EXPLORING NEEDS OF MATH LEARNERS IN HIGHER EDUCATION

Kurbanova H.
PhD student at Gulistan State university

Abstract. The present research aimed at investigating the attitude of Math students towards English reading classes. The researcher employed an analytic-experimental method through questionnaire to know their current level, objective and needs for learning English. The study was conducted with second-year Math faculty students at Gulistan State university in Uzbekistan during the first semester of the 2023-2024 academic year. The conducted studies showed that the learners require English for three distinct purposes: 1) to pursue their graduate and post-graduate degrees (Doctorate, Master's Degrees); 2) to raise employability standards in the workforce; and 3) to use world scientific resources. Compared to other language skills, reading is more crucial since it gives students volume of information. Further evidence from the students' responses suggests that the variety of language proficiency, the complexity of the texts, and their lack of enthusiasm or drive for the subject matter all contributed to their difficulties in learning reading lessons. Nonetheless, a well - designed and organized reading course can significantly accelerate a second language learning process

Keywords: B2 level, CEFR criteria, ESP, Math students, reading comprehension, State standards, needs analysis.

INTRODUCTION:

The EnSPIRe-U (English for Specific Purposes Integrated Reform in Uzbekistan) project, which was spearheaded by the British Council and the scientific and practical innovation center of the Ministry of Higher and Secondary Special Education of the Republic of Uzbekistan, introduced ESP technology into the country's educational system in 2016. Developing a curriculum, manual, and assessment framework for the country's non-philological higher education establishments was the program's main goal. The international CEFR (Common European Framework of Reference) and the State educational standard were chosen to be the cornerstones for the ESP education's assessment standards and instructional design. The Cabinet of Ministers' decision on "Requirements for knowledge of foreign languages intended for all stages of education" stipulates that non-philology majors in all Uzbek higher education institutions must receive a B2 level in the CEFR assessment system during their seven semesters of study.

In recent years, including August 2022, the British Embassy and representatives from all universities have worked together to create a curriculum for non-philological higher education institutions that meets the requirements of the new era of ESP teaching. This curriculum offers a wide range of genres, subjects, and instructional resources that are specifically suited to meet the academic and professional language demands of each student. It is designed to be accessible to all institutions. Teachers set up their classes based on textual structures and a particular genre. According to the curriculum, teaching a foreign language is split into two stages:

Learning based on general purpose (LGP)

Learning based on specific qualifications (LSP)

Every step of the undergraduate program requires the teaching of a foreign language in order for students to reach the B1 and B2 levels. General language proficiency should be focused on a single goal during the first year and the next two to four years. The communicative approach in foreign language instruction courses serves as the foundation for the CEFR, even though it does not mandate a particular technique or methodology for levels B1 through B2. The changes in the higher education system have put a lot of work on the foreign language teaching profession. After all, the standard of higher education is greatly influenced by graduates' fluency in other languages. Learning a foreign language can assist students in developing global competences, which will be essential for success in their future careers. One of the main duties is to keep the flow of foreign language instruction in universities while placing a strong emphasis on the professional aspirations of the students. The main goals of teaching English to exact science students are to meet their demands on a professional and scientific level, assist them in developing into mature subject matter specialists, and equip them to use English for future independent scientific and global science research. to be able to take part in professional surveys, international GMAT, GRE, and SAT exams, as well as to receive, examine, and express opinions; to use the Internet resource freely and wisely. Everyone needs to be able to read in the industrialized world of today. Enhancing students' reading and comprehension skills with texts related to their course of study is one of the main goals of teaching English for specific purposes. In order to comprehend and analyze English literature on a certain subject, we must study ESP. Everyone agrees that reading is an essential skill for ESP students to understand authentic literature in their line of work.

BACKGROUND:

2.1. The issues of developing reading comprehension skills of ESP learners

Throughout linguistics' history, reading proficiency has been defined in a variety of ways. Reading is one way that we can obtain and evaluate information, claim Urquhart and Weir (1998). According to Afflerbach, Person, and Paris (2008), reading proficiency results from speaking quickly and fluently, which instantly encodes information in brain activity and makes it easier for one to understand without even recognizing it. The reading process is described in dictionaries (2001) as tasks including perusing, skimming, highlighting pronouns, recognizing root words, drawing connections between ideas, or summarizing. According to Carrel (1988), of the four language competences in learning English, reading ability is the most crucial. According to Snow and Suits (2003), reading is a process that reveals the structure of meaning through textual communication. The importance of reading proficiency is highlighted by Doff (1998), who describes reading as "the most important activity in any language classroom, not only as a source of information but also as an enjoyable activity as a means of strengthening and expanding one's own activities." Reading helps students' other language skills, and all learning activities make them more proficient in cross-skill communication. In higher education institutions where English is not the predominant language of instruction or communication, students nevertheless need to be able to read and comprehend English texts. To address this, reading competency activities must be included in targeted English classrooms. The ability to read is a fundamental general education skill that underpins all other speaking abilities. It affects a person's capacity for both personal development and the successful mastery of other subjects. Several studies have shown that people who are proficient in reading comprehension are able to think critically, fully understand complex circumstances and recognize paradoxical connections between events, choose the best environment, and generate new ideas quickly.

The question of professionally oriented language instruction has been important for a number of years (Zimnyaya I.A., Serova T.S., Folomkina S.K., and others). Academic literature requires a high level of language proficiency and cover a wide range of topics. Stevens argues that this complex difficulty is especially common in the first year of undergraduate programs since students are not familiar with the vocabulary and concepts of their field. Many scientists in the West think that using multimedia resources like Power Point in foreign language classes facilitates learning. These technologies decrease a lot of information, improve a variety of language abilities, and boost students' interest in and motivation for their classes (Bartsch & Cobern, 2003; Butler & Mautz, 1996; Patel, 2013; Pun, 2013 & Sewasew, Mengestie & Abet, 2015).

According to Dei and Krzanovsky (2011), particular language competency must be taught in foreign language courses that emphasize non-philological education in order to meet the requirements and aims of the students. Johnsons (1998) highlights that when the goal of non-philological foreign language instruction is the development of reading abilities, it is reasonable to use resources focused on practical tasks. The student's comprehension of field literature is improved as a result. Up until now, professionals from a variety of fields have used the English language in their daily work. These professionals include aircraft mechanics, nurses, bank accountants, employees of tourism centers, businessmen, engineers, and architects. Every sentence and speech situation has been examined, and specialized dictionaries, manuals, and textbooks have been created.

In the case of Torregrosa and Sánchez-Reyes (2011), the most crucial strategy for motivating students to acquire the language they require in non-philological foreign language classrooms is the usage of authentic materials. According to Bruce (2011), the primary goal of the reading competency in these courses is to acquire fundamental knowledge through the use of text skimming and scanning strategies. Using situations and real texts that are pertinent to their profession to engage students is essential for the successful learning of reading comprehension skills in ESP education, according to Pritchard and Nasr (2004), who brought up the authenticity issue. Reading and comprehension abilities aid ESP students in comprehending the visible and unseen discursive occurrences of complicated language, according to Batürkmen (2006).

The introduction of computers into human life has not excluded non-philological foreign language education. Examples of such topics include the study of feminist methodology (Brantmeier, 2003; Pavlenko 2011), the development of reading competence in a computer network environment (Abanomey, 2013; Levine 2013), and the topic and studies analyzing the use of various methods like task-theme based teaching model (Romero, 2017) and problem-based learning approach (Naiditch, 2010). O. Maximova (2016) poses the dubious notion that teaching ESP academic reading skills in a computer network environment can be done using the dialogical action idea of the critical pedagogy approach. A system like this helps students learn ESP and develop their reading comprehension of literature written in foreign languages (Maximova, 2016). A study by Nouri and Shahid (2005) found that using Power Point assists teachers in providing fundamental ideas, illustrations, and graphics in a clear and concise manner. Making Power Point presentations that enhance students' reading comprehension abilities is the teacher's aim. Students' attitudes about the activities in English lessons were improved using point software. The team learning technique is a successful teaching strategy for non-philological foreign language instruction. Through a variety of activities, students develop their language abilities on their own within the team (Leila Holakopour, Akbar Azizifar, Habib Gowhari, 2014).

In the non-philological teaching of a foreign language, the team learning approach is an effective teaching method, by performing various activities, the student independently forms language skills within the team. Reading one piece of information by many people and discussing it as a team helps to understand the content of the text in a deeper way. When the team works together, it controls the reading and understanding of each member, helps to acquire new knowledge faster (N.M.Ibragimova, 2021). Since reading competence requires the acquisition of several complex skills and language modules, the use of tasks and assignments organized on the basis of the CBI model in classes will help students understand long and complex reading resources (Svitlana Chuhu, 2019). In the words of Wesche (1993), CBI focuses on the development of use-oriented second and foreign language skills and is distinguished by the fact that it is a process of developing a specific topic and related language skills.

2.2. Representation of B2 level learners in State National Standards

Based on the state education standards, learning a foreign language is carried out at the following levels and at the levels determined according to the pan-European international standard level.

Table 1. Descriptions of language users in State National Standards

Educational stage	Graduates	European international standards	Level designation
General secondary education	Primary school graduates (4 grade)	A1	The initial level of learning a foreign language
	9th grade graduates	A2	Basic level of learning a foreign language
	9th grade of specialized schools where foreign languages are taught in depth	A2 +	Enhanced basic level of foreign language learning
Secondary special and vocational education	Graduates of academic lyceums not specializing in foreign languages	B1	Independent initial level of learning a foreign language
	Graduates of vocational colleges		
	Graduates of academic lyceums specializing in foreign languages (second foreign language)		Enhanced independent initial level of foreign language learning
	Graduates of academic lyceums specializing in foreign languages	B1+	
	Bachelor's degree graduates of non-		Independent communication level

	philological higher education institutions	B2	of learning a foreign language
	Graduates of the master's degree of non-philological higher education institutions		
Higher education	Bachelor degree graduates of faculties of higher education institutions specializing in a foreign language (second foreign language)		
	Bachelor's degree graduates of foreign language faculties of higher education institutions	C1	Free communication level of learning a foreign language
	Graduates of the master's degree of the faculties of higher-education institutions specializing in foreign languages		

According to the CEFR - European assessment system, the process of learning a foreign language is divided into three general levels: basic user (level A), independent user (level B) and skilled user (level C). Level B2 corresponds to a more advanced, more independent level than previous levels. A B2 user can easily communicate in a clear and detailed manner. This does not necessarily mean that the speaker is an expert, but a B2 user can understand and be understood in most situations. A speaker at this level can understand the gist of complex texts on concrete and abstract topics that include technical discussions within their field of expertise, makes clear, fluent communication with native speakers for both parties without difficulties. A speaker produces clear, detailed text in a variety of subjects, and can produce clear, detailed text on a variety of current issues, and can explain his or her point of view on current issues, giving advantages and disadvantages.

In general, a user can feel real progress when they reach B2 level. This intermediate level marks a significant break with the previous B1 level. A B2 user can express himself naturally, easily and effectively and take the initiative to speak. However, he is able to understand and correct his mistakes, he can foresee what he will say and how he will say it. can give brief reasons and explanations for personal opinions and plans. He produces clear, detailed text in a variety of subjects, and can produce clear, detailed text on a variety of current issues, and can explain his or her point of view on current issues, giving advantages and disadvantages. According to him, a B2 user develops slowly but steadily, expresses his opinion in debates, can provide necessary explanations, arguments and comments, can explain the problem and come to an agreed conclusion with his opponent, even on familiar informal topics. actively participates, can give a critical

opinion, can clearly express his point of view, can evaluate the related reasons. According to these characteristics, they are divided into B2 and B2+ levels. It is the holder of this degree, in particular, who can study at a North American university, and even become a student of a famous school in Europe. A B2 level is also required for work or internships abroad in English-speaking countries.

In foreign language preparatory education for the B2 level: topics related to the Internet and information technologies, socio-cultural topics, comparison and comparison of the cultures of Uzbekistan and the countries where the language is studied; topics related to the field of specialization (history of the field of specialization, directions of the field), social topics (social relations with the environment) constitute such topics. Students' speech competence is developed through listening comprehension, speaking, reading, and language competence is formed through writing, lexical and grammatical competencies.

RESEARCH METHOD. The instrument of questionnaire is used to collect preliminary data about language use, attitudes and beliefs of students from learning English language. Two different questionnaires were employed and they included close and opened-ended questions to collect data. A needs analysis questionnaire was administered in the form of interview to the students at Practical Mathematics department of Gulistan State university.

To find out the needs and preferences of students for the English language course, we intended to collect data by interviewing students personally. The respondents are the second-year male and female students and some master students of Math faculty. We will analyze answers for each question below:

DATA COLLECTION

How long have you been learning English?

The first 5 students have answered that they have learnt English for 2 years. About 15 students have said that they have been learning General English since their school period with breaks.

Why do you consider English important for your studies?

Out of 30 respondents, 14 students have answered that they need English to get good score in IELTS, TOEFL, GMAT, GRE, SAT exams and with this they can study overseas on grant basis while 12 of them are learning English to pursue their graduate and postgraduate degrees in the country. Only small amount of them which is 6 students need English to get an allowance in their job.

Do you enjoy learning this language at the university?

Majority of students (17) have said they are not satisfied with English lesson since it is the same and monotonous all the time. They are bored with revising simple topics such as "to be", "numbers", "Present tenses". 7 students complained about the difficulty of course materials and low level of teacher's knowledge. To the rest of 6 students, English lessons are interesting with different games and activities although they are not information focused.

What sub-skill would you use most?

Interview results have indicated that speaking and writing skills are mostly practiced during the course. It is followed by Reading and Listening skills. They are hardly ever exposed to do listening activities due to inadequacy of technical equipment.

Which of the language skills do you need most?

Nearly half of the respondents have answered that they need all skills and aspects whereas small amount of them (4 students) said that they only need grammar and vocabulary. 5 students

considered Speaking and Writing necessary because these skills are hard to acquire. 6 students have chosen Reading to be developed because it needs special technique and strategies.

What is your current proficiency level in English language?

5 students in class have obtained their IELTS and CEFR results which were 5.0 (B1) and 5.5 (B2) while the other 10 students that their level differs in sub-skills. 7 students have answered their approximate level which was between A2 and B1. The rest of students have said they are little aware of English grammar and vocabulary.

Is the allocated time to your English course enough to practice language effectively?

21 students have responded "yes" while 6 students said "no". Even 2 students have said that 80 mins is very much time and it should be shortened.

What activities or exercises do you do during Reading lesson?

According to the answers collected, they mostly read texts and translate them into their native language. They sometimes do vocabulary exercises followed by the passage.

What difficulties do you often face while reading the text?

Most of the students complained about not understanding the overall meaning of the text (13). They spend a lot of time on translating every word to achieve comprehension. 5 students reported that they encounter special terms while doing SAT, GMAT questions which they cannot find correct translation. The other students mentioned that they do not have enough practice to read and understand long sentences.

Have you ever read any article or text related to your subject? How do you understand when you read information about Pifagor theory?

16 students have said that they mostly understand the texts related to their subject although they don't know every word in the context. 9 students have understood half of the text using dictionary and teacher help.

Do you think learning professional terminology important in foreign language course?

11 students considered acquiring terminology useful to expand their knowledge in their subjects. 4 students answered that they do not need to learn terminology as they never use them in IELTS or CEFR exams.

Can you count five Math words in English?

More than half of the respondents answered the same listing similar terms in Math (function, diagram, number, line, index) while only little amount of them (3 students) could tell higher level words (coordinate, square, triangle, multiplication)

RESULTS AND DISCUSSION. The results of the survey were based on target needs, lacks and wants of students. Students' positive attitude toward learning English at the start of their studies is indicative of how important English is to them in their field of study. The results present that most of Math students had a long year English background although they learnt general English since then. They showed three basic goals from learning English with corresponding difference in the amount. It is indicated from students' answers that they are engaged in training Speaking and Writing skills in their ESP courses, Reading and Listening are partially developed. There are three reasons for not learning English well: 1) monotonous lessons; 2) lack of teacher's knowledge or experience; 3) the use of complex materials. They rated their language proficiency from A2 to B1. They have an average level in all aspects of language. It can be concluded from the survey that students are not always allowed to do reading comprehension exercises during Reading sections. The head of the course uses classic method which aims to improve grammar and

vocabulary. Finally, in terms of using terminology and professionally oriented texts in classroom, students are highly motivated to learn English by reading subject based materials.

CONCLUSION. This paper has aimed to investigate Math learner needs through the use of a questionnaire. From the results, it is understood that it is important to connect the content of the lesson with the students' background knowledge during the reading practice. Although they know the importance of reading skills, some students claim that it is a boring activity when they struggle to understand the content of the text. In addition, their inability to connect new information from the text with existing knowledge also affects their low reading ability. A number of so-called interesting results were extracted which could help the teacher in the further design of her teaching material and enhancement of the class syllabus.

REFERENCES
1. Abanomey, A. (2013). Do EFL Saudi Learners Perform Differently with Online Reading? An Exploratory Study. Journal of King Saud University – Languages and Translation, 25(1).https://doi.org/10.1016/j.jksult
2. Afflerbach, P., Pearson, P. D., & Paris, S. (2008). Skills and strategies: Their differences, their relationship, and why it matters. Reading strategies of first-and second-language learners, 11-24
3. Auerbach, E. (1992). Making Meaning, Making Change: Participatory Curriculum Development for Adult ESL Literacy. https://files.eric.ed.gov/fulltext/ED356688.pdf
4. Bartsch, R. A. & Cobern, K. M. (2003). Effectiveness of PowerPoint Presentation in Lectures. Computers & Education, 41, 77-86.
5. Basturkmen, H. (2006). Ideas and options in English for specific purposes. New Jersey: L. Erbaum Associates.
6. Brantmeier, C. (2003). Does Gender Make a Difference? Passage Content and Comprehension in Second Language Reading. Reading in a Foreign Language, 15(1), 1-24. https://nflrc.hawaii.edu/rfl/April2003/brantmeier/brantmeier.html
7. Brown, H. Principles of Language Learning and Teching. United States of America: Pearson Education. 2000.
8. Butler, J. B. & Mautz, Jr., R. D. (1996). Multimedia Presentations and Learning: A Laboratory Experiment. Issues in Accounting Education, 11(9), 259-280.
9. Celce-Murcia, Marianne. (1991). Teaching English as a second or foreign language. Massachusetts: Heinle & Heinle publishers Freire, P. (2013). Education for Critical Consciousness [Kindle version]. http://www.amazon.com
10. Chai,H (2001) Reading Activities for Effective to-down processing English teaching forum. 39 (1), 22-55
11. Cui Xiuhong, Pan Yanhui, CBI-based Reform of Reading Course Teaching for English Majors, J., Journal of Zhejiang University of Technology (Social Science) , 2012(9):351-355
12. Day, J., & Krzanowski, M. (2011). Teaching English for specific purposes: An introduction. Cambridge, United Kingdom: Cambridge University Press
13. Dictionary, M. (2014). Web Browser. printed Nov, 12, 1016- 1
14. Dof, A. (1998). Teach English: A training course for teacher. Cambridge University Press

15. Folomkina S.K. Teaching reading in a foreign language at a non-linguistic university: educational and methodological manual. M., 2005. 253 p.

16. Holakopour, L., Azizifar, A., & Gowhari. H. (2014). The Effect of PowerPoint on Reading Comprehension Improvement amon High school students: A case Study in the City of Shoush. International Research Journal of Applied and Basic Sciences, 8(10), 1660-1669.

17. Hutchinson, Tom & Waters, Alan (1987). English for Specific Purposes: A learner-centered approach. Cambridge University Press.

18. Levine, A., Feren, O., & Reves, T. (2013). EFL Academic Reading and Modern Technology: How Can We Turn Our Students into Independent Critical Readers? TESL-EJ, 4(4). http://www.teslej.org/wordpress/issues/volume4/ej16/ej16a1/

19. Maximova O. (2016). Critical Pedagogy Approach to Improve Foreign Language Reading Skills. In EDULEARN16 Proceedings. 8th International Conference on Education and New Learning Technologies (pp. 8989-8995). IATED Academy.

20. Naiditch, F. (2010). Critical Pedagogy and Teaching Reading for Social Action. Critical Questions in Education, 1(2), 94-107. https://files.eric.ed.gov/fulltext/EJ1047717.pdf

21. Patel, Ch. (2013). Use of multimedia technology in teaching and learning communication skill: An analysis. International Journal of Advancements in research and technology, 2(7), 116-123.

22. Pavlenko, A., Blackledge, A., Piller, I., & Teutsch-Dwyer, M. (Eds.). (2011). Multilingualism, second language learning, and gender (Vol. 6).

23. Pun, M. (2013). The Use of Multimedia Technology in English Language teaching: A Global Perspective. International Journal of Interdisciplinary Studies, 1(1), 29-38.

24. Richards, J., & Rodgers, T. Approaches and Methods of Language Teaching. Cambridge, UK: Cambridge University Press. 2014.

25. Rostami Shirazi, R., Hesabi, A., & Simin, Sh. (2015). Effects of pedagogical movie English subtitles on EFL learners` vocabulary improvement. International Journal of Research Studies Hutchinson, T. & Waters, A. (1987). English for specific purposes: a learning-centred approach. Glasgow: Cambridge University Press.in Language Learning, 5(2), 47-56.

26. Snow, C. E., & Sweet, A. P. (2003). Reading for comprehension. Rethinking reading comprehension, 1-11.

27. Swanson, K. W., & Kayler, M. (2008). Co-constructing a Learner-centered Curriculum in Teacher Professional Development. Journal for Practical Application of Constructivist Theory in Education, 3(1), 1-26.

28. Torregrosa Benavent, G., & Sánchez-Reyes, P. S. (2011). Use of authentic materials in the ESP classroom. Encuentro, 20, 89-94.

29. Urquhart, A. H. & Weir, C. (1998). Reading in a second language: Process, product and practice. London: Longman.

30. Walter de Gruyter. Romero, G. (2017). Developing Reading Comprehension Skills in an ESP Course through a Theme and Task Based Learning Model. Advances in Engineering Education, 14, 136-146.

31. Warschauer, M., & Matuchniak, T. (2010). New Technology and Digital Worlds: Analyzing Evidence of Equity in Access, Use and Outcomes. Review of Research in Education, 28(1), 179-225. https://doi.org/10.3102/0091732X09349791