



**IBSU**

**INTERNATIONAL BLACK SEA UNIVERSITY  
FACULTY of EDUCATION and HUMANITIES  
EDUCATION SCIENCES PROGRAM**

**THE EFFICIENCY of INTEGRATED ENGLISH and SCIENCE LESSONS for the  
DEVELOPMENT of EAP (ENGLISH for ACADEMIC PURPOSES) READING  
SKILLS (CASE of GEORGIAN HIGH SCHOOL)**

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Extended Abstract of Doctoral Dissertation in Education Sciences**

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## **INTRODUCTION**

The importance of the English language is increasing day by day. In the constantly changing and mobile world, English has become a lingua franca (House, 2002) of the 21<sup>st</sup> century and a key for people's not only professional success, but also private lives. While teaching English at high school, EAP (English for Academic Purposes) should be especially focused on, both for schoolchildren planning to be admitted to a higher education institution and for those young people who are starting their work.

Georgia is trying to follow the worldwide trends and to meet the latest challenges. Consequently, the introduction of the English language in Georgia starts in informal way from the children's earliest years at home via digital gadgets or tutors or in the kindergarten. As for the formal way, teaching English is compulsory since the very first days of the primary school (Ministry of Education and Science, 2011).

In the 21<sup>st</sup> century, the transfer of knowledge within a single field or from one field to another one is the skill that is believed to be extremely important (Pellegrino & Hilton, 2012). To develop the ability to transfer the acquired knowledge from one area to another, integrated lessons are very important.

Teaching reading skills through integrated lessons in English classes is beneficial especially in Georgia because integrated approach does not have a long history in Georgian education system. Having efficient reading strategies allows people to be good comprehenders and correspondingly, to better accomplish the tasks in their everyday life, at studies or at work. As for the interdisciplinary approach, it promotes the development of cooperative and communicative skills and meaningful teaching.

Thus, the aim of the dissertation is to make a modest contribution to teaching reading strategies in English for Academic purposes through integrated lessons in Georgian context.

### **Purpose of the study**

The goal of this dissertation is to adopt the most common approaches in improving reading strategies through integrating science in the educational process. It also aims at providing readers with data that shows the scale of the problem, the importance of developing reading strategies as well as the importance of the adoption of the integrated approach in high school, which contributes to the improvement of students' academic achievements in reading. In other words, the dissertation aims at:

1. exploring Georgian high school students' and teachers' awareness of effective reading strategies.
2. Exploring Georgian school teachers' awareness of the concepts of integrated approach.
3. measuring the impact of teaching reading strategies through integrated lessons in English as a foreign language classes.
4. developing the model of integrated (English and science) lessons that would enhance the development of reading skills in English classes in Georgian school context.

### **Research Questions**

The study is to answer the following research questions:

1. To what extent are Georgian high school teachers and students aware of effective reading strategies?
2. To what extent are Georgian high school teachers aware of the concept of integrated approach?
3. Does the adoption of the designed model of integrated approach to teaching reading in English classes have a significant impact on high school students' academic achievement in reading compared to the traditional curriculum?

### **Novelty and Actuality**

The interdisciplinary approach to education has been integrated in Georgian schools only since 2002. There are no syllabi dealing with the development of reading skills based on integrated English/science lessons either at schools or at universities. If there have been any attempts of adoption of integrated approach in Georgia, it takes mostly place within one subject - Georgian language and literature - or within two kindred subjects such as, for example, Biology and Chemistry, but not within two different subjects such as English and Science. There are no studies concerning teaching reading strategies through integrated lessons in Georgia. Consequently, this dissertation can be considered a novelty in Georgian education system. It is mostly focused on creating a model of teaching effective reading strategies through the integration of Science and the English language lessons in Georgian High School context.

### **Significance of the Problem**

Possessing, on the one hand, English skills, especially the reading ones, and, on the other hand, transferable skills, enabling students to interconnect the various areas of their knowledge, is of

great importance in the contemporary fast changing globalized world. Experience shows that graduates of Georgian schools do not demonstrate the demanded level of these skills. Unfortunately, according to the TIMSS & PIRLS (2016), amongst the 48 participant countries, Georgia is on the 38<sup>th</sup> place with its index of 471 that is below the international index that is 500. The results of the given research should be able to help solve the problem.

### **Theoretical Value of the research**

The theoretical bases of this thesis are:

- 1) John Dewey (1990) and Howard Gardner's theory of multiple intelligences (Gardner, 2011).
- 2) Jean Piaget's theory of cognitive development also known as constructivism theory (Piaget, 1965).
- 3) Ken Goodman's whole-language approach (2014).

The theoretical value of this dissertation deals mostly with the analysis of the existing literature in teaching effective reading strategies through the integrated lessons (O'Malley & Chamot, 1995; Brown, 1987; Upton, 2010; Nunan, 1999; Carrell, Devine, & Eskey, 2012; Rumelhart, 1997; Gardner, 2011; Piaget, 1965; Goodman, 2014). The model of developing and holding the ESP/science integrated lessons is the major theoretical contribution of the dissertation.

### **Practical value of the research**

The importance of fluency in reading is one of the most important skills and a key of success in any educational / employment field. Yet reading is the less often mastered skills compared to the other three language skills (Heitin, 2015). Some students have difficulty in reading and comprehending the text not only at school, but even at the university. Furthermore, besides reading skills, some people are deprived the ability of using the knowledge that they acquired in one domain in another one. Thus, the model offered in this research will help teachers to analyze the importance of teaching effective reading strategies to their students as well as to make them show the importance of integrated approach.

This paper will offer teachers practical materials, guidelines and lesson plans that would be applicable in the 10<sup>th</sup> and 11<sup>th</sup> grades in English classes. It will be particularly useful for those schools where English classes take place more than twice a week and use the same Science and English textbooks that are used in the syllabus offered in this dissertation. It would be useful not only for English, but also for Biology and Geography teachers. The structure of the syllabus

gives the possibility to be adopted not only through the whole study year, but also to be used according the students' and teachers' needs and interests.

## **Hypothesis**

The hypothesis of the research is the following:

- Teaching reading strategies through integrated lessons improves high school students' reading comprehension.
- Teaching reading strategies through integrated lessons improves high school students' transfer skills.

## **Research Methods**

The research included several studies. The first – piloting - study aimed to find out the level of high school students' and teachers' in Georgia awareness of effective reading strategies. The second – also piloting - study aimed to find out school teachers' awareness of integrated lessons. For both studies a quantitative approach was applied (most items in the questionnaire were closed-ended).

The third study was the experiment. Before the start of the experiment at The Music Seminary and Chveni Skola of V. Saradjishvili Tbilisi State Conservatoire a class profile was created through the online English language level test and multiple intelligence tests. One pre-, two while- and one post-reading tests were held and their results analyzed (this part of the research also employed quantitative methods). After the experiment, a post survey was held with the participant students to obtain their feedback. Teachers who took part in the implementation of integrated lessons were interviewed in order to get the feedback after their experience. School director was interviewed. This part of the research was qualitative.

The results were analyzed, interpreted and relevant conclusions were made in order to obtain as authentic picture as possible.

## **Structure of the Dissertation**

The structure of the dissertation is the following:

Introduction including the significance, novelty, theoretical and practical value, research quations, hypothesis and methods.

The first chapter is mostly a literature review and implies the psychological and linguistic difficulties related to teaching reading, gives a short overview and definition of English for Academic Purposes. It also provides an overview concerning the reading strategies and their importance in teaching English for Academic Purposes. Its last sub-chapter deals with the importance of integrated teaching, its brief history and researches and theories dealing with this topic.

The second chapter discusses the implementation of integrated English and Science lessons in Georgia. Its sub-chapters show how the notion of integrated lessons is interpreted in Georgia, how the process of teaching reading takes place in Georgian school context, how important the role of the background knowledge is in teaching reading and how important is the adoption of integrated studies for Georgia.

The third chapter offers some practical strategies and the model of teaching reading through integrating Science and English lessons in Georgian high school.

As for the fourth chapter, it implies the research and its results, findings, discussions, limitations of the study, conclusion and recommendations for further studies.

The dissertation also includes 23 appendices, 32 tables, 9 figures, and references.

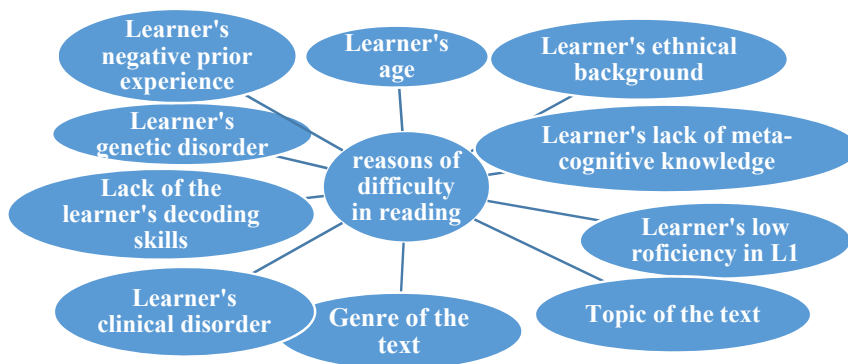
## **CHAPTER 1. THEORETICAL BACKGROUND OF TEACHING READING AND INTEGRATED STUDIES (LITERATURE REVIEW)**

Students tend to move from one country to another in the search of better education. The researchers also tend to travel a lot in order to acquire new knowledge or to spread the knowledge they already have. But in order to destroy linguistic barriers between the representatives of different countries, English language seems the most effective tool. That is why English became the major language of higher education that led to the development of the field called English for Academic Purposes. The term EAP, first appeared in 1974 and it was used by Tim Johns (Hyland, 2006). It is a student-oriented approach and encounters all language skills and all aspects of teaching including curriculum and materials development, assessment, language analyses and methodology (Flowerdew & Peacock, 2005). As Ken Hyland states (2006), some main traits of EAP are: authenticity, groundedness, interdisciplinarity and relevance.

It was mentioned above that EAP covers all language skills including reading. Reading presents not only a process of decoding the written text but as Peggy (1990) mentions, an interactive

process too between the text, the reader and the reader's background knowledge. Yet it is to mention that there are students who have difficulties with reading the text and comprehending it. Reasons are multiple, such as clinical and genetic disorders, lack of reading skills and language proficiency in L1 (Carell, 1991), topic, genre and a negative prior experience in reading (Harmer, 2002), age of a reader (Yuill & Oakhill, 1991 cited in Verhoven, 2011), ethnicity (Celce-Murcia, 1991), cultural background and meta-cognitive knowledge.

**Figure 1: Reasons of the reading deficiency**



Source: developed by the researcher

The problems of reading deficiency might lead students to loneliness and be the cause of a number of feelings such as anger, shame, annoyance, sadness and frustration and even the cause of emotional and psychological disorders (Fleming, Harachi, Cortes, Abbot, & Catalano, 2004). The teacher should timely explore the reasons for students' struggling with reading and try to find the ways of solving the problems. The teacher should collaborate with parents and develop a positive attitude towards the students instead of labeling him/her or keeping telling "try harder". If the intervention happens too late, a student with reading difficulties might start avoiding the reading activities that will worsen the situation.

Teaching students effective reading strategies in EAP is very important and ensures learners' academic achievements. Effective reading strategies promote the development of the learners' critical thinking skills, increase student's self-confidence, motivation and fundamental learning. It ensures students to achieve academic needs and life goals (O'reilli, 2007). It facilitates reading comprehension, improves concentration, communication, imagination and literacy level that in turn improves opportunities of learning in all educational subject areas. It also develops empathy and social skills, work and personal well-being. It makes students more self-confident about their ability to learn a foreign language (Oxford, 1990).



Relying on the results of the TIMSS & PIRLS research (2016), students have considerable problems in reading comprehension in Georgia. Its overall index is 471 that is below the international index that is 500. The PIRLS analysis showed that the number of students per class or the frequency of teachers' intervention does not matter as in those countries that are on the top of the research have the same number of students or more and the frequency of intervention is the same or less. It makes us think that the problem lays mostly in the quality of the school curriculum, in teaching text-books and materials, in the teachers' poor qualification level and the Universities curricula where teaching effective reading strategies does not exist as a separate course.

As mentioned above, besides groundedness, relevance and authenticity, EAP relies on interdisciplinarity too. Its appearance dates back to 1920s. It has some connection with Albert Bandura's (1977) theory of Social Learning. The necessity of the interdisciplinary studies arose due to the globalization as in constantly changing and moving world people need to transfer knowledge from one field into another. Consequently, contemporary education and its curriculum imply not only national but also international issues. It is oriented on implementation of the programs that ensure the development of critical thinking and problem-solving skills. Curricula are oriented on "improvement of integration" (Ranaweera, 1990, p. 6). Robin Fogarty and Judy Stoehr (2008) divide interdisciplinary study and integration into three forms. The first form of integration happens within one discipline, the second form happens across the subjects and the third happens within and across subjects. In this research paper, mostly the second form of integration will be adopted, namely when the integration happens between the three following subjects: English language, Science and Biology.

Relying on the experiments carried by different researchers, it can be deduced that interdisciplinary approach has a number of advantages. It has a positive impact on students' achievements (Levitan, 1991), it is the basis of a better attendance, it serves to the development of positive attitude towards school and improvement of the homework quality (Jacobs, 1989), it increases motivation and helps students improve their language skills (Zwiep, Straits, Stone, Beltran, & Furtado, 2011), communicative and cooperative skills (Mathison & Freeman, 1997).

## **CHAPTER 2. IMPLEMENTATION OF INTEGRATED LESSONS IN GEORGIA**

Integrated studies start to make its first steps in Georgian education system. The attempt of the Ministry of Education and Science of Georgia to implement integrated textbooks of the following subject pairs – History-Geography, Algebra-Geometry-Statistics-Theory of

Probability, Georgian grammar- Georgian Literature, Chemistry-Physics – was a great failure for the following reasons: 1) Due to the integrated textbooks, one of the subject pair's teacher had to teach both subjects. Consequently, not all the teachers were good enough at another pair subject (e.g. not all Geography teachers were good at History and vice versa). For this reason, schools either kept teaching these integrated subjects separately or the quality of teaching was too poor. So the Ministry of Education and Science of Georgia was obliged to abolish the changes.

Kitiashvili (2016) draws the conclusion that budget was wasted on the creation of textbooks and considers authors of these textbooks as a pray of unpredicted experiment of the Ministry of Education and Science of Georgia. Despite this failure, all those advantages that integrated studies might have for Georgian students and for the country itself should be noted. To begin with, as Janashia (2009) mentions students have difficulties in abstract thinking, analyzing and generalizing or synthesizing concepts that they learned through different subjects. Integrated approach makes the process of learning easier and helps students see the learned concepts as a whole. Interdisciplinary approach promotes life-long learning, higher self-efficacy, synthetic and analytic thinking, helps students with generalizing abstract things, gives possibility to students to explore the topic in a deeper way through the interdisciplinary inquiry and acquire new skills and sub-skills that are crucial for modern-thinking students.

Furthermore, according to PISA (2015) research, Georgia is listed as the 59<sup>th</sup> in Science, 62<sup>nd</sup> in Mathematics and 64<sup>th</sup> in reading out of 72 countries. If looking deeper into the Educational system and curricula of those countries that are on the top of the list, integrated or so called an interdisciplinary approach to education (Finnish National Agency for Education, 2017) could be considered as one of the main ingredients and secrets of their successful educational systems. That is the reason why the implementation of the interdisciplinary approach in Georgian schools is so important. It will allow the Ministry of Education and Science of Georgia to make one step forward on its long way to go and come one step closer to the world-wide known successful countries in Education.

So, the ministry of Education and Science of Georgia being aware of all above mentioned benefits still tries to implement integrated lessons in schools through the National Curriculum and Teacher's Professional Development Plan. Yet, integrated study is practiced by few teachers and the reasons need further research.

### **CHAPTER 3. MODEL OF INTEGRATED SCIENCE AND ENGLISH LESSONS IN GEORGIA**

According to Snow and Campbell (2017), a well-planned lesson is a guarantee of more self-confidence and a good quality lesson. Planning an effective lesson and especially an integrated lesson is not easy. It is a long way to go with a number of rules/guidelines to follow. Below are presented components that are important in the planning of the integrated lessons.

*Right time to plan:* Ideally any type of the lesson should be planned at the beginning of the year or at least two weeks earlier before the integrated lessons.

*Teacher's role:* None of the integrated subject teacher has any dominant role while planning or delivering the lesson. Their roles are mostly distributed according to the lesson's objectives, students' needs, materials that are taught and activities that are done during the lesson.

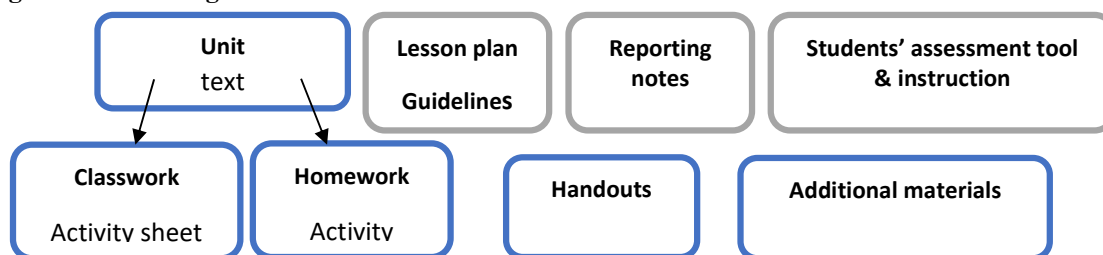
*Class Profile and learning objectives:* A class profile should be created before planning an integrated lesson. It gives possibility to teachers to adapt their teaching techniques to students' learning style. Very often the learning objectives are determined by the class profile. As the main aim of this thesis is the implementation of effective reading strategies, the lesson objectives for foreign language teachers should mostly be oriented on reading point but it does not prevent from the implementation of different sub-objectives such as practice of speaking, writing or listening skills, as far as these objectives serve to the development of the effective reading strategies. Learning objectives should conform to at least one of the National Curriculum objectives.

*Choosing a topic:* Topic should be interesting for students as well as for the partner teacher and at the same time it should meet at least to one of the criteria of the National Curriculum. The chosen topic should be common for integrated subjects and it should serve to the construction of a solid bridge between the integrated school subjects. Once the list of topics is ready, it must preferably be presented to students and let them choose the topic they would like to work on. Students' involvement in the development of teaching materials should be a must as it increases students' motivation and interest and at the same time makes the lessons more productive.

*Development of teaching materials:* Teaching materials should serve to the development of students' ability to transfer information and knowledge that they acquired in one subject into another one; enable students to study a subject in a context rather than in vacuum; develop students' reading strategies and be adoptable for those teachers, who are not involved in the

material development. Teaching materials should correspond to students' level of skills and knowledge (Clark, Deshler, & Schumaker, 1984). According to TIMSS & PIRLS (2016), Georgian students are weak in analyzing informative texts. In order to deal with this problem, more focus should be put on choosing informative texts. Well-developed teaching materials involve the materials presented in the figure that is presented below.

**Figure 3.1 Teaching materials**



Source: developed by the researcher

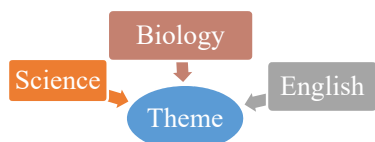
*Structure of an integrated lesson:* Generally, any lesson like stories needs introduction or so-called opening, main body and conclusion, but pacing and sequencing are important components too.

*Assessment:* Creation of the assessing tool is also the part of the integrated lesson planning. There are several types of assessment, so teachers can juggle with the traditional and authentic assessment according to the learning objectives and tasks.

To sum up, not only the process of teaching but the process of planning should be student-oriented.

*Creating a syllabus:* Every syllabus should be clear and understandable for any teacher. Every syllabus should have goals and objectives, content, activities and a tool of assessment and should be derived from the students' needs. The syllabus should ensure integration of two or three subjects around one common theme.

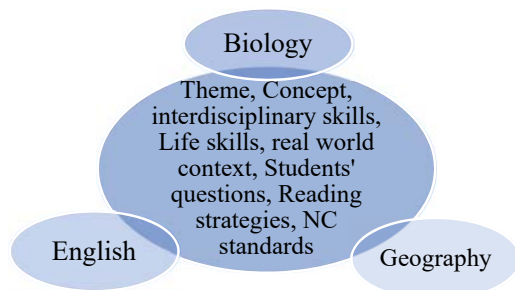
**Figure: 3.3 Finding the common theme**



Source: developed by the researcher

Based on the literature review, the following model of syllabus design is recommended by the researcher.

**Figure: 3.4 Model of syllabus design**



Source: developed by the researcher

*Activities and strategies:* Relying on the results of the class profile and on the students' interests, a number of activities were created. Activities aimed to promote the process of building solid bridges between the pairs of two or in some cases even in pairs of the three integrated subjects, to develop students' reading comprehension skill and to meet not only to the standards of the NC but to the students' interests too. While the experiment teaching the following pre-, while- and post- reading strategies were prioritized: predicting, previewing, setting the purpose of reading, activating background knowledge, analyzing text structure, skimming, scanning, text rendering, chunking, 5W's, LIT circles, KWL, visualizing, summarizing, context clues, making connections and questioning the author.

#### **CHAPTER 4. RESEARCH METHODOLOGY AND PROCEDURES**

The research is qualitative with some elements of the quantitative methods. Surveys, tests and interviews were used as instruments for data collection.

The study was conducted during one academic year (2017-2018) at a Music Seminary and Chveni Skola of V. Saradjishvili Tbilisi State Conservatoire. In difference to public schools, English courses are intensive here. Taking into consideration the fact that in the 12<sup>th</sup> grade students are not taught Science anymore except Mathematics, the researcher decided to choose the 10<sup>th</sup> and 11<sup>th</sup> grades for the experimental study. According to the school's regulations, the total number of students at school should not be above 120. So, the maximum number of students per class is only 14. Consequently, only 28 students took part in the experiment. Students were divided into one Experimental and one Control group by the researcher according

to their gender and English language level to have more or less homogeneous classes. There were only seven students in each Experimental group and the same number was in each Control group. The Experimental group was taught with the integrated curriculum that was by the researcher. As for the Control group, they were taught with a National Curriculum. Experiment took place once a week, but it lasted two academic hours. As the researcher was not familiar with students, she created a questionnaire that served to the creation of a class profile. Students were also asked to write an on-line placement test as well as a multiple intelligences test. It helped the researcher to identify student's strengths and weaknesses, socio-cultural background and learning preferences and based on the results to adopt when necessary differentiated teaching approach. Pre-experimental questionnaires for students and teachers aimed to show the scale of the importance of the problem. As for the pre-, while- and post-tests, they made the results comparable and helped the researcher to see the impact of the implementation of the integrated curriculum on high school students' reading comprehension and reading skills. Post-experimental interviews they served to the creation of more authentic picture concerning the picture.

*Class profile questionnaires* revealed that students are slightly heterogeneous from the socio-economic and cultural point of view. Students also differ in their proficiency level in English language and were different types of learners. There were three different levels per class so in some cases, the researcher had to adopt differentiated teaching strategies and in some cases if needed to use L1 while giving instructions or explaining the theoretical part.

*Pre-experimental questionnaire for students concerning the effective reading strategies* revealed that only 3.66% students have heard of the term "effective reading strategies". Yet it is to note that according to the questionnaire results, there are students who are unconsciously aware of the techniques of the effective reading strategies.

*Pre-experimental questionnaire for teachers concerning the effective reading strategies* showed that the majority (57.69%) of teachers have heard of the term "effective reading strategies", yet only 12 teachers out them stated that they taught effective reading strategies to their students, which is quite a low percentage. According to the questionnaire, the reasons teachers avoided teaching effective reading strategies were the following: 1) too many materials in school textbooks to teach and not enough time for teaching the reading strategies; 2) teaching reading strategies is a duty of primary school teachers and not of the high school teachers; 3) students dealt well enough with the texts and there was not need of teaching reading strategies.

*Questionnaire concerning teachers' awareness of the integrated lessons:* majority of teachers (55.84%) were not aware of the term “interdisciplinary approach” and the principles of planning interdisciplinary lessons. Only (24.67%) stated that they had experience of delivering integrated lessons at school and their main motivation was to gather the credits.

The results obtained from the students' and teachers' questionnaires can be considered alarming because teaching effective reading strategies or integrated lessons is one of the requirements of the National Curriculum. Maybe the Ministry of Education and Science of Georgia and Teachers' House of Georgia have to work more and organize trainings for teachers where all the advantages or techniques of teaching effective reading strategies or delivery of integrated lessons will be presented.

*Pre-, while- and post-test results:* The pre-, two while-tests and a post-test were written by the Control as well as the Experimental groups. It gave possibility to make the results comparable and to see whether methods implemented during the experiment were fruitful or not. The results are summarized in the table below:

**Table 4.1 Pre-, while- and post-test results for Control and Experimental groups**

	<b>Group</b>	<b>Class</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>
Pre-test	Control Group	10	7	8	1,154701
	Experimental Group		7	8,142857	1,46385
	Control Group	11	7	8,428571	1,511858
	Experimental Group		7	8,428571	1,133893
While-test 1	Control Group	10	7	7,571429	0,9759
	Experimental Group		7	8,428571	1,380131
	Control Group		7	8,142857	1,345185
	Experimental Group	11	7	8,571429	0,9759
While-test 2	Control Group	10	7	7,714286	1,112697
	Experimental Group		7	8,714286	1,397276
	Control Group	11	7	8,142857	1,46385
	Experimental Group		7	9	1,154701
Post-test	Control Group	10	7	7,714286	1,112697
	Experimental Group		7	8,857143	1,253566
	Control Group	11	7	8,428571	1,272418
	Experimental Group		7	9,428571	0,786796

The mean results of the control groups are fluctuating from 8 to 7.7 in 10<sup>th</sup> grade and from 8.1 to 8.6 in 11<sup>th</sup> grade. As for standard deviation, it is above 1 and is fluctuating, which reveals that the group is rather heterogeneous by reading skills' level and the impact of the traditional approach is not equally beneficial for all students. Whilst in the experimental group, the mean results are increasing from 8.1 to 8.6 in the 10<sup>th</sup> grade and from 8.4 to 9.4 in the 11<sup>th</sup> grade. As for the standard deviation, it is still above 1 in the 10<sup>th</sup> grade but it is lower compared to the beginning of the experiment. As for the 11<sup>th</sup> grade, the standard deviation is below one in while-test 1 and in the post-test that means that the group is eventually becoming more homogeneous, which is a positive development. As for the paired sample T- test results, it demonstrated that the correlation between the independent (mean results) and the dependent (method applied) variables is high and high by 0.825 and in 11<sup>th</sup> grade by 0.847. The Sig. value for both grades is 0.00. It is less than 0.05, which means that the difference between the two groups' results is statistically significant. So, the Experimental Group really did better than the Control one and there is a strong positive correlation between teaching reading strategies and reading comprehension level.

*Post-experimental interview with participant teachers:* According to the interviews with teachers and students, integrated approach is beneficial for students as it helps them revise in more meaningful way previously taught materials in science for the CAT exams, learn texts from English textbooks in much more meaningful way, see the integrated subjects from positive angle, have possibility to implement the reading strategies in other school subjects that can be considered as a successful trial of transferring skills from one subject to another. It is beneficial for teachers too because integrated lessons help them gather credits and become promoted, see their own strengths and weaknesses, see the lazy students from different angles. Yet, teachers evaluate integrated lessons as time and energy consuming ones.

*Post experimental interview with the school director:* Besides the advantages that were already mentioned above, the school director considers the approach more convenient to those schools where English classes are intensive and suggests a tight collaboration between the school board, Ministry of Education and Science of Georgia as well as the representatives of the Teachers Professional Development for the successful implementation of integrated lessons in Georgian school context which is of great importance.

All in all, the experiment results can be considered as positive because it managed to answer to all four questions of the research paper.



## **CONCLUSIONS AND RECOMMENDATIONS**

The main aim of the study was to investigate the effects of teaching effective reading skills through the integrated lessons to Georgian high school students. The literature review served to the establishment of the theoretical framework of the research (theory of multiple intelligences, constructivism theory and whole-language approach). The main aim of the research was to show the importance of the implementation of the student-centered, innovative approach in Georgian high school context. Being fluent in the English language, being familiar with effective reading strategies and the ability of transferring the knowledge from one field into another have become vital skills in the era of cultural and economic globalization. Furthermore, being fluent in reading is one of the key points of the student's academic achievements and further professional growth. This research has demonstrated that even though teaching effective reading strategies is one of the components of the NC, in Georgia teachers dedicate too little or no time to teaching them.

As for the integrated approach, its adoption will be of great importance for Georgia. To begin with, according to Janashia (2009), interdisciplinary approach gives possibility to students to promote abstract thinking, analyzing and generalizing or synthesizing concepts that they learned through different subjects. All abovementioned are the problems that Georgian students face. Furthermore, the integrated approach makes the process of learning easier and helps students see the learned concepts as a whole. The Ministry of Education of Georgia is aware of its importance and is trying to encourage teachers to implement the approach in their everyday life. Integrated textbooks, approved by the Ministry of Education and Science, made integrated lessons a part of the NC and of the Teachers' Professional Development Plan, but the results are disappointing. The reasons are numerous: lack of human or material resources, fear of novelty, lack of knowledge in the field, etc.

In this dissertation the researcher tried to create the model that would serve filling in the above-mentioned gap. The final results and findings are as follows:

- Reading is the selection process or a process of decoding of the written language, a complex process of interaction of the reader's background knowledge and of the written text or language. The process of reading starts far before the readers start decoding the text. So being familiar with pre-, while- and post-reading strategies is of great importance. It helps the readers to be more fluent in reading comprehension, increases the concentration and communication skills. It also improves imagination and literacy level. Being fluent in reading is in the list of the must-to-know skills in any educational or employment field. So,

in this research teaching the following pre-, while-, and post-reading strategies were analyzed: predicting, previewing, setting the purpose of reading, activating background knowledge, analyzing text structure, skimming, scanning, text rendering, chunking, 5W's, LIT circles, KWL, visualizing, summarizing, context clues, making connections and questioning the author.

- EAP prepares students for using English in their future professional careers or studies. Dealing with it, thus, is essential in high school. Besides authenticity, groundedness, and relevance, EAP relies on interdisciplinarity. So, in the literature review, interdisciplinary approach was also reviewed. Relying on the analysis of the literature review, curriculum of the interdisciplinary approach should be thematic, meaningful and interactive. The length of the lessons should be flexible and conform to students' interests. The curriculum should have a real-life use as a basis. Student's personal experience should be the main basis in learning new materials. The interdisciplinary approach shares the concepts of Piaget's *Theory of constructivism*. Piaget (1965) states that students should be able to implement previous experience in a new context and domain that is one of the main purposes of the integrated lessons. So, the curriculum should help students build their personal world.
- Based on the literature analyses and the main concepts of Goodman's the *Whole Language Approach*, of Piaget's *Constructivism theory* and Gardner's and Dewey's Interdisciplinary approach were taken into consideration by the researcher and a model of teaching effective reading strategies through the integrated lessons was developed. The researcher suggests to plan the curriculum step by step, as follows:
  - Preparation for the creation of the curriculum should be started far before the start of the school year.
  - A tight collaboration of those subject teachers who integrate the lessons is important while creating the curriculum or lesson plans as well as during the delivery of the integrated lesson itself.
  - The creation of the class profile serves development of the curriculum that should be adjusted to the learners' needs and interests.
  - Learning objectives should be conformed to the NC learning objectives.
  - Common themes of the integrated subjects should be found in the current or previous year textbooks.
  - Students should be involved in choosing the themes of the integrated curriculum,

- Teaching materials should a) serve to the achievement of the goals of the NC, b) be conformed to students' needs, age and interests, c) imply common themes of the integrated subject textbooks, d) help students learn subject as a whole and help them see the connection between the integrated lessons, f) develop reading comprehension and transfer skills.
  - While creating the integrated curriculum, interest of each subject teacher should be respected and the roles of the teachers should be assigned according to the tasks and the students' needs.
  - Integrated lessons alike to any other lesson should have an opening, development and closure. Pacing, sequencing and elaboration of assessment tools are also important parts of the successful integrated lessons.
- Based on the above-mentioned theories, the researcher also designed an integrated (English and Science) syllabus for the 10<sup>th</sup> and 11<sup>th</sup> grades. Its main aim was to offer teachers interactive ways of teaching instead of just pouring the knowledge into students' brain. To achieve this, relying on students' previous experiences, using discussions, induction and discovery as a way of introduction of new material is important.
  - To be sure that the research topic is really significant, the researcher carried out two pilot studies, in order to know whether students and teachers in Georgia were aware of the concepts of the effective reading strategies, and whether teachers were aware of the concepts of the integrated lessons. The pilot studies showed that not only students, but also school language teachers lack the knowledge of effective reading strategies. Those teachers who are aware of the effective reading strategies rarely implement them in their everyday teaching routine. The reasons are multiple, for example, high school teachers expect them to be developed in middle school. Lack of time is also one of the factors. As for students, the questionnaire revealed that, despite the fact that they are not aware of the term "effective reading strategies", they are unconsciously using some of them.
  - The hypothesis of this study were the following: 1) Teaching effective reading strategies through integrated lessons improves students' reading comprehension. This idea was supported by the results of the pre-, while- and post-tests, which showed gradual increase of the results from 8.85 to 9.57 in the experimental group in the 11<sup>th</sup> grade and from 8.14 to 8.86 in the 10<sup>th</sup> grade. In the control groups results increased insignificantly. It was also supported by questionnaire survey and the interview results. 2) Teaching reading

strategies through integrated lessons improves high school students' transfer skills. This hypothesis was supported by the interview with students who stated that they used learned effective reading strategies while learning other school subjects including history and Georgian literature.

Following recommendations can be provided:

- First of all, it is advisable to Ministry of Education and Science of Georgia to elaborate a University curriculum for future teachers, especially for Georgian and foreign language teachers that would ensure teaching of methods of effective reading strategies and of the development of reading skills. This will probably ensure the success of students at school in reading skills and reading strategies.
- The ministry of Education and Science of Georgia has to elaborate a curriculum for schools as well that would ensure the implementation of effective teaching of effective reading strategies as well as the development of reading skills. The Ministry of Education and Science should develop proper materials and textbooks not only for the universities but for schools as well. These textbooks and materials should be oriented on teaching effective reading strategies and the development of reading skills.
- The Ministry of Education and Science of Georgia should plan some compulsory gatherings of teachers where all the advantages that students can get from the implementation of this approach will be presented. This might increase intrinsic motivation of at least those teachers who really care about their students' future.
- School plays a great role in promotion of the development of reading skills and effective reading strategies in students. That is why schools have to ensure the creation of a proper learning environment and have to provide proper learning materials. More than that, the most important step that has to be taken is the employment of qualified teachers. Unfortunately, as qualified teachers have higher salary, school directors tend to make a choice on less qualified teachers. Schools have to control the quality of diversified materials and resources that are used for the development of the reading skills and teaching reading strategies. As PIRLS showed use of different types of reading materials is crucial.
- As for the teachers, they have to be very accurate in elaborating criteria of reading skills' assessment. According to PIRLS, in those countries that are in the top ten of the PIRLS list, teachers pay more attention to the understanding of the text, they assess elements of

the language and of the text as well as the way students interpret and integrate main ideas of the text. Furthermore, teachers must collaborate tighter with their students' parents and finally, maybe some seminars must be organized by schools. The main aim of these seminars should be oriented on informing parents about the importance of parents' role in the academic achievements of their children.

- **Finally**, teachers should actively implement effective reading strategies in their teaching routine and if possible through the integrated lessons as it increases students' reading comprehension, enthusiasm and makes revision of the CAT materials much more enjoyable for students.

### **Possible directions for further study**

In the future more participants should be involved in the research, if possible with the participants of both genders and with different socio-cultural and demographic backgrounds.

### **Major results of the dissertation were published in the following articles:**

1. Kumsiashvili, T. (2018). Teaching previewing and predicting to high school students in Georgia. *Journal of Education in Black Sea Region*, 3(2), 103-114.
2. Kumsiashvili, T. (2018). Teaching reading in Georgian school context. *Social Educational Project of Improving Knowledge in Economics Journal*, 19, 39-41.
3. Kumsiashvili, T. (2017). English language lessons garnished with biology vocabulary. *The 7<sup>th</sup> International Research Conference on Education, English Language Teaching, English Language and Literatures in English (IRCEELT)*, 886-907.