However, as evidenced from review of literatures the views expressed by different educational stakeholders are not always consistent. Therefore, a research study that investigates the causes of poor academic performance from students' perspective can contribute to improvement of students' academic performance and devising the fitting strategies to cope with the negative factors.

According to available literatures, there are some impediments to good academic performance by undergraduate students.

One study on the qualitative and quantitative analysis of the factors affecting academic performance of students figured out that factors related to individual students, factors related to teacher, factors related to teaching – learning methods, factors related to learning environment and related to family. According to the study, individual factors are recognized to be the most important factor influencing academic performance of students. [4]

Another used a Multi-directional Construct approach to determine the level of impact of the different factors affecting student nurses' academic performance finds out that several factors pose high impact on the academic performance of student nurses, with teacher related factors topping the list. [5]

Additionally, a case study to explore students' perceptions of the factors affecting their academic achievement shows that lack of study technique, difficulty in understanding courses, too heavy course load per academic year, pressure from lack of sleeping stress, tension and anxiety are the noteworthy factors affecting their academic performance. [6]

Another study, conducted on non-English speaking countries, to identify the causal factors that affect students' poor performances revealed that factors to student have pronounced impact on students' performance than factors related to teachers had the lowest effect. [7]

Studies in Ethiopia carried out on academic performance are limited to the factor, gender disparity. The studies tends to focus on the factors related only to female student's poor academic performance.

Other studies conducted so far strive to find out the correlation between the variables as age, gender difference, and College admission points, family educational status, learning and teaching styles, student's expectation about future job and students' academic performance. According to study conducted at Raya University, Ethiopia analysis of the factors affecting academic performance of undergraduate students revealed the existence of significance relationship between the student's university cumulative grade point average (UCGPA) and preparatory CGPA, gender deference, place of origin, college of the student, mismatch between teaching and learning style and student's expectation about their future job opportunity.[8]

Another study at Arba Minch University finds that there is a significant relationship between gender difference, university entrance exam and studying hours and academic performance (CGPA). [9]

3. Theoretical Framework

There are internal and external factors that influence a student's academic performance. Thus, identifying where specific poor performance factors come from and how they affect academic achievement of students is crucial.

Illeris's theory of adult learning provides a useful framework for examining student achievement in undergraduate studies. According to this theory, learning entails two distinct processes: an internal process of acquisition and an external process of interaction. These learning processes occur along three dimensions: the psychodynamic dimension of attitudes, beliefs, and feelings; the cognitive dimension of knowledge and skills; and the environmental dimension encompassing the learner's social, cultural, and material contexts. [10], [11]

The internal process of acquisition occurs within the psychodynamic and cognitive dimensions, while the external process of interaction occurs within the environmental dimension. In addition to these processes and dimensions, "conditions of learning" influence learning indirectly. [11]

Internal conditions of learning are characteristics of the learner such as academic ability and age. External conditions of learning include characteristics of the learning situation such as school or workplace. To understand better student achievement in undergraduate students, it is necessary to consider multiple aspects of learning.

4. Methodology

4.1. Setting

Participants were students from Addis Ababa University, College of health sciences with focus on undergraduate Medical Radiologic Technology students. For convenience of the students, the study was performed at both campuses, Sefere Selam (six students) and Black Lion (four students). The study was performed in April and March of the 2019/20 academic year. Approval for the study was obtained from the college's research ethics committee. Informed consent was obtained from each study participant.

4.2. Recruitment and selection criteria

There were 38 students in fourth year of which 19 are male and 19 are female. This group was selected because the students in the group were passed many semesters of academic years. Therefore, they might have not performed well at least at particular semesters through the study years. In addition, there are four students who fail to graduate and repeat 4th year because they did not perform well or enough for graduation. From this group of students I will get reach insight about what factors influences their academic performance with focus on factors negatively affect their academic performance. Students who volunteered to participate were invited for the study. Purposive and convenience sampling technique was employed for participant recruitment. Purposive sampling strategies are designed to enhance understandings of selected individuals or groups' experience(s) or for developing theories and concepts. Researchers seek to accomplish this goal by selecting "information rich" cases, that is individuals, groups, organizations, or behaviors that provide the greatest insight into the research question. [12]

The participants were contacted in person and verbally with coordination of the students' representative. Before the interviews were initiated, the purpose of the study was shared with the participants. Students gave informed consent to the recording of the one-to one interviews conducted by HK. If the students were ready for the interview, written consent was obtained from them. The interviewer (HK) was not an educator of MRT department, and selected from nursing department

4.3. Interviews and data collection

Face to face, semi-structured interviews were carried out to explore students' own perceptions of factors affecting their academic performance. The interview began with general question; then guided by objective of the study based on the participants' response. The nature of the study involves the generation of open and unrestricted responses from the participants supplemented with probing leading to in-depth insight of their own view. The participants were interviewed in Amharic language, lasting from twenty to thirty minutes for each participant.

4.4. Data Analysis

Sampling continued to reach data saturation, meaning that no new information was provided by the participants during interviews. At first, 12-15 interviews were planned to saturate the data. After the 10th interview, there were no new themes generated from the interviews. Data collection was continued for two more interviews to ensure and confirm that there are no new themes emerging. Alongside the data collection, review of transcripts revealed that further interviewing of the participant students tend to be redundant of the data already collected. It adds no values to exemplify the categories and themes. The interviews were audio recorded by the interviewer. The audio-tapes were transcribed verbatim and pseudonyms assigned to each interviewee by the researcher prior to data analysis. All personal and identifiable information was removed to maintain confidentiality.

Analysis began with open coding describing each section within the transcripts. Using comparison across the transcripts, the open codes were refined into major themes, which provided a coding frame for analysis.

Data analysis was performed using conventional content analysis approach as proposed by Graneheim and Lundman [13]. They have suggested five steps for analyzing qualitative data: 1. transcribing the entire interview immediately after its implementation, 2. reading the entire interview transcription to get a complete overview of its contents, 3. determining semantic units and initial codes, 4. grouping the same initial codes into more comprehensive categories; and 5. determining the latent content in data [13].

Interviews were proofread by the researcher for several times and consequently, the main codes were extracted. Similar codes were grouped under certain categories by using the constant comparative analysis. After data analysis, the initial codes were extracted and the data were analyzed into main themes. To ensure the rigor of the study, the trustworthiness criteria including credibility, transferability, confirmability, and dependability were used [14].

5. Results

The main themes that were identified were: “unsuitable college environment”, “inadequate campus facility”, “poor department management”, “factors related to the student”, and “factors related to teachers”. Table 1 illustrated the relationship between the main themes and the categories or sub-themes.

These main themes, identified with respect to students’ perceptions about their academic performance along with some explanations based on the students’ verbatim responses within each subtheme are presented below.

Theme 1: Unsuitable College Environment

The participant students described the college environment as “unsuitable”, as result creates a challenge for them to perform well academically. The students described the college environment in terms of physical space (such as dormitory rooms), the social (experiencing newfound independence and liberty leads them to exposure to addictions, unsticking to their academic goal) and biological factors (such as the quality of food they consumed at the campus).

One of the participant describes as follows:

“I do not think the campus environment is suitable enough .For instance, there is no adequate sanitary water supply around dormitory, and the toilets are not clean. ...the food we eat from the students’ dining hall is not safe too.”SP1

Another participant mentioned the challenge of the colleges’ social environments as

“I am far from my family. There is no one who take care of me other than myself here (at campus). So no one can ask me how I spent my time, how I have been doing things. “...Therefore, it is about my choices for every decisions. I have full freedom to do anything I want. If I exposed to different addictions, it can affect my performance.” SP2

Theme 2: Inadequate Campus Facilities

Campus facilities are the material resources that facilitate effective teaching and learning in schools. The theme “inadequacy of campus facilities” is the most important factor identified by the students that affects their academic performance. The students realized that lack of adequate educational facilities and school infrastructures has a notable impact on their academic performance. One of the student participants stated:

“...in four years I spent here in this campus I have never seen digital library. I never expect a higher educational institution with no digital library service for the students. I think this makes the campus back warded. We did not get radiology books for references in the libraries. We did not even have demonstration rooms, simulations for training.” SP9

Another participant student mentioned:

“...There is no Lounge for students within the campus. For example, when I return from the library, I want to enjoy and entertain after a long study time. I could not find places within the campus to enjoy.”SP2

The facilities that the students stated as inadequate includes transport, library, Classrooms, Skill lab and demonstration rooms, lounge, shopping, photocopy center, recreational centers, sporting & gymnasium. The students indicated that lack of adequate transport services, lack of radiology reference books in the library, unavailability of well-equipped classrooms and lack of skill lab and demonstration rooms equipped with simulators, imaging modalities as factors directly influencing their academic performance.

Transport service

As stated by the students, there is transportation problem for two reasons: one is their dormitory in addition; the classrooms are in different campuses. Their dormitory being in Sefere selam Campus and the classroom is at Black Lion Campus. Secondly, there is no transport service (bus) for the students to go to and back from the clinical placements. As result, the students arrive late for classes and clinical practices; even some times, they can abstain at all from arriving. In addition, lack of transportation service affected their learning hence their performance as this demotivates to learn, get sufficient time for their study.

One participant said the following:

“...I am far from the family. In can I run out of pocket money? If I miss the service (transport bus), I forced to go on feet for a class or clinical placements”SP1

Another participant evidenced this:

“There is a problem with transportation services for clinical practices. Instead of arranging transport bus for us, the school pretend to pay us pocket money to use taxi. It is very difficult arrive at the clinical placements on time. The problem worsened if the clinical placements are far away. It leads us to arrive late or abstain from the clinical practices. Really, it makes us fed up! This demotivates us!”SP6

Library

Most of the participant students mentioned unavailability of radiology books in the library as the most factor influencing their academic performance negatively. Others factors, such as lack of internet services, small physical size and inadequate socket outlets to use computers within the library were mentioned by the participant students. One of the participant mentioned:

“...Since our department is more or less technology based , to cope with technological advancements to update myself with recent innovations on the imaging modalities, I need internet service within the campus. Nevertheless, there is no internet service as I need.”SP5

Another participant said this:

“...I did not get hard copy textbooks of radiology in the library .I did not get one to do my assignments; the library is filled with books for Nursing and Midwifery students. Nor I get soft copy pdf since there was no internet service.”SP9

The physical size of the library is not big enough to accommodate the number of students as required. One student participant said this:

“Most of the time, I prefer to study at the dorm than the library. Because, the library is too crowded .It crates the feeling tension on me. In addition, I did not get radiology books at the library.” SP2

Classrooms

Another drain that the students mentioned that affected their learning activity was sustained problems related to learning classrooms. The students stated that there were no classrooms specifically assigned for MRT department in the college. Furthermore, the classrooms that were available lacked adequate lighting system, curtains, ventilators and temperature controls.

One of student participant verified this by saying:

“You mean ventilators, temperature controls e this could be a fame for us in the classroom. If the lecture is in the afternoon it gets warm, you may get sleep. Therefore, we are unable to follow the teacher. The classrooms are not equipped with adequate lighting systems, even curtains for the windows to protect light from entering. It is difficult for us to see images from the slide.” SP9

Another student evidenced this:

“There is no classroom specifically assigned for MRT department. When we ask the school for the classroom, they replied like “this class is for Pharmacy students”, “this is for anesthesia students”, “this is class already assigned for residents”...There is lack of classrooms. In addition, the classrooms has no curtains, so light reflects on the slide show. As a result, we are unable to visualize pictures, images and videos from the slide.”SP6

One of participant student evidenced lack of sufficient number of classrooms:

“...there are moments when classes cancelled because of lack of classrooms.”SP8

Others

Students verified that a lack of extra-curricular activities such as students’ cafeteria, lounge, recreation centers, gymnasiums and sporting centers- though indirectly- affected their academic performance.

One of the participants mentioned:

“...There is no Lounge for students within the campus. For example, when I return from the library, I want to enjoy and entertain after a long study time. I could not find places within the campus to enjoy.”SP10

Theme 3: Poor school management

The students regarded the educational management system at the school as “poor”. The school is ineffective in managing the students, the staffs and the resources. This has significant effect on the students learning. The students specified ‘poor advisor ship’, ‘poor supervision’ and ‘student’s management at the school not strict’ in association to the poor school management.

One of the participants said:

“...the department should correct its translocations. I do not think the department manages the students properly. LEKONAL BIYE ASIBALEHU! We (the students) need to be strictly followed, this in turn affect nothing but the students learning.”SP4

Another participant student said:

“There is no one in the school responsible to solve our issues. Unless we create group or committee of students, there is no management body, who can give us solution responsibly.”SP7

The participant students mentioned the following how the poor clinical supervision affected their academic performance

One of the participant said:

“...Yes! It affects our performance. If the supervisor did not give me an assignment, I cannot read further. It is when the supervisor gives me assignments; follow me regularly; I study hard.”SP3

Another student participant stated:

“...I often notice lack of motivation on the clinical trainers at practical placements. They did not guide us while we are learning unless we requested them. “...No one care whether you engage or not. Skills acquisition solely depend on your dedication.”SP1

With regard to poor advisor ship, the students stated:

“We have told there is a faculty advisor assigned for a group of students. However, I have never meet the faculty advisor.” Most of the time the students meet their faculty advisors only when they fail in grade, because they seek a help to improve their grade.” SP1

Another participant elaborates this by saying:

“In most cases, I did not meet the faculty advisor. I met the faculty advisors only when I face challenges. None of the advisors communicated us routinely, may be once per semester.”SP5

“Zero advisor-student relationship” (no meeting, rarely meeting between advisor-advisee) and Advisors unavailability are the main problems related to the advisor ship that affected the students ‘performance. In addition, it can be inferred from the student’s interview that lack of student’s awareness about the importance of advisor ship, and poor culture of advisor ship in the campus are also factors that contribute poor advisor ship.

Theme 4: Factors related to learning and teaching activities (teacher related factors)

The academic performance of the students is in part dependent on the qualification of the instructors who deliver the courses. Qualified teacher is an essential ingredient for students' success. The role a teacher plays in student's performance is undeniable. In other words, in most cases teachers are responsible for students' low achievements. Several student respondents identified lack of coherence and order (the teachers did not follow the course routine) during classroom delivery, too many teachers to cover single course, unscheduled classroom delivery as important factors affecting their academic performance.

One of the participants stated:

"...Course out line is very important, but they (teachers) did not explain for us. Even they did not tell us the objective of the course we are learning. Some do have but they did not apply it properly. They are not scheduled, I only know one teacher who deliver scheduled class. There is no organized way of class delivery"SP1

Another student stated:

"Most of the time, to cover a single course, they divided the course in to chapters .So about four or five teachers teaches us the course in the classroom. We usually forget which teacher deliver which one, the order which chapter comes first. For me, this bad." SP10

Other factors the students blames the teachers for their low academic performance include inappropriate course contents coverage, out dated lectures, lack of instructors motivation to teach, ineffective learning methodology, and poor assessment methods.

One of the participant student said:

"Usually, I noticed that teachers use a slide from previous years, may be 2017 or 2018 for now. They only edit the date on the slide. Not at about years, new knowledge evolves within months and weeks, the teachers should deliver us up to date information, references. They didn't do that." SP5

In relation to inappropriate course content, one of the student participants stated:

“The contents of the major courses, which are vital for our profession lacks depth and detail. Other courses, their content is irrelevant to our profession. Instead of exploiting knowledge related to our profession, we dissipate our time on unnecessary things.”SP4

As stated by student participants, lack of continuous assessment, unfair grading & inappropriate examination questions are among the poor assessment method affected their performance.

One student participant mentioned:

“...I think the assessment method the teachers use do not drive me to study with devotion. I need something that pushes me to study hard. The teachers deliver lectures for a long time in the class with no examinations, quizzes in between the lectures. Then, we take the final examination after three months. So, I only study for the final exam.”SP3

Another student participant further elaborated:

“At one time, we all failed the grade for a course. Guess what! The teacher adds 50% mark for each of us to boost our grade we passed as a result.”SP7

Another student mentioned lack of teacher’s motivation during clinical training as

“...I often notice lack of motivation on the clinical trainers at practical placements. They did not guide us while we are learning unless we requested them.” SP1

Theme 5: Student related factors affecting academic performance

Interest is powerful motivational process that energizes learning, guides academic and career trajectories, and is essential for academic success. Academic interest of the students towards their profession is assumed to be important domain of determinants of academic achievement.

Surprisingly, almost 80% (eight out of ten) students mentioned the profession is not their field of choice. Eight students stated they are interested to study medicine (MD); the others (two students) joined the department by their family influences. Furthermore, the students stated that they are unhappy with the profession even now, because the department has no career pathway (MSc. Program). So the factors related to students influencing their academic performance mainly emanates from lack of interest on the profession:

“...Since at first my intention was to study medicine (MD), I was demotivated to perform well during the first semester...”SP5

Another student participant said:

“...At first, I would like to join Medicine not MRT. My brother, who has been studying Medicine here, helped me to choose MRT. Even now, I am not happy with the department. I feel if I have joined other departments like Anesthesia” SP3

Furthermore, the student participants mentioned that absence of career pathway for the department hinder them from focusing on their study:

“There is no way to develop our career. I believe BSc is not enough. There should be MSc. Program...” SP1

Inefficient time management for study; unpreparedness prior to (a head of time) for classes; inactive participation in classroom activities, assignments and group works; exerting less effort to improve their academic performance are among the other factors that pertain to influence in achieving academic success. One student participant mentioned:

“... I rarely read and get prepared prior to class neither I participate in the class unless the teacher forced me.” SP1

Another student participant stated:

“No, I do not study with my full potential. I only study until I feel confident enough to score satisfactory grade. I do not think I have to worry beyond that.” SP4

Regarding to inefficient time management one of the student participants said:

“Yes, I believe I could improve my performance if I study day to day. However, Most of the time I used to watch film during my leisure time. I spend my time watching films if there were not an exam.” SP3

A total of 10 students participated in the interview, of which five were males and five were females. Six students were from rural background residing in dormitory, Sefere Selam Campus and four of them were from Addis Ababa living with their families. The mean age of students was 22 years.

Of the students' socio-demographic factors, other than rural-area family & not living in dormitory there was no significant influence on their academic performances. The students from rural area background mentioned over freedom for being far away family, (difficult to stick to academic goal) and lack of pocket affected their learning. Regarding living in dormitory, those students living in dormitory stated it impacts their learning positively. The respondents stated that they can get access 24 hour library, the opportunity to discuss with peers & enjoying social life the campus with their friends. While those students not residing in the campus dormitory affected their learning negatively. The students mentioned spending much time with family, going every day to the campus and returning back can kill their time and tire them. In addition, accessing to library any

time and information on time regarding learning activities were challenges for the students not living in dormitory.

6. Discussion

The present study was conducted to identify the students' perceptions of the factors affecting their academic performance. The in-depth interviews identified a number of significant factors as contributors to students' academic achievement from their own point of view. The main themes that were emerged were: unsuitable college environment, inadequate campus facility, poor school management, factors related to the student, factors related to teachers.

The findings of the present study are in line with previous studies. Similar study done in India revealed personal attitude of students, correctable environmental factors like availability of facilities of recreation, food & hostile environment are among the most significant factors that affects the academic performance of the students. The study also showed teachers related factors, such as the teacher's role as facilitators by providing proper guidance & feedback to the students affect academic performance. [15]

Another study on the factors affecting academic performance of students identified learning environment, supportive services, teacher characteristics, learning challenges and personal factors as main determinants of academic performance of undergraduate nursing students. [16]

The student's academic performance and outcomes is connected to the nature of learning environment and the available useful facilities. It is believed that a school with adequate learning environment contributes to expected outcomes of learning that will facilitate good academic performance, by encouraging effective teaching and learning [17]. Consequently, there is urgent need for the college and the school stakeholders in the education sector to intensify efforts towards creating friendly environments.

The present study finds out that the basic supportive needs are inadequate within the campus. Inadequate sanitary water supply around the students' dormitory, unclean toilets and unsafe foodstuff at the students' dining hall hinders the students learning activities. Furthermore, the campus is in lack of other supportive centers that smooths the students learning activities and the learning environment unconducive for the students such as, small dormitory size per large number of students, recreation centers for students, sporting & gymnasium, lounge, shopping& photocopy center.

The extent to which students' learning could be enhanced depends on their location within the school compound, the structure of their classroom, availability of instructional facilities and accessories. It is believed that a learning environment with accessible and utilizable facilities will guarantee effective teaching and learning process as well as academic achievements of students.

The present study revealed that lack of campus facilities have significant impact on the academic performance of the students. This study is consistent with previous research conducted at Dire Dewa University, Ethiopia. Perceived College/University related factors are connected with facilities like its inadequacy and inappropriateness. For example, inadequate and discomfort able dormitory and classrooms, shortage of learning materials like books, internet access and cafeteria are among others. [18]

A similar study carried out in Zimbabwe pointed out that students were not satisfied with the service they get from the university. From this study, the students cited poor library facilities; weak Internet services; scarce and outdated books; scarce accommodation resulting in students arranging their own accommodation out of campus; scarce and poor lecture rooms; mass lectures; and overloaded lecturers as some of the areas of concern. [19] All respondents felt that these university environmental issues compromised their academic performance resulting in some of them failing program modules and taking longer than the normal period to complete the program [19]

The current study indicated that the school did not provide adequate transportation service for the students. This leads the students to arrive late, abstain from classrooms and practical placements, and further more demotivates them to learn. It is the mandate of the institutions to provide the students with necessary facilities for the students to enhance their learning and achieve the required academic goal. As evidenced by the student participants, lack of learning classrooms is common problem leading to cancellations of classroom lectures. Since the available classrooms lack adequate lightings, temperature controls, curtains and convenient socket outlets, it poses problem for the students to learn power points, pictures and video demonstrations from slide in classroom.

The library is one of the most necessary facilities required within the schools for students to facilitate their learning. Not only physical presence of library, but also well equipped with adequate reading materials, internet services is very crucial aspects of the facility. The participant students stated lack of adequate reference books and internet services within the college are the most important factors directly influencing their academic performance.

Similar study conducted in Nigeria evidenced academic performance of students is not only influenced by the presence of effective teachers but also, the availability of teaching resources like classrooms, libraries, and demonstration phantoms. [20]

From the interview study the other theme the participant students identified as factor, influencing their academic performance is poor school management. In relation to this theme, the respondents stated “poor advisor ship”, “poor clinical area supervision”, and “lack of strict follow up of the students” as indicative of the poor college management of the students.

Academic advising plays a critical role in connecting students with learning opportunities to foster and support their engagement, success, and the attainment of key learning outcomes. Academic advising is an essential element of a college system that can help students solve their academic problems and succeed in their academic progress. [21] Findings of the present study suggests that despite of its importance, the practice of student advisor ship is very poor within the school. This is because of the poor culture of academic advising within the college. The students almost never meet their faculty advisors as needed (“Zero advisor-student relationship” or “no meeting between advisor-advisee”). In most cases, the faculty advisors are unavailable at consultation hours.

The students meet the advisors only when the face academic problems. Lack of student’s awareness about the role of advisor ship is another factor for the practice poor academic advising. Clinical supervision is a formalized means of improving and monitoring practice. It aims to improve skills, provide insights and improve patient care using a structured relationship that involves regular interaction with a more skilled and experienced practitioner.

Clinical supervision is a powerful tool for radiographers to share experiences and to learn from those clinical practice experiences, so allowing enhanced practice development. [22]

This study revealed that the clinical supervision of the students during their clinical learning is very poor. The students stated lack of clinical supervision as the most common factor influencing their performance at clinical learning environment. The supervisor's unavailability (faculty supervisors not available at clinical placements as required) leads the students to abstain from clinical attachments. Supervisors are irresponsible for their role; they did not help the students as required when the face problem related to clinical practice. They did not follow the students strictly, they did not guide students, and they appear less frequently at clinical placements.

A research conducted in 2018 locally, to explore the experiences of students, instructors and technologists regarding challenges encountered during the clinical placements of medical radiology technology students finds out that lack of clinical supervision affected the students learning productivity in clinical areas. [23] .The study showed that despite its importance, the role of clinical supervision on student's clinical skill acquisition and performance, its practice is very poor and unsatisfactory.

Participants identified several factors related to teachers affecting the students' academic performance. These include lack of coherence and order (the teachers did not follow the course routine) during classroom delivery, too many teachers to cover single course, unscheduled classroom delivery and inappropriate assessment methods of the learning activities as important factors affecting their academic performance. This finding is in line with the outcome of the study conducted by Alos and his colleagues. The study showed that amongst the factors that significantly influence academic performance of the students; factors related teachers are at the top of the list. This suggests that faculty teachers plays important roles in the academic achievement of the students and consequently are very accountable for underachievement of the students. [24]

Finally, findings from the current study identified student related factors as being as important as other factors influencing academic performance of the students. Lack of interest on the profession they are studying, lack of devotion and dedication of the student toward their learning, ineffective time management skill by the students, and the students demographic factors are among the major individual factors that contribute the student academic performance.

Similar study conducted to determine factors influencing academic performance of university students has found a number of factors responsible for academic failure. Among the highly influential factors With regard to failure, factors such as lack of effort, lack of dedication and commitment, not finishing or doing assignments ranked highly. [25]

Another study carried out on student-related factors affecting academic engagement revealed motivation and interest had prominent roles influencing learning and academic engagement in nursing students. [26]

Effective time management skills are essential for continued academic success. [27].

Students who do not plan their time effectively run out of time before they can master the content. Therefore, providing students with assistance and support in time management should help them utilize their study time more efficiently and effectively, and this, in turn, should improve their academic performance. [28]

In summary, study into factors affecting academic performances of the students revealed that there is no single common contributing factor; rather it is multidirectional. Besides identifying determinants of the academic performance, conceptualizing the factors identified in to dimensions or aspects of student learning is important for educators to better understand the root causes of poor academic performance and devise improving approaches or mechanisms. Illeris's theory of adult learning provides a useful framework for examining student achievement in undergraduate studies. It describes the key features in learning (the processes, dimensions, types and barriers of learning) which should be included to cover the whole field of the concept of learning. In addition, the approach specifies four levels of learning and deals with what happens when intended learning does not occur.[11] Therefore, to understand better student achievement in undergraduate students, it is necessary to consider multiple aspects of learning.

7. Limitations & strength

Since, the study was conducted on a small sample of students in one department and one institution, thus, the findings may not be generalized. However, the researcher believe that identified factors should be taken into consideration during educational planning. This will help improve the student learning

8. Conclusion

The qualitative data presented in this study revealed critical insights and understanding of students' regarding the factors influencing academic performance from their own perspective. Collection of factors related to the college environment and facilities, factors related to poor management of the students by the school, factors related to teacher and the students themselves were the determinant factors influencing academic performance of the students. This study has a contribution in identifying the factors that contribute to students' academic performance in the department of MRT, Addis Ababa University, Ethiopia.

From the present study, it can be noted that inadequate facilities such as lack of transportations, library, demonstration and skill Lab and classrooms were among the factors directly related to academic performance of the students. The root causes contributing to the students' academic performance were lack of interest on the department, fear of future career development and lack of strict follow up of the students. Lack of student's supervision is the most common factor affecting performance at clinical learning areas. The findings of the study will be important for the college in devising effective measures and possible interventions to solve the web complex challenges the students faced and improve their academic performance. The study helps in developing appropriate teaching approach for better understanding of the students since most of the factors associated with poor academic performance are correctable that can be worked up on.

9. Recommendations

Every institution has an obligation to provide academic, facility, conducive learning environment and financial support to the best of its ability once students are admitted. From the study, it is evident that the students rather required holistic support for the complex web of challenges and academic problems that they faced. From the findings of the current study the following recommendation are made to improve academic performance of the students. With regard to interest on profession, the college should launch MSc. Program .In addition, Counseling and reassuring the students about their future career development should be provided. Regular monitoring, supervision and advising of the students should be carried out by the department by availing and assigning faculty advisors, creating awareness the students about the role of advisor ship. The school should plan appropriate strategies and interventional measures to enable the students acquire the necessary facilities to make the learning environment very comfortable, useful and conducive to meet the academic goals. Finally, all concerned bodies specially department of radiologic technology, to work towards drawing attention of college of health sciences to curb challenges encountered by the students ,should play their role in order to improve academic achievement of the students.

10.Future Implications

As consistent with most studies based on thematic analysis, the sample size used in this study was small. This was to enable a detailed interview of the respondents. It is suggested that future studies attempt to increase the sample size. Consequently, future studies should attempt to utilize a sampling technique that will permit generalization of the results to the population of the study. Furthermore, it is important to expand researches on the effective management of the challenges the students faced by participating faculty instructors, clinical learning supervisors, departments heads and facility administrators.

11. Knowledge Dissemination

As means of disseminating the findings, I will work on publication of the final paper on available educational journals online. In addition, I will present the research on workshops especially those prepared by the department of MRT, annual conferences held by professional associations and other relevant stakeholders.

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13. Appendix

A. Consent Form for Interviews

Undergraduate MRT students’ perceptions of factors influencing their academic performance

Student participant ID: _____ Code no. for the study:

	Right /wrong
I have clearly understand the participant information and have had answers to my questions voluntarily.	
I understand that It is about my decision whether to participate or not	
I understand that if I withdraw from the interview, any anonymized data collected from me will be confidentially kept.	
I recognize that I have full right not to answer any question that I believe not to talk about.	
Here, I give my permission for the interview to be audio-recorded. In addition, I understand that the audio recording will be discarded at the end of the study and the transcript will be archived.	
I understand that what I talk about in the interview will not be exposed to anybody and kept strictly confidential.	
Finally, I would like to notify my willingness to participate in the interview	

Name of investigator

Date

Signature

Name of student participant

Date

Signature

B. Semi-structured interview guiding questions

Demographic factors

1. First, I am going to ask you some questions about yourself.

Probe:

- Age (how old are you)
- Dormitory (are you using university dormitory or non-dormitory)
- Place of origin (Where you come from(urban/rural Family(number)
- About family (Parents education & job(father/mother(employed/not Educational Background

2. Can you tell me about joining Addis Ababa University?

3. Probe:

- How did you get joining college of health sciences?
- Department choice (who helped you to join Medical Radiologic Technology department)
- Is the department your choice of study?
- How do you get it now? Do you think it is the right choice to be MRT student?
Your experiences at university (social life, teaching and learning activities)

4. How do you get the university life then?

Probe:

- Do you think the college environment is suitable for your study?
- You are using dormitory /non-dormitory, so do you think this has an impact on your learning? Do you family know that and support you?
- Do you think that the facilities provided by the campus (such as classroom size, lighting, air conditioning, tables and chairs) are adequate and well equipped?
- How well do you use the learning facilities provided by the University (library, skill lab., simulations, clinical practice areas)?
- What is your opinion regarding access to the internet in the library?
- What facilities do you think are in scarce for you study?
- Do scarcity of these facilities has an impact on your academic achievement.
- Which one do you think has a significant effect?
- Is there any recommendations do you have to improve or fulfill the facilities?

5. Now I want you to tell me about your teachers.

Do your teachers have a good relationship with the students? How friendly are they to students?

Probe:

- How often do you meet your faculty advisor? Why did you need the help of your advisor at that time? Did he/she guide you cope with the issues you tell him/her?
- Do your teachers have organized in presenting subject matter by systematically following course routine?
- Do your teachers have updated with present trends relevant to the subject matter?
- Do your teachers show various strategies, teaching aids/devices and techniques in presenting the lesson?
- Did you experienced a moment with unfair grades? Why do you think is the reason?

6. Students related factors (competency, motivation, attitude and perceptions, behaviors, engagement)

Probe:

- How well do you study hard to improve your academic performance? How well do you study harder to improve your performance when you get low grades?
- How well do you want to get good grades on test, quizzes, assignments and projects?
- How well do you actively participate in the discussion, answering exercises and clarifying things you did not understand?
- How often do you make yourself prepared for the subjects?
- How well do you exert more effort when you do difficult assignment?
- How often do you missed classes?
- How do you study the lesson you missed if you were absent from the class? What are you favorite things you do during leisure time? How do you see to it that extracurricular activities do not hamper your studies?
- How well do you spend your vacant time doing assignment or studying your lesson?
- How well do you spend less time with your friends during school days to concentrate more on your studies?

7. I want to know about family support for your study

- Do your families ask you about your education? Do you ask guidance from them?
- How is your family in supporting your learning? (by you books, dictionary, and laptop or give you pocket money)
- How is your families' educational status?
- Is there challenges related to family that affects your academic performance?
- Do your family experience financial problem?

8. I need your say about the general teaching and learning activities

- What is your opinion about course load per semesters? Do you think the courses are well covered according to the schedules? Do this has affected your academic performance?
- What do you think of the assessment or evaluation methods at the end of the modules?
- Is the exam. Times scheduled properly. How often you get enough time for exam. Preparation?
- Do you think the assessment methods properly evaluate the learning activities? Are the exam questions difficult? Limited examination times?
- How is the grading system? Do you encountered with unfair grading or bias in grading?