Integrating Information and Communication Technology into EFL Textbook: A Content Analysis Study

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ABSTRACT

This study aims at investigating the integration of information and communication technology into EFL textbook to measure to what extent the current used curriculum meets the current educational demands and matches the general outcomes of the course. The researcher analyzed ‘Action Pack 12’ students’ book and classified the types of technological devices integrated in the activities of the book. Then, she calculated the number of the activities that integrate information and communications technology and their percentages to the other activities in the students’ book. The results of the study revealed the integration of technological devices into EFL textbook which indicates congruence with the outcomes for the English Language in the course. The researcher concluded that Action Pack 12 Students’ book meets the demands to integrate technology in EFL curriculum and matches the general outcomes that ensure the use of information and communication technology by students. Then, she provided inferences and implications for the effective implementation of ICT in the textbook at school level.

Keywords: Integrating; Information and communication; technology (ICT); EFL; textbook; content analysis.

Introduction

(Richards and Rogers, 2001) argue that course books are important elements of the curriculum since they specify the curriculum and define coverage in an explicit way. (Ur, 1996; Littlejohn, 1998) state many advantages for using course book: it provides a clear framework which both the teacher and the students can easily follow, it serves as a syllabus which includes a carefully planned and balanced selection of language content, it lets the students learn new material, review and monitor progress, it supplies tasks and texts with appropriate level for most of the learners. (Cunningsworth, 1994, p.7) as cited by (Hismanoglu, 2011) indicates the importance of ELT course books as a vital element. He argues that “we need to ensure that careful selection is made and that the course book selected closely reflects the needs of the learners, the aims, methods, and values of the teaching program.” (Cunningsworth, 1995) affirms that “there are different criteria to be taken into account when selecting the course book like practical factors and pedagogical referents of the new changing era.”

As a result of the increase in the use of technological devices, the authors of EFL course books and directed by the ministry of education in Jordan sought to change the traditional course books and replace them with new editions in an attempt to cope with the demands of the new teaching learning process where the integration of technological devices has become inevitable. Thus, ICT can be defined as a set of technological devices that are used to communicate, create, disseminate, manage, and store information.

The mission of the ministry of education in Jordan was to “integrate information and communication technology (ICT) in education to assist students to learn more effectively by providing teachers with access to a wide range of new pedagogy.” These technologies are also being used to enable teachers to do administrative tasks more efficiently.

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According to the vision of the ministry, “the use of ICT in education adds value to teaching and learning, by enhancing the effectiveness of learning.” It added a dimension to learning that was not previously available. The previous research in ICT areas revealed that after the integration of ICT in schools, students found learning in a technology enhanced environment more stimulating and engaging than in a traditional classroom environment. Nowadays, the role of information and communication technology in education in the education sector plays an important role specially in the process of empowering the technology into the educational activities. Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Integrating ICT in EFL curricula can enhance self-based learning. The use of ICT in classroom teaching-learning can provide opportunities for teachers and learners to operate, manipulate, store, and retrieve information. Furthermore, it encourages independent and active learning, self-responsibility for learning such as distance learning, and motivates teachers and students. Information and communications technology are currently being used in education to assist students to learn more effectively by providing teachers with access to a wide range of new pedagogy (Ministry of Education, 2013).

**Literature Review**

(Andrews,2000b) defines information and communications technology as “new multimedia technologies including computer, software, CD-ROM, the internet, mobile phone, television, films, as well as internet-based project work, email, chat, blogs, wikis, podcasts, and so forth”. Theorists and researchers investigated in their studies the importance of ICTs in the teaching and learning process. Researchers and theorists ended with the results that the integration of technology in classroom promote the level of learning and critical thinking among students. (Dawes, 2001) as cited by (Bingimlas, 2009) points out that “the use of technology in the curriculum creates effective communications between teachers and students”. Moreover, he states that teachers are expected to face obstacles in implementing technological devices in the curriculum. (Balanskat et el., 2006) argue that “the teachers value the importance of ICT in schools, but there are difficulties that they come across in implementing these technologies.

(Romeo,2006) points out that “technology can play role in enhancing the teaching learning process by using computers”. (Grabe and Grabe, 2007) argue that technology can enhance students’ skills, motivation and knowledge and aid them to complete the learning tasks. (Becta, 2004) states five factors that affect the implementation of ICT in schools: “ICT resourcing, ICT leadership, ICT teaching, school leadership, and general teaching. She added that “the integration of ICT in education varies according to factors including curriculum, place, and class.” (Yelland, 2001) argues that “the traditional educational environments are not suitable for preparing learners to function or be productive in the workplaces of today’s society”.

(Grimus, 2000) points out that “the implementation of ICT in primary school prepares the pupils to cope with future developments”. (Newton and Rogers, 2003) state that “ICT can facilitate clearer thinking and develop interpretation skills with data.” (Plomp et al.,1996) refer to three objectives for the use of ICT in education: “the use of ICT as object of study, the use of ICT as aspect of a discipline or profession”, and “the use of ICT as medium for teaching and learning.” (Bena and James, 2001) state three causes for investing in technology: (1) “to increase students ability and interest in applying authentic settings; (2) “to prepare students for success in a technology centered world of work, and; (3) “to prepare students to manage and use information so they can be productive lifelong learners and responsible citizens.”

Furthermore, integrating technologies in learning classrooms has been shown to promote teachers and students’ performance and motivation. (Murphy, 1995) summarizes the benefits that result from the use of ICT tools in classroom. These are represented by “social growth, problem solving, peer teaching, independent work, and exploration”. (Pelgrum, 2001) states several reasons for the importance of using technology in classroom. These included “rational related to social and economic interests, such as reducing the costs of education, supporting the computer industry, preparing students for work and for living in a society permeated with technology, and making the school more attractive to its potential clients.” (Kosma, 2003) points out that “public initiatives have intended to spread the use of computer technology in schools by implementing computer laboratories and embedding actual classrooms.
with digital technologies to assist and support current classroom learning”.

Although the integration of ICT in education has many advances, researchers claim that there are several barriers that teachers encounter in implementing ICT in education. Different researchers and educators classified these barriers into two categories: extrinsic and intrinsic barriers. (Ertner, 1999) referred to extrinsic barriers as “first-order and cited access, time, support, resources, and training”. Intrinsic barriers, on the other hand, are represented by “second-order and cited-attitudes, believes, practices, and resistance”.

Other researchers in the field classified the obstacles into “teacher-level barriers” vs. “school level barriers”. (Becta, 2004) as cited by (Bingimlas, 2009) summarizes the teacher-level barriers in “lack of time, lack of confidence, and resistance to change”. School level barriers, on the other hand, are represented by “lack of effective training in solving technical problems, and lack of access to resources.” (Balanskat et el., 2006) divided them into “micro-level barriers related to the teachers’ attitudes and approach to ICT, and macro-level barriers related to the institutional context.”

(Pelgrum, 2001) classifies obstacles into “material and non-material”. The material obstacles are represented by “the insufficient number of computers or copies of software”. The non-material obstacles include “teachers’ insufficient ICT knowledge and skills, the difficulty of ICT in instruction, and insufficient teachers’ time.”

Reviewing the previous literature in the integration of ICT into the curriculum, we can conclude that most studies conducted in the field encourage the use of ICT in classroom. Also, most studies emphasized the existence of barriers in implementing ICT at both teachers and school level. This study is an attempt to add more implications in this regard by analyzing the content of Action Pack 12 in Jordan to see to what extent the mission of the ministry of education represented by urging students to use ICT is achievable by providing authentic material in the curriculum. This, in turn, can provide insights on the current textbook to help them to take further decisions in future.

**Description of Action Pack 12**

Action Pack is an English course for EFL students. Each level of Action Pack includes a student’s book, an activity book, two cassettes, CDs with a listening material, and a teacher’s book. Action Pack is based on the general guidelines and the general and specific learning outcomes for English language teaching. The expected knowledge and outcomes of Action Pack is “to integrate information and communications technology to ensure that students use technological devices and processes (doing research, processing information, and communicating around the world) to broaden and deepen their learning.” Through variety of instructional methods, the course book aims to ensure that all language learners achieve learning goals that emphasize critical thinking and go beyond memorizing facts and information.

The book also seeks thorough new ways of assessing learning to provide students with authentic ways such as research assignments, teamwork, and oral and multimedia presentation to demonstrate the knowledge and skills they acquire. The curriculum itself includes the broad range of knowledge; skills and attitudes students are expected to learn from Grade 1 to Grade12. For example, specific ways of using technology to learn have been incorporated, such as the use of e-dictionaries. Oral communication skills and specific skills of analysis and critical thought related to the media are described in detail. Students are also expected to develop skills in using technology, such as searching for and sharing information, and to use critical and analytical skills when using and responding to communication media (Ministry of Education, 2013).

**Questions of the study**

This study aims at answering the following questions:

1. What are the ICT tools integrated/ ignored in ‘Action Pack 12’ students’ book?
2. What are the frequencies and percentages of the integrated ICT tools in Action Pack 12 students’ book?
3. To what extent are the information and communication technologies organized to correspond to the four main areas of language use?
4. To what extent are the activities in the current curriculum congruent with the general grade outcomes of the
English language which emphasizes the integration of information and communication technology?

**Criteria of Analysis**

The criterion of this paper will be the extent of including the ICT activities that ensure students use of technological devices in Action Pack students’ book.

**Categories of the Study**

The categories of the present study are derived from the four questions under study.

**Unit of Analysis**

The unit of this analysis is the activity in Action Pack 12 students’ book which urges students to use technological devices.

**Methodology**

In order to answer the questions of the study, the researcher first read the general and specific outcomes of Action Pack 12 students’ book. Then, she surveyed the features and the activities in the ten units of the book. The researcher categorized each part separately in light of the integration of technological devices in the book and classified the integrated ones into integrated devices. The researcher calculated the frequencies of each ICT tool and then found out the corresponding percentages in a summary table. The researcher discussed the findings through presenting comments and recommendations.

**Design and Variables of the Study**

The current study is a descriptive one since it analyzes the content of the material in the 12th grade English Language textbook. There are no variables since it is not an experimental or quasi-experimental study.

**Results and their discussion**

Table 1 presents the frequencies and percentages of the integrated ICT tools that are congruent with the general grade outcomes that urge students to use technological devices.

<table>
<thead>
<tr>
<th>No</th>
<th>ICT tool</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>E-mail</td>
<td>4</td>
<td>%4</td>
</tr>
<tr>
<td>2</td>
<td>Computer Software</td>
<td>10</td>
<td>11%</td>
</tr>
<tr>
<td>3</td>
<td>Internet (web page, website)</td>
<td>28</td>
<td>31%</td>
</tr>
<tr>
<td>4</td>
<td>Social Software (Wiki, Blog, Podcast)</td>
<td>6</td>
<td>%7</td>
</tr>
<tr>
<td>5</td>
<td>Audio CDs</td>
<td>31</td>
<td>%34</td>
</tr>
<tr>
<td>6</td>
<td>Video camera, phone, mobile phone</td>
<td>5</td>
<td>%6</td>
</tr>
<tr>
<td>7</td>
<td>Internet-based project work</td>
<td>6</td>
<td>%7</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>90</td>
<td>100%</td>
</tr>
</tbody>
</table>

The above table presents the frequencies and percentages of the activities that integrate ICT tools in Action Pack 12. The table illustrates that Action Pack 12 integrates most of ICT tools in the students’ book. These technological devices are represented by e-mail, computer software, internet-based project, audio CDs, camera, video, mobile phone, internet-web page, and social software. The table also reveals that some other ICT tools like e-portfolio, DVDs, and chat are ignored.

Audio CDs are widely used and regularly in every module and lesson of Action Pack 12. These are the most common devices used in the curriculum for pronunciation and listening exercises. Both teacher and students have...
access to use in class or outside classroom since each book includes a cassette and CD which includes all the activities in Action Pack 12. This ICT tool got the highest percentage (34%) among the other ICT tools and it is present in each lesson and unit of the students’ book. For instance, in module two, page 15, students listen to an article about complimentary medicine and then answer the questions that follow. Another example is on page 17 where students are asked to listen to a teacher and her students talking about anger management, and then students listen again and answer the questions. Also, in a successive exercise, students listen to the words and match them to their phonetic transcription.

Computer software activities are also present in Action Pack 12 students’ book with a moderate percentage of 11% of the total ICT activities. Computer software can be defined as the instructions, data or programs used to operate computers and carry out specific tasks. Students are exposed to carry out tasks using different computer programs and applications to serve them in performing varied tasks like word document, PowerPoint, preparing their presentations, using the electronic dictionaries, and word processing. Computer software is introduced in the book throughout the reading comprehension sections, listening, writing, and speaking. For instance, on page 6, students read an article talks about the history of computer; a text about how information technology is used in education. The text itself illustrates the development on the use of software computer with examples and includes software applications like games, computer camera, recording interviews, flabby disk, computer chip, and computer program. It is clear that the book is rich with ICT vocabularies which are taught through the four organizers of the book and the use of these vocabularies is highly present in most reading and listening activities. Students are asked to use electronic spelling and grammar checking programs to edit their academic essay. Also, students are asked to record an interview using a video camera, a phone, or computer camera.

The analysis revealed that the internet is widely present throughout the book with a high percentage of 31%. The activities of the book that are related to the internet varied in types and presence. For instance, on page 7, students have a research activity in which he/she is asked to research using the internet to find when was the internet first email sent and why did it use the @ symbol. Another research activity is on page 28, unit 4 where students are asked to search the internet to find what a camera obscura is and why it was so important and which Arab optical scientist invented the obscura. Students look up the answer to the question on the internet or in reference book.

Almost all the units of the book include activities that integrate the internet as a vital tool in performing certain tasks related to research and internet-based project. These activities got a moderate percentage (7%) among the other ICT tools. Students are exposed to different activities that urge them to search using the web or website. For instance, on page 12, students are asked to research, create, and present a plan for school website. They have to research their chosen page using the internet. Each student researches a particular section. All of them get to do some research which is an important skill to practice. Each student writes his section to the web page then they agree on the layout. Students also are recommended to use grammar checking tool to check another’s writing. On page 11, students speak about a website they visit frequently. They make notes of useful web addresses. The teacher can show students a website that he considers to be useful. Then, on the same page of the book, students listen to an audio script about web page design.

In Action Pack 12, students are introduced to the use of email and are asked to write an e-mail to a friend. This technological device is not widely present in Action Pack 12 and it got the lowest percentage (4%) among other ICT tools despite the fact that reading and writing emails are of great importance in communication. Writing and reading emails in class or outside class enables students use of the target language for authentic purposes. On page 47, unit 6,
students are asked to write an email to a friend telling him what it is like to study there.

Internet-based project is also present in Action pack 12 as an ICT tool. This tool is integrated at the end of each module of the textbook. The project needs research, preparation and access to the internet. In module 3, students are asked to give a presentation about an artist or a craft person using the internet or the library to research the person’s life and to include visual examples of artist work. The book also included camera, mobile phone, and e-dictionary which urge students to use these devices to perform their projects. For instance, in module 2, page 26, students have project task to interview an old person and write about their life. In this activity students are urged to use a video camera, phone, or a computer to help them to record onto. Before presenting the information, students can check their draft making use of the spelling and grammar checking program to edit their final draft.

Camera, mobile, and video are present in the book as ICT tools with a moderate percentage of 6% of the total ICT activities. A number of activities that urge students to use video camera and mobile are present in the students’ book. For instance, in module 3 students are asked to record an interview with an old person talking about his life using a video camera, phone, or computer.

Table 2: Frequencies and percentages of the total activities included in Action Pack 12 students’ book

<table>
<thead>
<tr>
<th>Type of Activities</th>
<th>Frequencies</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT Activities</td>
<td>90</td>
<td>31%</td>
</tr>
<tr>
<td>Other Activities</td>
<td>200</td>
<td>69%</td>
</tr>
<tr>
<td>Total</td>
<td>290</td>
<td>100%</td>
</tr>
</tbody>
</table>

The above table shows the total number of ICT activities included in Action Pack 12 students’ book and their percentages to the other book’s activities. It presents that Action Pack 12 students book includes 90 activities that integrate technological devices with a percentage of 31% of the total activities which are estimated by 69%. This indicates that Action Pack 12 students’ book includes a high percentage of ICT activities that aim at integrating technological devices in the teaching learning process. This integration is congruent with the general outcomes of the book which aims at integrating information and communication technologies ensuring students use of technological devices and processes (e.g. doing research, processing information, communicating around the world) to broaden and deepen their learning.

Table 3: Topics including ICT tools in Action Pack 12 students’ book and their distribution on the four organizers

<table>
<thead>
<tr>
<th>Module</th>
<th>Skill</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Information Technology</td>
<td>Listening</td>
<td>a radio program taking about internet safety; a discussion about creating webpages</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>An article about the history of computer; a text about how information technology is used in education</td>
</tr>
<tr>
<td></td>
<td>Speaking</td>
<td>A brief talk about how you use computer at home and at school, talk about web pages and websites</td>
</tr>
<tr>
<td></td>
<td>Writing</td>
<td>A discursive essay about using the internet, write two paragraphs about the role of technology in education</td>
</tr>
<tr>
<td>2 Health</td>
<td>Listening</td>
<td>A talk about medical robot</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>A website about medical technology in future</td>
</tr>
<tr>
<td></td>
<td>Speaking</td>
<td>Make a five-minutes oral presentation to the class</td>
</tr>
<tr>
<td></td>
<td>Writing</td>
<td>A descriptive essay; interview an older person and write about their life</td>
</tr>
<tr>
<td>3 Achievements</td>
<td>Listening</td>
<td>Listen to a radio report about crafts</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>Read an article about Islamic achievements</td>
</tr>
<tr>
<td></td>
<td>Speaking</td>
<td>Give a presentation about an artist or a craftsperson</td>
</tr>
</tbody>
</table>
Table 3 presents the topics included in Action Pack students’ book including information and communication technologies and their distribution in each module and unit according to the four organizers of the book (reading, listening, writing, and speaking). Analyzing the whole activities in the book, the researcher found that all the units of the book do include ICT in their activities which indicates the balance in distributing the activities on the four organizers. (Omaggio, 2001) points out the importance of teaching language interactively. She states that “An integrative approach provides students with opportunities to use the language they are learning in authentic communication”. In the same vein, (Rivers 1981) argues that the integration of various skills into free-following activities in which one provides material for another allow students learn to operate confidently within the language and easily transform the knowledge acquired in one area for active use in another.

For instance, module one topic Information technology includes two units. After investigating the content, the researcher found that the module introduces technological devices to students using the four organizers. On page 5, students are asked to listen to and read an article about the history of computer and how information technology is used in education. Then, in the speaking section, students are asked to work in pairs to answer the questions about the use of modern technology. On page 7, students are asked to write a paragraph about the use of modern technology using the vocabularies that they were exposed to in reading and listening.

**Basic Implications**

A number of studies which reviewed the literature on ICT and learning concluded that the integration of ICT into the curriculum has significant role in enhancing the students’ achievement and teachers learning. It can play role in enhancing the teaching learning process by using computers. Although the integration of ICT in education has many advances, researchers found out that there are several barriers that discourage the implementation of ICT. In order for schools to prepare its students to function within society, the curriculum needs to provide the necessary equipment to
implement what students need to apply in the authentic context. Previous research in Jordanian schools (AlKhawaldeh & Menchca, 2014; Al-Zaidiyeen, 2008) concluded with the result that there is a low level of ICT use for educational purposes. The lack of equipment is present in Jordanian schools and the government needs to allocate budget for additional infrastructure such as computer laboratory and e-classes.

To achieve a vital integration of ICT at school level, several factors need to be considered. First, it should be found out whether the ICT tools presented in the coursebook are achievable in classroom environment. In other words, it is important to ensure that there is no gap between theory and practice when it comes to the implementation of ICT activities that require the use of tools in the teaching-learning process in school.

Second, in order to achieve the advantages of integrating ICT in schools, there should be access to the tools at school level throughout the country and equally for every school and student. Most studies in the field concluded that the main hindrances in implementing ICT at school level lie in the lack of time and lack of access. Thus, it is the government responsibility to provide schools with ICT resources including hardware and software. We should keep in mind that a good percentage of Jordanian schools are located in remote areas, the matter which deprives students residing in these areas from achieving equal opportunities to use technological devices. Lack of the tools in the remote and poor areas in the country could be a main hinder that avoid the implementation of these tools in schools.

Third, it is worth mentioning that the implementation of technological devices at school level is time consuming. The book designers, authors, and practitioners should take into account that the integration of technological devices into the curriculum, specifically, Action Pack 12 can really be a challenge for both teachers and students. Students at this important stage as well as teachers need to have good time management. We need to ensure that the implementation of ICT activities is not at the expense of students’ time and achievement. It is noticed from the content analysis, that some ICT activities (interview, designing a school website, and preparing audio-visual presentation) are widely present in the textbook. Normally, such activities consume time to search and prepare. Taking into consideration that this textbook is designed for higher school students, the authors of the book are recommended to evaluate students’ needs and time at this stage. They need to consider that students at this stage usually don’t give priority to spend much time practicing using ICT tools either in classroom or at home, but rather preparing themselves to pass the secondary school examinations which will decide their destination in future.

Accordingly, it is recommended to minimize the amount of practical activities and projects that require students to spend much time preparing and presenting in and outside classroom. We need to keep in mind that such kinds of practical activities like designing school website or interviewing an old person might not be of great interest for students to practice if they don’t find the suitable time to perform. Yet, decision makers can work to provide sufficient time for implementing activities that require the use of technological devices by reducing the number of teacher lessons or increasing the daily lesson length. Otherwise, more priority can be given to ICT activities in grade 11 where students might have more time to practice throughout their availability at school.

Thus, the researcher thinks that including activities in Action Pack 12 which urge students to use technological devices and prepare them to their use in their future career is of great importance even if students lack time or technical support to use them in an authentic context. Students are, at least, exposed to the most significant ICTs that they will need when they go to the college. Accordingly, exposing students to ICTs at this stage is required at least at the theoretical level since those students will join the college where they will need to be engaged in everyday activities, projects, research, and presentations. Hence, exposing them to the knowledge of how to perform such activities is an essential step at this stage.

Inferences

The analysis revealed that Action Pack 12 students’ textbook covered the general outcomes of the course which urge students to use ICT. The results showed that the activities of Action Pack students’ book integrated technological devices with different tools. The study also revealed that the activities are distributed on the four organizers and that they are sufficient for students. It can be said that the curriculum integrated the use of ICT in classroom and urge
students to perform different tasks using technological devices, but there is a need to ensure efficient implementation of these tools at school level. Recognizing the obstacles that hinder the efficient implementation of ICT in the curriculum can support in how they are to be engaged. Technological equipment is necessary to implement the hardware, software, and audio-visual media. Therefore, if these tools are inaccessible, then, the achievement of the learning outcomes cannot be achieved. It is the responsibility of the decision-makers in the field to implement the educational change to ensure the accessibility of the tools and resources generally and equally to each teacher and student at school level.

REFERENCES


دمج تكنولوجيا المعلومات والاتصالات في منهاج اللغة الإنجليزية: (دراسة تحليل محتوى)

أمل الريشان

ملخص

هدفت هذه الدراسة إلى التحقق من دمج تكنولوجيا المعلومات والاتصالات في منهاج اللغة الإنجليزية كلغة أجنبية لقياس مدى تلبية المنهاج الحالي المستخدم للمنهاج في اللغة الإنجليزية في المنهاج. صنفت الباحثة أنواع الأجهزة التكنولوجية المستخدمة في نشاطات كتاب الطالب للصف الثاني عشر، ثم حسبت عدد النشاطات التي تدمج تكنولوجيا المعلومات والاتصالات وبينها إلى النشاطات الأخرى في الكتاب. كشفت نتائج الدراسة عن دمج الأجهزة التكنولوجية في كتاب اللغة الإنجليزية كلغة أجنبية مما يشير إلى التطابق مع النتائج العامة للمنهاج. وخلصت الباحثة إلى أن كتاب الطلاب لحزمة العمل 21 يلي متطابقات دمج التكنولوجيا في مناهج اللغة الإنجليزية كلغة أجنبية، ويتطابق مع النتائج العامة التي تضمن استخدام الطلاب تقنيات المعلومات والاتصالات. ثم قدمت الباحثة مضامين واستنتاجات حول معوقات استخدام التكنولوجيا في النشاطات المنهجية في المدرسة.

الكلمات الدالة: دمج، المعلومات والاتصالات، تكنولوجيا، اللغة الإنجليزية كلغة أجنبية، كتاب الطالب، تحليل محتوى.