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Research Article

INTRODUCING SCIENCE SUBJECTS IN ENGLISH AT PUBLIC SCHOOLS

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ABSTRACT

In many English speaking countries the governments have already established various science subjects at public schools not only in their native language but also in an international language such as in English. In this proposal, in one of the local schools the process of establishing science subjects, for instance, biology, chemistry and physics in English will be explained. The project is expected to be successful and it also requires high quality teaching staffs who has acquired all language skills during the teaching process if it is carried out in many public schools and it upgrades the level of teaching English for Specific purposes.

KEYWORDS

Public schools, science subjects, biology, chemistry, physics.

INTRODUCTION

Most countries have already introduced to teach English as a medium of instruction at schools where children are in the atmosphere of English all the time. Recently we have conducted some research about the introduction of English in Indonesia and noticed that this trend cannot be digested immediately. It takes time to cover all the students at schools. In educational settings, like schools science teachers are the priority to be taught English as they have been teaching biology, chemistry, physics and mathematics in their native language. International standard school program aims at improving quality of students in which implementing English as medium of instruction in the teaching and learning in mathematics and science

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subjects (Eddy Haryanto, 2013). Education development has significant changed due to the increasing globalization and world economics competition among countries. Restructuring and reformulating of educational policy in terms of curriculum in all level be considered to offer highly competitive outcome of education. For this reason according to the some decent results of the research and new projects that have been done until recently, the project I am addressing is to implement English as a medium of instruction for science classes. What is special about this project is that at schools the students have been taught biology, chemistry and physics only in their native language, namely Uzbek (Raupova, Botirova, Musulmanova, Kadyrova, & Safarova, 2020). However, international language English has been introduced in many countries to teach these subjects already. Since then those countries have spent more or less 15 years in order to get accustomed to speak in English not only in classes but also in their social life. Take Indonesia as an example, the authority in this country introduced English at school in 2006. At the beginning, it was quite challenging to teach young children at school science subjects. As the teachers were not proficient enough to conduct and manage classes in English. That is why they decided to reformulate the system by teaching the staff English for specific purposes (Raupova, Normurodova, & Khursanov, 2021a). At the beginning, there were a number of challenges related to classes, syllabus and lesson planning. But after a few years, the relationship with western countries and other volunteering organization have helped the whole country to shift into one of the English speaking country. This has given the chance to contact with American native teachers of English and science teachers. The period is only about 16 years, but they tried hard and committed to introduce this new act to public schools and therefore in spite of so many difficulties they nowadays have the access to western knowledge. The scholars in this country have made a lot of researches in many fields of science and other non-scientific branches (Davletnazarova, 2021a/b;).

The school which was chosen for this project is located in Urgench city, Khorezm region, which was founded in 1938. In this school there are 20 English teachers, 4 physics, 4 biology, 3 chemistry teachers who have had the experience of more than 5 five years. They have done several research in their fields and published articles in Uzbek, Russian and also English languages. The number of classes of science subjects at school ranges according to the grade and specialization of those groups. For the last two years, students have been grouped once again according to their future programs at university. For instance, the groups are specialized for economics, medicine, information technology, engineering and native and foreign languages (Khursanov, 2022b). This can create the opportunity to introduce EMI for only groups that are expected to study biology, chemistry, physics and mathematics. The school has also been participating in the regional and republic Olympiads gaining the first and second places among lots of other educational institutions.

Goals and objectives

The new project are structured to set certain goals to achieve in the long term and step by step take specific actions that are included in the list of objectives.

THE MAIN GOALS ARE AS FOLLOWING

To establish the group of students who are going to apply for universities with departments, like biotechnology, natural sciences, medical and health sciences, agricultural sciences, agriculture, forestry and fisheries, civil engineering, engineering and technology.

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To employ those candidates in different fields of the country in order to create the opportunity to enhance new ways of managing those fields and conducting researches that are useful for the population and science level of the country.

The main objectives are as following:

Creating classes for science subjects with EMI;

Introducing science subjects in English among ESP teachers;

Hiring experts and ESP teachers from developed western countries to give the chance to cooperate;

In the short term students are going to be taught science subjects through EMI.

Inventory

The current public of the school is in proper condition in terms of science subjects, resources in Native and Russian language. The teachers are also learning English for general purposes in order to improve their knowledge through learning and searching for resources in English. The rooms are well equipped and the students can use these needed laboratory equipment freely. On a weekly or monthly basis they visit different departments of university to get to know what is going on in these fields and what they are going to study further in the future in bachelor`s and master`s degrees at higher education.

However, along with those available resources, we will need to make a contract with US embassy and its department of secondary education and other related programs in order to commence the following projects. This new project is mutually beneficial way of co-working and in the long term they also will be able to make partnerships with other schools in order to implement their way of teaching science subjects. According to the contract, the US embassy is expected to find several schools that operate at a high level and teach their students and many researchers and future scholars should be taught more specifically at those educational institutions.

The school is expected to contribute with not only teachers but also they should also provide us with webinars where scholars conduct lessons in biology, chemistry and physics. Another resource could be websites where the teachers can search for data and many other textbooks and video lessons to implement them in their classes.

RECOMMENDATIONS

In Italy students at school are educated in Italian, by law, it is obligatory until the age of 16. Nevertheless, International Baccalaureate Organization program established new medium schools where English is the main language. Its principles are basically about organizing ESP classes at school which directly addresses the global standard and education.

In primary, secondary and high schools they started CLIL to teach science subjects, which in turn contributed significantly to strengthen the linguistic competences of students.

More specifically at international private schools (‘scuole paritarie’) English is the sole language for education.

BO program also dedicated a sub-section called ‘Primary Years Program’ for children aged from 3 to 12 to that enabled teachers to conduct the classes in English.

As far as secondary schools are concerned, there is the program named ‘Middle Years Program’ (MYP) which is intended to settle classes for students at the age of 11 to 16. This kind of schools is located in Northern and Northern-Central parts of the country.

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In 2010 Ministry of Education introduced CLIL for all high schools where non-linguistic subjects, especially science and mathematics are taught in English. Also available IB Diploma Programme which is accredited by several tertiary educational settings. Here students aged 16 to 19 can choose to participate and can get the decent knowledge with EMI to apply for universities.

As for the high schools in recent years, there has been a jump in the number of English-Taught Programs, particularly in Master degrees.

In 2012 a controversy emerged between the university's senate of the Polytechnic University of Milan and its scholars. The Italian Constitutional Court delivered the final judgment (#42/2017). The globalization of universities cannot be achieved without English, thus there must be a balance between the offers provided by the university in the two languages.

Timeline

The whole project is planned to be 2 years where the science teachers of the public school not only learn through cooperation but also they will be busy with teaching other students who are in practice and new teachers who have begun their career very recently.

In the first 6 months the science are expected to be taught intensive English course through Cambridge material for specific purposes.

During the next 1 year, the second phase will in the process of conducting lessons with foreign science teachers according to their syllabus and lesson planning, practicing different teaching methods, visiting foreign schools with exchange programs and this includes teachers, school and university students even the principle of the school.

They not only talk to foreign teachers but also they should see the results of these methods and teaching process. Since only when results achieved and real progress can be observed then the students will try to make great effort, as they now believe that this can work out after several years of hard work.

In the last 6 months the students start to take all the exams according to the new system and the results will be announced and then some students who pass the exam are allowed to search for university or revise for another a few months if they collect lower points than expected.

Target language skills

This project aims students to learn how to speak, listen, write and read in English, since they are immersed in English for specific purposes which means they not only understand English but also they will be ready to contact with foreign students, but also they will be ready for academic context that includes many aspects of the English language. The teachers will be skilful science teachers after this program as it revolutionizes the way science subjects are taught at schools. They need to be able to interact with foreign teachers easily during the conversation. This cannot be a problem as the school already has several English teachers.

Assessments

Assessment part is divided into three parts:

In the first section of the assessment students are assessed during the classes and teachers are also assessed by the experts according to the knowledge they have gained and the efficiency of classes and the students' feedback. During the classes the students are assigned to do a part of the research that is assigned for the whole class. In this case their work is assessed according to the new criteria and then they will be given feedback for the draft and final version of the work.

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The second part is about laboratory research that the teachers and students are both involved in the process and they are asked to investigate certain hypothesis or theories that gives new results and findings to the science world. In short they have to discover something new and write a report about the finding to publish this investigation publicly.

The last final exam is conducted to check the knowledge of students but this time the instructors and invigilators are not their teachers. They all should be foreign experts and instructors. The final exam is written and oral examinations. In the first part all of the students are handed out papers with 4 questions on each. They should answer those questions providing relevant ideas, reasons, statistics and examples from real life. This could be an 'Open-book exam'. In the second part they are given a case in which a certain situation is described and they should think and get ready to answer those questions in 3 minutes and they speak and answer the questions their answers are recorded for re-marking purposes.

Actors

The potential actors for this proposal are expected to be 'people with interest' and 'people with power'. Considering micro and macro planning, the principle is the main actor that offers this new project to the ministry of secondary education on behalf of the student and teachers. When they really desire to get implemented this idea among schools, the individual agency here are the most important actors to get it done.

'People with expertise' according to Zhao (2011) can be scholars, scientists, or highly professional people in these fields of science, and the new project could be introduced in a better way with future effects. LPP professionals should not only include the spheres like, language or related fields, they can also involve different other fields that have not well developed yet.

The next priority after starting to implement the project they need to interact and discuss lot of other related issues apart from syllabus or lesson planning. In this case science teachers should be encompassed too, as they are the main target.

CONCLUSION

In local public schools, there are a great many of English Language teachers and still there are few number of science subjects teachers. These teachers should start conducting their lessons in a foreign especially in an international language where students will have access to books, articles and different useful sources of knowledge in global scale. Since supposed that they have English language knowledge, they will have the chance to contact with those EAP and ESP instructors closely. It, in turn, contributes to the development of the country and its education system as well.

REFERENCES

1. Harding, K. (2007) English for specific purposes. Oxford: Oxford University Press.
2. Haycraft, J. (1987) An introduction to English language teaching. Kuala Lumpur: Longman Group, Ltd.
3. Raupova, R. L. R., & Elov, B. B. (2020). The Experience of Bologna in Reforming Educational System: The Forming of a Credit-Module System in the Educational Process. Solid State Technology, 63(2).
4. Hutchinson, T., & Waters, A. (1987) English for specific purposes: A learning centered approach. Cambridge University. https: //en.wikipedia.org/wiki/English-medium_education#cite_note-48

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5. Raupova, L. R., Normurodova, N. Z., & Khursanov, N. I. (2021a). Discourse: Pragmatic Features in its Expression in Literary Works. In International Conference "Uzbek Language Development and International Cooperation (No. 01, pp. 21-32).
6. Johnson, D. C. (2018) Research methods in language policy and planning. In J. W. Tollefson & M. Pérez-Milans (Eds.), The Oxford handbook of language policy and planning (pp. 51– 70). New York: Oxford University Press.
7. Kaplan, R. B. & Baldauf, R. B. (1997) Language planning from practice to theory. Clevedon: Multilingual Matters.
8. Khursanov, N. I. (2022b). Linguopragmatic Characteristics of Stylistic Units Used in Uzbek and English Dramas. UzA-National Information Agency of Uzbekistan, 4(4), 2022.
9. Davletnazarova, L. B. (2021a). Characteristics of Compound Sentences and Ways to Teach Them. In PEDAGOGICAL SCIENCES: THEORY AND PRACTICE QUESTIONS (pp. 73-75).
10. Nunan, D. (1998) Language teaching methodology: A textbook for teachers. Prentice Hall: International English Language Teaching.
11. Raupova, L., Botirova, A., Musulmanova, N., Kadyrova, H., & Safarova, G. (2020). Logical and Grammatical Relations in Word Categories: The Factor of Difference and Incarnation. International Journal of Psychosocial Rehabilitation, 24(04).
12. Khursanov, N. I. (2022b). Types of Semantic Transference in Dramatic Discourse (on the Example of Uzbek and English Texts). ACADEMICIA: An International Multidisciplinary Research Journal. Year: 2022, Volume: 12, Issue: 4. First page:(152). Last page:(158). Online ISSN, 2249-7137.
13. Davletnazarova, L. B. (2021b). Principles of Language Testing and Assessment with its Appliance in Evaluation of Exam Tasks. In MODERN EDUCATION: CURRENT ISSUES, ACHIEVEMENTS AND INNOVATIONS (pp. 26-28).