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Perception, Views, and Experiences of Bangladeshi Medical Undergraduates regarding Difficulties in Understanding English-In-Anatomy

Waheed MI¹, Shamim KM²

Abstract

Background: English is the predominant language in medical curriculum in the world, including in Bangladesh. Bangladeshi medical undergraduates, who were predominantly taught in Bangla throughout their prior education, appear to encounter significant challenges in understanding the English language used in Anatomy. **Objective:** The study aimed to analyze Bangladeshi medical undergraduates' perceptions, experiences, and views regarding difficulties faced in understanding English-in-Anatomy. **Methods:** The study was descriptive cross-sectional. A questionnaire-survey was conducted among 278 first year medical undergraduates. Descriptive statistics were used to analyze the data. **Results:** The survey revealed that about one-third of these students faced difficulties in understanding the English of Anatomy textbooks. About 40-50% of undergraduates faced either 'huge' or 'considerable' difficulty in understanding the meaning of words, the meaning of sentences and the text's overall meaning. About 60% felt that a lack of proper understanding of basic grammar did not impede their understanding of English in Anatomy, and 80% believed that their weakness was due to the Bangla medium of their earlier study. The nature, types of difficulties, and perceived reasons were outlined. **Conclusion:** Further studies should be continued to give the finding a more complete, comprehensive and representative stature.

Keywords: English for medical purposes (EMP), Anatomy, needs analysis

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Introduction

English has emerged as the dominant language in the fields of education, research, and scholarship. Hyland¹ noted that 'now more than 90% of the journal literature in some scientific domain is printed in English and more prestigious and cited journals are in English'. Therefore, to understand their academic disciplines and establish a career, a large number of students have to gain

proficiency in English in their academic discourses.

Students of L2 user of English countries face varied amount of problems in grasping the meaning of the texts of their textbooks. Zughouli and Hussein² observed that the Jordanian students joining university had limited knowledge of English, even though they were studying English for a long period. Javid and Umer³ described a similar scenario

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prevailing among Arab English learners. In addition, Nezami⁴ asserted that the most significant problem faced by the instructors was problem with reading comprehension among university level Arab students. Lucas et al.⁵ identified English language as the most important barrier for learning in the Department of Anatomy in Hong Kong. Moreover, as Chur-Hansen and Barren⁶ noted, skills of English are sometimes taken for granted by the students of medicine, which is not always the case. While conducting a needs analysis at Yarmouk University in Jordan, Zughuol & Hussain² found that there was scarcity of textbooks and reference materials in Arabic, but the majority of the courses were taught in English. From the perspective of medical education in Bangladesh, the situation is similar - almost all the reading materials are in English, but the students mostly come from Bangla background, having Bangla as the medium of instruction before entering into medical studentship.

Language barrier has always been recognized as one of the obstacles to learning. Such problems exist at the university level even if the students have had English all through their pre-university curricula as in Bangladesh. English is taught as a language in the primary, secondary, and higher secondary (classes XI and XII) levels, but Ferdous⁷ feels that undergraduates face serious problems in English and sometimes they experience anxiety. Many private universities of Bangladesh provide different language courses for the improvement of English proficiency of their students, however, as Afrin⁸ puts it, the outcome of these courses is not satisfactory. A huge number of students are passing examinations

in English and being certified, but their communicative skills do not develop as expected⁹.

In like manner, the medical undergraduates of Bangladesh seem to face noticeable difficulty in using English. They often find it difficult to grasp the meaning of the texts of the Anatomy textbooks. Hossain et al.¹⁰ stated that 'undergraduate medical students of Bangladesh are facing varying but noticeable amounts of difficulty with most of the areas of English used in Anatomy'. It is a common trend among Bangladeshi medical students to use mostly 'guidebooks' rather than textbooks in their study. Difficulty in English may well be one of the factors responsible for this problem, since the English of the guidebooks are often regarded as easier to understand than that of the textbooks. But no systematic study has been done to reveal these details so far in Bangladesh. Despite their dire necessity, research in this field is almost non-existing in Bangladesh. Not only the students but also the Anatomy teachers should be benefitted from such study. The areas of weaknesses of students in English, that is hampering their academic development, can be identified. Anatomy teachers should be able to get an insight into the problems and provide feedback while checking answer scripts and conducting oral exams. They should also be able to plan their classes for using English according to the understanding level of the students. In this context, this study was designed to analyze Bangladeshi medical undergraduates' perceptions, experiences, and views regarding difficulties faced in understanding English-in-Anatomy.

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Methods

The current research was descriptive and cross-sectional in nature. A total of 278 first year Bangladeshi medical undergraduates belonging to either sex were taken as participants. Both convenience and simple random sampling techniques were used for the selection of medical undergraduates as participants of the research. For convenience, government medical colleges of only Dhaka city were selected. From the list of government medical colleges within Dhaka, two government medical colleges were selected by lottery. For the interview with an experienced Anatomy teacher, one who had been involved with the existing English language course of the medical undergraduates for a long period, was well conversant regarding their English language issue and was willing to give an interview was selected.

At first, a literature review was performed to find out similar kind of surveys and define the construct of the survey questionnaire. Several issues similar to those relevant to the present research were noted. Informal discussion with the researcher's peers as well as personal encounters with undergraduate students were also taken into account. These encounters included a discussion with a group of ten and assessment of twenty written answer scripts of term end exam.

Ten closed-ended questions were constructed under two sections. Mostly five-point Likert-like scale was used as the response options. There were also some questions in which the respondents were asked to select one or multiple options. Undecided and not applicable options were kept so that the participant can tick those options where s(he) could not decide or the responses asked were

not applicable for them. Open spaces were also provided where the undergraduates could write about their perceptions, experiences, views and suggestions not mentioned in the items. Bangla translations were given along with the main English version. For construction of the survey questionnaire Zughoul and Hussein², Eslami¹¹, Hwang and Lin¹², Atai and Nazari¹³, and Alghail and Mahfoodh¹⁴ were noted.

Data collection for the research was done at a single sitting by a survey among the first year medical undergraduates (who appeared in the First Term final exam) of two selected medical colleges. The survey sheets were checked and fed into SPSS and frequencies and percentage frequencies of single response, multiple responses and Likert-like scale regarding the 10 questions were calculated.

Results

Just more than half of the medical undergraduates participating in the survey were females (Table 1). Most of them had a background of Bangla medium education, but most of them got grade point 5.00 in English in their Higher Secondary Certificate exams (HSC).

Response to the questions in this issue varied much among the subdivisions and among the respondents. For General Anatomy, about 90% of the undergraduates read textbooks by Indian authors, but more than 40% read guidebooks (Table 2). For Gross Anatomy, about three-fourth of the medical undergraduates read textbooks by Indian authors and one-fourth read textbooks by other foreign authors (other than India) and nearly one-third read guidebooks. For

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Embryology, about 60% of the undergraduates read textbooks by foreign authors other than Indian authors and a slight less than that read guidebooks. For microscopic Anatomy, textbooks by foreign authors and guidebooks were mostly used by the undergraduates, although use of guidebook was higher than the textbooks. Other than textbook, texts on slides or boards used in classes, online materials and lecture handouts were mostly used as reading materials by the undergraduates.

About 35% of the undergraduates thought that they had faced either 'so much' or 'much' difficulty in understanding the English of the textbooks they had read, whereas more than half of the undergraduates thought that they had faced either 'not so much' or 'not at all' difficulty. However, it should be noted here that about half of the undergraduates admitted that they felt less interested in reading Anatomy books by foreign authors other than Indian authors due to difficulty in understanding the English of those textbooks (Table 3). The mean score (3.09) regarding this difficulty also represents the same trend, though the variability cannot be ignored.

While describing amounts of different types of difficulty the undergraduates did not vary much in proportions (about 40% to 50%) between facing either 'huge' or 'considerable' difficulty and facing 'not at all' or 'not so much' difficulty in understanding the meaning of words, meaning of sentences and the overall meaning of the text (the mean score ranging between 2.96 and 3.04). In understanding figure legends, most of them did not face any

difficulty and the mean score (2.13) also represents that (Table 4).

Table 5 shows what the medical undergraduates did if they encountered a new English word while reading an Anatomy textbook. But, a large percentage tried to guess the meaning from the context. Again, about 20% of them had the tendency to skip the word and continue reading.

About 60% of the undergraduates believed that lack of proper understanding of basic grammar did not impede their understanding of English used in Anatomy. The mean score (2.54) shows this. About two-third of the undergraduates assessed themselves as 'very slow' or 'slow' readers in Anatomy and the mean score regarding the issue was 3.55. Although less than 30% of the undergraduates have found difficulty in taking note from anatomy textbooks as 'huge' or 'considerable', around 20% of the undergraduates were undecided about the matter (Table 5).

About 80% of the undergraduates 'strongly agreed' or 'agreed' that their weakness in English is due to the fact that before entering into medical college their medium of study was Bangla. The mean score (4.00) also indicates this. Table 6 shows the other reasons behind the weakness in understanding the English used in Anatomy textbooks as perceived by the medical undergraduates.

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Table 1 Particulars of the Bangladeshi medical undergraduates participating in the survey

Particular		n	% Frequency
Gender	: Male	271	46.0%
	: Female		51.4%
Medium of instruction before admission into medical college	: Bangla	270	85.6%
	: English		8.6%
	: Both		2.9%
Grade point in English in HSC	: 5.00	211	76.0%

Table 2 Percentage frequencies of the medical undergraduates using different types of books by Bangladeshi medical undergraduates in various subdivisions of Anatomy (n=278)

Subdivision of Anatomy	Percentage frequency of use*			
	Textbook by Bangladeshi author(s)	Textbook by Indian authors(s)	Other foreign authors(s)	Guidebook available in market
General Anatomy	5.4%	88.6%	10.1%	41.0%
Gross Anatomy	5.4%	75.2%	24.9%	36.0%
Embryology	5.0%	13.7%	62.6%	57.2%
Microscopic Anatomy	8.3%	11.6%	37.7%	45.3%
Genetics	2.9%	12.6%	18.0%	25.2%

Related question- Survey question no. 1: Which type of books do you primarily read for the following subdivisions of Anatomy

*As more than one options were offered, the total percentage frequency was more than 100%.

Table 3 Perception of the medical undergraduates regarding how much difficulty they have faced in understanding English used in Anatomy textbooks and how such difficulty influenced their choice of textbooks

Question*	n	Percentage frequency of the amount and influence of difficulty [‡]					Obtained score (Mean±SD)
		Very much (5)	Much (4)	Undecided (3)	Not so much (2)	Not at all (1)	

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Does difficulty in understanding English make you less interested in reading Anatomy textbooks by foreign authors other than Indian authors	276	13.3%	36.3%	8.35	29.1%	12.2%	3.09±1.298
How much difficulty have you faced in understanding the English used in your Anatomy textbooks	278	5.4%	30.9%	6.8%	53.6%	3.2%	2.82± 1.078

*Question 3 and 4 of the survey questionnaire

[#]The numbers within parenthesis depict the score allotted to specific amounts of difficulty.
n, number of medical undergraduates responding to a question

Table 4 Perception of the medical undergraduates regarding different types of difficulty they have faced in understanding English used in Anatomy textbooks and the amount of difficulty (other than anatomical terms)

Type of difficulty	n	Percentage frequency of the amount of difficulty*					Obtained score (Mean±SD)
		Huge (5)	Considerable (4)	Undecided (3)	Not so much (2)	Not at all (1)	
In understanding the meaning of words	274	6.9%	36.5%	6.9%	47.8%	1.8%	2.99±1.094
In understanding the meaning of sentences	273	11.7%	32.3%	7.7%	42.1%	5.1%	3.04± 1.197
In understanding the overall meaning of the text	274	11.3%	29.2%	9.5%	43.4%	6.2%	2.96±1.197
In understanding the figure legends	270	3.3%	8.5%	9.6%	54.4%	24.1%	2.13±0.983

Related question- Survey question no. 5: If you have faced difficulty in understanding the English used in your Anatomy textbooks (other than anatomical terms) then which of the following types of difficulty have you faced and how much?

[#]The numbers within parenthesis depict scores allotted to specific amounts of difficulty

Table 5 Perception of the medical undergraduates regarding different aspects of difficulty with English-in-Anatomy

Question*	n	Percentage frequency of response [#]					Obtained score (Mean±SD)
		Very much (5)	Much (4)	Undecided (3)	Not so much (2)	Not at all (1)	
Do you think that lack of proper understanding of basic grammar	276	5.4%	22.1%	11.2%	43.8%	17.4%	2.54±1.170

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impedes your understanding of
English used in anatomy

		Very slow (5)	Slow (4)	Undecided (3)	Fast (2)	Very fast (1)	
How do you assess your reading speed in Anatomy	277	10.8%	53.8%	16.6%	17.0%	1.8%	3.55± 0.957
		Huge (5)	Considerable (4)	Undecided (3)	Not so much (2)	Not at all (1)	
How difficult do you find taking notes from Anatomy textbooks in your own English	274	7.7%	20.4%	20.4%	45.3%	6.2%	2.78±1.081

*Question 7,8 and 9 of the survey questionnaire

†The numbers within parenthesis depict the scores allotted to specific grades of difficulty.

Table 6 Perception of the medical undergraduates regarding reasons behind their weakness in understanding the English used in Anatomy textbooks

Reason behind weakness	n	Percentage frequency of the amount of difficulty*					Obtained score (Mean±SD)
		Strongly agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly disagree (1)	
Before entering into medical college medium of study was Bangla	269	40.1%	41.6%	1.9%	11.2%	5.2%	4.00±1.157
If any text is not understood, there are few people who can help	265	18.1%	43.4%	7.5%	25.7%	5.3%	3.43± 1.201
Lectures are given in Bangla, or multimedia English presentations are translated into Bangla-the habit of understanding English doesn't develop	258	9.7%	25.2%	20.9%	35.7%	8.5%	2.92±1.156
Answers to the written questions can be given mostly using medical terms; only a few sentences are required. Thus understanding of sentences is less developed	258	10.5%	39.9%	19.4%	23.6%	6.6%	3.24±1.125
Examiners usually do not mark the errors of English on our medical answer scripts	263	23.6%	41.8%	17.5%	8.7%	8.4%	3.63±1.177

Related question- Survey question no. 10: and 4 If you think that you have any weakness in understanding the English used in your Anatomy textbook, then which of the following is it / are the reason(s) behind it?

†The numbers within parenthesis depict the scores allotted to specific degree of agreement.

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Discussion

The present research was designed to address the problems of the medical undergraduates in dealing with the English used in Anatomy. These problems are not specific for Anatomy, and rather applicable to all other branches of medical science. However, it was thought that addressing the issue in the beginning of the course (first year) by using students' problems with the texts of Anatomy textbooks might lead to a better possible solution because learning Anatomy begins in the 1st year.

A questionnaire-based survey was conducted among the same medical undergraduates in order to analyze their perceptions, experiences and views regarding different aspects of English-in-Anatomy. In addition, the participants were asked about what types of reading materials they use, whether problem with English affects their choice of books, how much and what types of difficulty with English-in-Anatomy they face, how they deal with encountering new English words, whether difficulties with grammar impedes their understanding of English, what their reading speed in Anatomy is, whether they find note taking (paraphrasing) difficult as well as what the reasons are behind their weakness in English-in-Anatomy. Additional discussions were made with an experienced Anatomy teacher through a semi-structured interview. This helped in cross-checking the findings of the survey as well as developing a deeper insight into the issue of English in Anatomy.

In constructing the survey questionnaire, wording of the question and options were kept simple and understandable for the participants. The questions were developed

in logical sequence; negative wording and imposing ideas on the participants were avoided. Space were also provided in some questions so that the participants can express perceptions, experiences, views and suggestions in their own words, not mentioned in the questions or options. As no questionnaire was found by reviewing literature that would meet all the requirements of the present research and would be culturally accommodating to the topics and the respondents, the questionnaire was constructed virtually from scratch incorporating ideas from some questionnaires addressing similar issues.

For convenience, the participants were selected from two government medical colleges inside Dhaka and not outside Dhaka. Thus, the results of this research are difficult to be directly generalized for the whole Bangladeshi medical undergraduate population.

A number of aspects regarding the abilities of medical undergraduates in understanding English-in-Anatomy in terms of strengths and weaknesses were revealed from the questionnaire-based survey. Additional understanding was also developed from an interview with an experienced Anatomy teacher.

Finding from the survey showed that in understanding the meaning of English word of Anatomy textbooks, more than 40% of the undergraduates felt either 'very much' or 'much' difficulty. One undergraduate mentioned that words of the textbooks are tough and inconspicuous. Most of the undergraduates used dictionary and mobile app to find out the meaning of new English words. Some of them guessed meaning from

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the context of the text or by asking others, but in 20% cases, skipping word and continuing reading was an option of choice for them.

The finding from the survey showed that in understanding overall meaning of the text, 40% undergraduates faced either 'huge' or 'considerable' difficulty. Comment from an undergraduate can be mentioned to provide a supportive evidence in favor of difficulty in this regard that 'Honest opinion is I spend a big amount of time in understanding the overall idea rather than studying. It really causes me discomfort. I am losing interest in anatomy'. So, it may be assumed that a good number of the undergraduates are suffering from difficulties in understanding overall meaning of text while reading Anatomy textbooks.

About two-thirds of the undergraduates thought that they were either 'slow' reader or 'very slow' reader. This conforms to Shen¹⁵ who noted that the discourse structure of academic reading texts is usually complex, often written with multiple clauses and densely packed ideas. Moreover, most of the undergraduates read textbooks by Indian authors which seem to be comparatively easier to understand for them than the textbook by other foreign authors. About half of the undergraduates felt less interested in reading textbooks by these foreign authors. Several undergraduates confessed that textbooks by these foreign authors are tough and inconspicuous and sometimes they had to read without clear understanding. 'We want more books of Bengali writers and also want some books of Bengali version to make our concept clear', demanded one. This demand of Bengali version gives an indication that at least some undergraduates suffer from comprehension difficulty.

According to the key informant or experienced Anatomy teacher of Bangladesh, the undergraduates have significant weakness in summarizing, and for this reason they usually read guidebooks, because in guidebooks, the contents are written in summarized forms (S Ara , 2018, pers. Comm. 10 February)*. In General Anatomy, about 40%, in Gross Anatomy about one-third, in Embryology around 60% and in Microscopic Anatomy, majority of the undergraduates read guidebooks. Therefore, it is clear that guidebook occupies a huge percentage of the reading materials of the undergraduates. One undergraduate gave an honest opinion that 'In Bangladesh, many guidebooks are published which is not beneficial for us but now, to pass in exam we are helped. It's bad'. Several factors may play their roles behind this, like of lack time to read elaborate text of textbooks and too much pressure of studies but weakness at summarizing might be an inherent cause of extensive use of guidebooks by the undergraduates.

Again, in taking notes from textbooks, majority around half of the medical undergraduates felt either 'not so much' about (45%) or 'not at all' about (6%) kind of difficulty. Since quite a number of guidebooks are available, taking notes from textbooks is not that much required. This may explain why undergraduates did not face difficulty in this regard. About 20% were undecided on the topic though.

About one-fourth of the undergraduates thought that lack of understanding of basic grammar impeded their understanding of English used in Anatomy either 'very much' or 'much'. But more than 60% thought it

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impeded their understanding ‘not at all’ or ‘not so much’.

When they were asked in the survey about in which grammar issue they require guidelines, more than 40% of the undergraduates thought that they required guidelines on sentence structure. One undergraduate mentioned that ‘In Anatomy tough words are being used; tough words make complex sentences which aren’t easy to understand’. Another undergraduate mentioned that ‘after understanding by reading, I cannot express my words in English and I have to memorize that unwillingly’. So, it may be assumed that the medical undergraduates face difficulty in understanding the sentence structures of Anatomy textbooks to some extent. Lack of command of necessary sentence structure was also observed by Afrin⁸ in a study on Bangladeshi non-medical undergraduates in Stamford University.

It should be noted that about 90% of the undergraduates of the present research came from Bengali medium environments of their earlier instruction. About 80% of the undergraduates either ‘strongly agreed’ or ‘agreed’ that their weakness in English is due to studying in Bangla medium before entering into the medical college. According to the experienced teacher, this medium is a significant factor, but, regional background or gender of the undergraduates does not have any effect on this. Hossain et al.¹⁰ also noted that ‘the abrupt change of medium of language becomes a potential barrier to academic success’.

About two-thirds of the undergraduates of the present research either ‘strongly agreed’ or ‘agreed’ that their weakness is caused by not having errors marked by the teachers in the answer scripts. Some undergraduates pointed

out several other factors like not focusing on vocabulary and grammatical points by the teachers and low amount of English practice by teachers in tutorial classes and viva voce exams. Shen¹⁵ found that teachers’ assistance was the most prominent element to help the students with reading textbook.

Limitations

The survey questionnaire could not be validated due to limitation of time. For convenience, medical undergraduates of government medical colleges within Dhaka city only were chosen as the participants of the study. This might not be a proper representation of the total population of Bangladeshi medical undergraduates. An interview with only one key-informant-level Anatomy teacher is not really adequate in getting into the depth of the problems and understanding the causative or influencing factors.

Conclusion

In the study, a questionnaire based survey was conducted on 278 Bangladeshi medical undergraduates with a view to analyzing their perceptions, experiences and views regarding English-in-Anatomy. About one-third of them either ‘strongly agreed’ or ‘agreed’ that they have faced difficulties in understanding the English of Anatomy textbooks. The nature and types of such difficulties along with the perceived reasons were outlined.

Future directions

Larger samples of undergraduates have to be involved as well, including those of other government medical colleges outside Dhaka as well as of private medical colleges. Studies should also be directed towards analyzing teachers’ perceptions, experiences, views and opinions regarding the lacks in the students

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and the necessities arising from them. Thus, better understanding can be developed on the issue by incorporating the results of the research as on the students.

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