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THE "IDEA" MODEL OF TECHNOLOGY AND CURRICULUM SYNCHRONIZATION IN LANGUAGE TEACHING: THEORETICAL FRAMEWORK

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Abstract. Technology integration into teaching and learning environment has long been a controversial issue. A rapid shift of the education system to online mode after the COVID-19 outbreak has brought this question into an even more intent consideration. While the necessity of using technology in education is obvious, its embedment into teaching and learning process does not always seem smooth, due to several reasons. Among such factors, experts mention poor technological equipment of teaching organizations, teachers' fears, and unwillingness to use technology or 'aggressive' attempts of institutions administration to force teachers to use technology in any way, even if they pursue no clear educational purpose. The aim of this article is to highlight that the use of technology in education can no longer be considered something extraordinary, but rather it should be taken as an inseparable part of the post-COVID teaching and learning times. The study uses descriptive method, secondary data analysis method, method of survey and modeling method. The article also introduces the IDEA (Instruct, Demonstrate, Experience and Assess) approach to embedding technology into educational process. This approach seeks to help ESL teachers make technology a part of their daily lessons, taking into consideration that, not only does technology entertain learners and demonstrate teachers' creativity, but it also makes teaching more effective, which is its main goal. The methodology used for this study is explanatory approach and secondary data analysis. The ideas presented in the article can potentially be approbated in practice by scholars, educators, and practitioners in the sphere of education.

Key words: technology in education, digital education, educational transformation, technology and curriculum alignment, ELT, higher education, digital natives, digital immigrants

Basic Provisions

The present study is a descriptive analysis of the situation with technology embedment into the English language classes. The study reveals the current state and beliefs about technology use in educations, as well as its potential in teaching languages. The article uses explanatory approach and secondary data analysis, as well as the methods of survey and modeling. Based on the information collected from various sources, the article identifies the importance of technology embedment into the ESL classroom, as well as the necessity of technology and curriculum alignment. To identify the general attitudes of students towards technology use, the survey has been conducted. This paper suggests the model of technology integration into the language teaching process at every step of the lesson, called "The IDEA (*Introduce, Demonstrate, Experience* and *Assess*)" approach. As the basis, the article considers the lesson plan employed in TESOL (Teaching English to Speakers of Other Languages), which comprises the following steps: *Warm-up and Objectives discussion, Instruct and*

Model, Guided practice, Independent practice and *Assessment.* The IDEA approach presented in this article also takes into consideration such models as the Bloom's taxonomy. Bloom's taxonomy is a hierarchical model that classifies learning skills into different levels of complexity, starting from basic knowledge at the bottom of the pyramid and moving to more advanced comprehension on the top. Basically, the IDEA approach is aimed at highlining the division into HOTs (high order thinking skills) and LOTs (low order thinking skills), and SAMR (Substitution, Augmentation, Modification and Redefinition), suggested by the taxonomy. The present study describes the results of the Likert scale questionnaire, conducted among the students of the focus group. The focus group participated in the 3-hour English language lesson that used the IDEA approach. The results of the study showed that the IDEA approach can be a suitable element, which connects the language skills formed at different stages of the above-mentioned models and effective integration of technology into the ESL lesson.

Introduction

The era of digital education has put forward the question of technology use in classrooms. Despite being widely discussed by the global society, this issue remains one of the controversial topics for all the participants of educational process – educational administrators, learners, and teachers. Although, the hardship all these three categories may face with can vary, what seems obvious is that a lot depends on teachers and the way they apply technology during their lessons.

There have been a few theories developed to facilitate the use of technology by educators. The experts raise such important questions, as the problem of alighting technology and teaching curriculum, the fears teachers experience when using technology or the general level of digitalization of a certain institution or society. As an example, Dr. Harry Saint Cyr in his article speaks about four main strategies of successful integration of technology into the teaching curriculum. In his opinion, the understanding of technology purpose by educational administration, IT department and teachers may often differ, which leads to the gap between the functions of technology and the teaching curriculum objectives [1].

The present article operates the ideas presented by the Bloom's taxonomy of educational objectives [2]. This theoretical-based study also looks at such theories as SAMR (Substitution, Augmentation, Modification and Redefinition) and TPACK – (Technological, Pedagogical and Content Knowledge) in connection with ESL teaching, as well as seeks to develop a new approach to technology use, based on daily ESL lesson plans, suggested by TESOL course for teachers [3].

Methods and Materials

The present article is a descriptive study which uses the method of description, explanatory approach, and the standardized questionnaire to collect quantitative data. The problem of technology use in classroom is not new to the sphere of education. Many experts and scholars have analyzed the issue and suggested the ways of increasing the level of digitalization of educational institutions. No doubts, the

implementation of any new method often requires a thorough analysis of the existing state of the problem. According to Ashilova, there have been a number of surveys on digitalization implementation conducted among various countries all over the world. The results showed that while recognizing the necessity of new technological era in education, the world community mostly agree on the fact that technology is not integrated into education at its full capacity. Moreover, technology is rather used for convenience nowadays, but not for a more effective teaching. At the same time, the authors say that the level of digital literacy in Kazakhstan is at least 77%. They also speak about the renovation of educational system through integration of new digital programs which focus on the development of creative thinking and analysis of learners starting from school [4]. However, this is quite controversial, since there are other findings which state that many teachers in Kazakhstan are rather technologically illiterate, because they are either unable or unwilling to use technology in the classrooms [5].

While the general level of digitalization of education might be low, we now witness how easily most students and school learners operate technology in their daily life. Here we can speak about “digital natives”. According to Dr. Shane Dixon, those learners who can intuitively use various devices can be considered “digital natives” [3]. In fact, this is a universal phenomenon which can be seen ubiquitously – children, who can barely speak or walk, are perfect at playing online-games or browsing the internet. The growing number of “digital natives” suggests that the approach to technology use in classroom should be modified accordingly. A number of scholars speak about the phenomenon of “Generation Z”. This generation is characterized as “the first global generation ever, which is smarter, quicker, and more tolerant of diversity than their predecessors”, and, therefore, requires an application and implementation of completely different forms of work, types of assessment in the lesson [5].

While there is a tendency in growing number of digital natives, we cannot deny the fact of “digital immigrants”, existing among learners. This category of students is comparatively less fluent in technology and often require a more intense attention from the teacher during the technology-enriched lesson [5]. Dr. Shane Dixon in his course “Teach English Now! Technology Enriched Teaching”, also speaks about digital natives and non-natives. He suggests that those learners who struggle to use technology (digital non-natives) may even have a fear, called “technophobia”. Alongside with it, Dixon identifies two subcategories of students, who belong to digital natives. The first type are students who are typically overwhelmed with the device itself, its functions and design, rather than they are interested in the task assigned. These students always like checking and testing devices but distract from the concrete teaching and learning purpose. The second category implies students with techno-fluency, who tend to have total immersion into the device. They are impatient to begin to use the technology, so that they often misunderstand the task and use the device for their own purposes, deviating from the lesson objectives [3].

In this way, we can conclude that both digital natives and digital non-natives may require equal attention, as well as clear guidelines from teachers, when using technology in class.

Nowadays, there is a bunch of theories built around integrating technology into teaching. Among them are TPACK (Technological, Pedagogical and Content knowledge), SAMR (Substitution, Augmentation, Modification and Redefinition, PICRAT (Passive, Interactive Creative=Replaces, Amplifies, Transforms), TIM (Technology Integration Matrix) and others.

TPACK basically suggests the integration of teaching strategy, teaching content and teaching technology. According to Shane, if we look deeper, however, it is more than just the overlap of three types of knowledge. In order to fully understand TPACK, we need to look at each type of knowledge separately and consider how they all interact with each other in preparing and teaching effective lessons [3].

SAMR (Substitution, Augmentation, Modification and Redefinition) is another useful way of technology application in classroom. It suggests that there can be four different levels of technology use, depending on the purpose of the activity and the level of its complexity.

Despite constant progress in technology development and the uprise of new methods of its implementation in teaching, the level of digitalization is still rather low. According to Anderson, teachers' views about the benefits and challenges of using technology sometimes varied by confidence, experience, or beliefs regarding the role of technology in the classroom [6].

At the same time, during the post-pandemic period the situation with education digitalization has become better, along with online learning. According to Akizhanova, nowadays, the most popular educational platforms are Google Classroom, YouTube, Padlet, Mentimeter, Edpuzzle, Calameo, Quizlet and others [5]. Many teachers, however, like using technologies in the lessons, which basically corresponds to the lower levels of SAMR model (Substitution and Augmentation).

Living in a techno-era, we have made devices of different types and kinds an integral part of our daily life. The sphere of educations is not an exception. Slowly but surely, effective teaching and learning processes become more and more associated with technology use. However, one of the obstacles, educational institutions face with here, is inability to get the maximum from technology use to improve academic results. This may happen for a number of reasons, but one of the biggest milestones is that technology and curriculum are often not synced.

According to Dr. Harry Saint Cyr, regardless of the learning framework, the common goal is always to equip global citizens with transferable skills and knowledge to tackle global issues. Whatever people may think of educational technology, research shows that technology-enriched learning is an essential part of helping learners develop the 21st century skills necessary to solve real-world problems [1]. The biggest challenge, however, is that educators continue to struggle aligning technology with their teaching programs. In his article, Saint Cyr introduces for strategies for more effective technology and curriculum aligning [1]. Dr. Shane Dixon speaks of the necessity to choose technology based on the lesson objectives, rather than to select

technology and adapt the whole class to it [3]. In this way only, technology will not just entertain but serve its educational purpose. Thinking back of the SAMR model, many experts believe it can successfully be interpreted through the prism of the Bloom's taxonomy [7]. While the lower levels of the taxonomy suggest tasks oriented to memorization and understanding of information, which do not commonly suggest students' cognitive processes, its higher levels often imply such tasks as analyzing, evaluating, and creating which are normally called the higher order thinking skills, or HOTs. These tasks, as a rule, require the involvement of students' cognitive skills. In discussing the SAMR model, many experts connect substitution and augmentation to the lower order thinking skills of remembering (memorization) and understanding. And modification, and re-definition to the higher order thinking skills of analyzing, evaluating, and creating. No doubts, this interpretation is logical and meaningful when thinking about technology use in classrooms.

The present study falls into three phases. At the first stage, the survey among the university students of the 1-3 years of study has been conducted. The purpose of the survey was to discover students' general understanding of technology and whether technology is used in their lessons. The second step was to orgazine a focus group among the respondents who participated in the survey and conduct a 3-hour English lesson, using the IDEA approach. Overall, eight students of different age participated in this lesson. The eight students were randomly selected among the 11 respondents of the survey. The lesson involved the use of Padlet, as one of the most popular technologies in teaching [5]. The second stage aimed to measure the effectiveness of the suggested IDEA approach in teaching English. This was followed by the third stage, when the students were asked to participate in a questionnaire. With the help of 5-point Likert scale questionnaire, it was possible to analyze the students' feedback and measure the general effectiveness of the IDEA approach to teaching English.

Results

The first stage of the study was to measure students' general attitudes towards technology use in the classroom. The students were asked to complete the survey, which consisted of 10 multiple-choice questions. The survey was conducted online via Google forms. The survey and the responses are available at the following link: https://docs.google.com/forms/d/1CGkmUYQt2UVe9M4WCJCtvypSSXHbgXiY0-sH_3Ih33M/edit#responses

Generally, the survey results showed students' interest in technology as an effective tool of increasing motivation to learning. At the same time, many respondents highlight the necessity of clear teachers' instructions and guidelines when using technologies for the first time.

The next stage was to hold an English language lesson with the eight participants. The lesson procedures were categorized as follows:

Table 1 - Stages of the lesson

Lesson stage
Warm-up and Objectives discussion

Instruct and Model
Guided practice
Independent practice
Assessment

Padlet was selected as a technology to use in the classroom.

After the lesson, the students took a questionnaire to provide their feedback. The questionnaire consisted of 10 questions and measured two variables: *students' general satisfaction with the lesson* and *students' satisfaction with technology and teaching objectives alignment*.

Table 2 - Likert scale questionnaire

Variables	Items	Agreement Scale				
		SD	D	N	A	SA
General satisfaction with the lesson	Were the topic and objectives of the lesson clear to you?				6	2
	Was the presentation stage logical and understandable?			1	7	
	Did you have enough time to practice new knowledge?		1	2		5
	Was the time allocated for each lesson section clearly indicated?				8	
	Was the overall pace of the lesson comfortable for you to follow?			2	1	5
Satisfaction with technology and teaching objectives alignment	Was the technology used throughout the whole lesson?					8
	Did the teacher provide additional instructions before using the technology?					8
	Did the technology help you acquire the information easier?			4	2	2
	Did the technology have connection with the lesson objectives?			1		7
	Did you effectively use technology at the production stage?				1	7

Likert Scale:
1 = Strongly Disagree (SD)
2 = Disagree (D)
3 = Neutral (N)
4 = Agree (A)
5 = Strongly Agree (SA)
number of respondents: 8

The Likert scale questionnaire results demonstrated students' high involvement in the lesson and overall effectiveness of technology use to achieve the lesson

objectives. However, several respondents still indicated limited time for practice and production, while some stayed neutral when speaking about logic, classroom atmosphere and overall language acquisition.

Based on the data collection and analysis presented, this article seeks to offer the reconstructed model (approach) of technology use in the ESL classroom – "The IDEA (Introduce, Demonstrate, Experience and Assess)" approach. Now, as we speak about the new generation, the time has come to change the attitude towards technology. Taking into consideration that many institutions have switched a great part of their disciplines to an online regime, the problem of technology use appears even more inevitable. Regardless of whether the class is conducted online or offline, teachers can try applying technology throughout their whole lesson, instead of using it on a certain stage only.

The IDEA (Introduce, Demonstrate, Experience and Assess) approach suggests that technology, which matches with the lesson objectives, can be introduced at the first step of the class, and be continuously used till the final (assessment) stage. The IDEA approach can be illustrated through the lesson plan format by TESOL, where there are basically five stages of the lesson [3]:

- *Warm-up and Objectives discussion*
- *Instruct and Model*
- *Guided practice*
- *Independent practice*
- *Assessment*

The following table visualizes how IDEA approach can potentially fit in the lesson plan stages:

Table3 - Correlation of IDEA steps and the stages of a typical lesson

Lesson stage	Technology use stage (based on IDEA approach)	Examples of tasks	Students' skills activated	Connection to SAMR
Warm-up and Objectives discussion	Instruction on Technology use and identification of the purpose of using it	Watching introductory videos, doing online-quizzes and tests	LOTS	Substitution
Instruct and Model	Demonstration of Technology use by a teacher	Teacher demonstrates a product (an essay or a video) that the students need to make with the help of Technology by the end of the lesson. Teacher explains the steps of working with Technology.		Augmentation
Guided practice	Students experience Technology under the teacher's supervision	Creating mindmaps, questionnaires, interview each other in groups or pairs	HOTS	Modification

Independent practice	Students experience Technology more independently	Creating a video, posture or story (depending on the lesson objectives) individually or in groups, based on the ideas from the previous stage.		
Assessment	Students together with the teacher use Technology to assess results	Cross-checking, peer-reviewing with feedback and analyzing each-other's mistakes		Redefinition

Discussion

According to Singh, the most substantial task for educational society in terms of digitalization is to make use of digital technology in the classroom in the most productive ways. The author says that the main aim of integrating technology in the classroom is to maximize the quality of education, but not make it more complex. According to Singh, technology is not used to replace teachers, but rather to support them. On the other hand, technology must rather widen students' learning activities and increase their interest towards learning, than to repulse their will to acquire something new [8].

Based on the foregone research on digital education, the problem that remains unsolved can be identified as follows: despite the wide usage of technology in teaching, it is still rather "a need" than the way of making teaching more effective. Most teachers do not use technology during their lessons for the purpose of learning alleviation and productivity, but rather they use it for their convenience or because they were simply told to do it.

Technology in educations has long been seen as something new and unexplored. Teachers try to use some elements of technology at some stage of their lesson; however, the problem is that often technology choice does not correspond to the lesson objectives.

In the context of contemporary education, when a great part of disciplines has switched to the online format, the IDEA approach can have a strong potential in making technology an integral part of an ESL lesson. Moreover, it can help language instructors and learners get the maximum of technology use in both entertainment and educational purposes.

Conclusion

Technology and teaching have now become the two fundamental pillars which aim to make the quality of education progress faster. Technology can no longer be isolated from education neither can it be considered as something "latest and greatest". In fact, technology is everywhere, and we must admit it and get the best out of its use.

Nowadays, education system and teachers' understanding of digital education clearly need transformation. One step towards such a shift from traditional to technology-enriched teaching could be making technology a part of each stage of the lesson, rather than using it just for practicing or warm-up step, as an example.

According to the study results, most students willingly embrace technologies in learning and believe that they increase their motivation to learning. However, the problem is whether technologies are used to meet studying requirement and if students have clear understating of their use. The IDEA approach shows how technology use could be synced with the stages of a lesson plan and how it can be associated with the SAMR model. This approach can potentially be used for further research ideas to gain more practical results.

Limitations: the study was limited to the number of participants (11) and covered the students of only one university of Kazakhstan (Almaty Management University).

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«IDEA» ТІЛДІК ОҚЫТУДАҒЫ СИНХРОНДАУ ТЕХНОЛОГИЯСЫ МОДЕЛІ ЖӘНЕ БІЛІМ БЕРУ БАҒДАРЛАМАЛАРЫ: ТЕОРИЯЛЫҚ НЕГІЗДЕУ

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Аңдатпа. Оқыту мен оқу ортасына технологияны енгізу көптен бері даулы мәселе болып келеді. COVID-19 індетінен кейін білім беру жүйесінің онлайн режиміне жылдам ауысуы бұл сұрақты одан да тереңірек қарастыруға әкелді. Білім беруде технологияны қолдану қажеттілігі айқын болғанымен, оның оқыту мен оқу үдерісіне енуі бірнеше себептерге байланысты әрдайым бірқалыпты бола бермейді. Мұндай факторлардың ішінде сарапшылар педагогикалық ұйымдардың нашар технологиялық жабдықталуын, мұғалімдердің қорқынышын және технологияны пайдаланғысы келмеуін немесе мекеме әкімшілігінің

мұғалімдерді қандай да бір әдіспен технологияны, тіпті олар нақты білім беру мақсатын көздемесе де қолдануға мәжбүрлеуге бағытталған «агрессивті» әрекеттерін атап өтеді. Бұл мақаланың мақсаты білім беруде технологияны қолдануды бұдан былай ерекше нәрсе деп санауға болмайтынын, керісінше оны COVID-тен кейінгі оқыту мен оқу уақытының ажырамас бөлігі ретінде қабылдау керектігін көрсету. Бұл мақалада зерттеу сипаттамалық әдісін, талдау әдісі және сауалнама әдісін қолданады. Мақалада білім беру үдерісіне технологияны енгізуге арналған IDEA (нұсқау, көрсету, тәжірибе және бағалау) әдісі де ұсынылған. Бұл әдіс технология оқушылардың көңілін көтеріп, мұғалімдердің шығармашылығын көрсетіп ғана қоймай, сонымен қатар оқытуды тиімдірек ететінін ескере отырып, ағылшын тілі мұғалімдеріне технологияны күнделікті сабақтарының бір бөлігіне айналдыруға көмектесуге тырысады. Бұл зерттеуде қолданылған әдістеме – түсіндірмелі тәсіл және қосымша деректерді талдау болып табылады. Мақалада ұсынылған идеяларды білім беру саласындағы ғалымдар, педагогтар және практиктер іс жүзінде мақұлдауы мүмкін.

Тірек сөздер: білім беру технологиясы, цифрлық білім беру, білім беру трансформациясы, технология және оқу жоспарын үйлестіру, ағылшын тілін үйрету, жоғары білім, сандық аборигендер, сандық иммигранттар

МОДЕЛЬ СИНХРОНИЗАЦИИ ТЕХНОЛОГИЙ И ОБРАЗОВАТЕЛЬНЫХ ПРОГРАМ В ЯЗЫКОВОМ ОБУЧЕНИИ «IDEA»: ТЕОРЕТИЧЕСКИЕ ОСНОВЫ

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Аннотация. Проблема интеграции технологий в сферу преподавания и обучения всегда являлась актуальной и значимой. Резкий переход системы образования в онлайн-режим после вспышки пандемии COVID-19 поставил этот вопрос перед еще более пристальным вниманием. В современном мире необходимость использования технологий в образовании очевидна, однако их внедрение в процесс преподавания и обучения не всегда кажется гладким по всевозможным причинам. Среди таких факторов специалисты называют слабое технологическое оснащение педагогических организаций, опасения и нежелание учителей использовать технику или «агрессивные» попытки администрации вуза каким-либо образом принуждать учителей к использованию технологий, даже если они не преследуют четкой образовательной цели. Цель этой статьи — подчеркнуть, что использование технологий в образовании больше не должно считаться чем-то экстраординарным, а скорее является неотъемлемой частью образовательных процессов в «постковидном» обществе. В данном исследовании используются описательный метод, метод анализа и метод опроса. В статье также представлен подход IDEA (Instruct, Demonstrate, Experience and Assess) к внедрению технологий в образовательный процесс. Этот подход направлен на то, чтобы помочь преподавателям иностранных языков, в частности английского, сделать технологии частью своих ежедневных уроков, принимая во внимание, что технологии не только делают занятие разнообразным и демонстрируют творческий потенциал преподавателя, но и обеспечивают более эффективное обучение, что является их прямой и основной целью. Методы, используемые в данном исследовании, представляют собой метод сравнения, описания и анализ вторичных данных. Представленные в статье идеи могут быть апробированы на практике учеными, педагогами и практиками в сфере образования.

Ключевые слова: технологии в образовании, цифровое образование, трансформация в образовании, синхронизация технологий и учебных программ, преподавание английского языка, высшее образование, цифровые аборигены, цифровые иммигранты

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