ENHANCING LEARNING IN HIGHER EDUCATION: FACTORS AND METHODOLOGY

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The purpose of this paper is to identify factors and methods enhancing the quality of learning in a university setting. It is pointed out that an overcritical attitude towards learners' incompetent public performance may cause anxiety and hinder their learning. However, group participation facilitates developing students' self-expression and life skills. Traditional views on teaching are evaluated with regard to the latest pedagogical trends.

The methodology of the paper relies on observation of the educational process, theoretical analysis of common and emerging frameworks for teaching English as a second language in a university setting, as well as synthesis, and generalization of research literature findings.

The paper demonstrates how a traditional framework for teaching English as a second language can be modified to accommodate learners' needs and investigates how innovative methods and technologies affect teaching of a foreign language and development of students' foreign language competence. It is shown that lessons incorporating pre-communicative and communicative activities can be structured differently. The key to successful learning by a group of students is to take into consideration the quality of tasks and to present materials in a flexible manner to the learners.

Our examples are based on fundamental principles, such as a variety of tasks, repetition and internationalization of the content. For warm-up or pre-communicative activities, we choose tasks preparing students for speaking and building their language competence. A number of "silent" activities enable learners to perform more or less simultaneously in order to lay the foundation for their internal language representation in an atmosphere free from anxiety and distraction. After completing exercises, students are expected to utilize previously learned grammar and vocabulary in their speech.

In conclusion, we reiterate that successful learning takes place when external and internal factors are accounted for. Modern technologies are an effective extension of in-class learning for improving students' pronunciation, enriching their vocabulary, and developing their speaking and writing skills.

Key words: *foreign and second language learning, principles of learning, approaches, technology-enhanced learning, the sequence of tasks.*

ПОКРАЩЕННЯ ЯКОСТІ НАВЧАННЯ У ВИЩІЙ ШКОЛІ: ФАКТОРИ ТА МЕТОДОЛОГІЯ

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Метою статті є визначення факторів і підходів, які сприяють підвищенню якості університетської освіти. Зазначено, що занадто критичне ставлення до неправильних відповідей студентів в аудиторії може спричинити бентежність та сповільнити навчання. Проте групова діяльність уможливлює розвиток самовираження та життєво важливих навиків. Традиційні погляди на навчання оцінюються з огляду на новітні тенденції.

Методологія роботи ґрунтується на спостереженнях за навчальним процесом, теоретичному аналізі загальних та новітніх моделей навчання англійської мови як іноземної в університеті, а також на синтезі та узагальненні матеріалу.

У статті показано, як можна модифікувати традиційну модель для вивчення англійської мови як іноземної, щоб задовольнити потреби здобувачів, та досліджено, як інноваційні методи та технології впливають на викладання іноземної мови та розвиток іншомовної компетенції студентів. Заняття, яке включає домовленнєвий етап та власне мовленнєвий етап, можна структурувати по-різному. Ключовий момент полягає у врахуванні характеру завдань та гнучкості у навчанні здобувачів.

Наші приклади ґрунтуються на фундаментальних засадах, таких як різноманітність завдань, повторення та індивідуальне осмислення змісту. Для домовленнєвого епапу ми дібрали завдання, які готують студентів до мовленнєвої діяльності та формують їхню мовну компетентність. Низка завдань, які виконуються мовчки, має на меті відносно одночасне їх завершення, закладає основи внутрішньої мовної репрезентації в умовах, позбавлених бентежності та відволікання уваги. Очікується, що після виконання завдань студенти використовуватимуть засвоєну граматику та лексику у власному мовленні.

У висновках наголошується на тому, що навчання є успішним, коли до уваги беруться зовнішні та внутрішні фактори. Сучасні технології є ефективним продовженням аудиторної роботи, яка дає змогу покращувати вимову, збільшувати словниковий запас, а також розвивати навички усного та письмового мовлення.

Ключові слова: *вивчення другої мови як іноземної, принципи навчання, підходи, цифрові технології навчання, послідовність завдань.*

Introduction

An extensive body of research literature reveals that various factors affect, in complex ways, second language learning (Vygotsky, 1978; Littlewood, 1984: 51; Green & Bavelier, 2008; Maftoon & Ziafar, 2013; Yang & Quadir, 2018). They are divided into external and internal ones. Abilities, intelligence, psychological states and personality traits are internal to the learner while her or his educational input, social and cultural background are related to external influence.

The learner's motivation stems from the interplay between internal and external factors. According to Vygotsky's theory (1978), motivation highly depends on the individual's internal belief about her or his ability to meet the current challenge. Motivation is the highest and learning is the most efficient when tasks just slightly overpass the individual's current ability. Too difficult or too easy tasks might decrease the level of motivation and leads to reduce teach (Green & Bavelier, 2008).

Thus, learning tasks' difficulty should be at a maximum, but they still should be doable. Not only the quality of tasks, but also their sequence should be considered in the learning process. This involves carefully chosen methodology which is not readily available in academic literature or textbooks.

1. Theoretical substantiation of the problem

Setting a proper task difficulty is inevitably related to the additional factors that could potentially influence the outcome of learning. As a social process, learning involves group participation and a certain degree of stress or anxiety. When students do not perform adequately, their teacher might make some comments or corrections. Some students are embarrassed when they publicly receive negative feedback from the teacher and would rather avoid such situations. This external factor should be taken into account because "anxiety can hinder learning and make learners reluctant to express themselves through the second language". This is why teachers should not be overcritical, but try to create a friendly atmosphere with co-operative relationships and avoid any barriers to communication. On the other hand, a certain amount of anxiety can stimulate the learner to invest more energy in the task (Littlewood, 1984: 97–98).

An effective way to alleviate the anxiety problem is group work. Asking learners with different abilities to complete creative tasks together helps achieve positive outcomes. Firstly, students learn from discussing different viewpoints, collaborating with each other and group brainstorming activities. Secondly, group work boosts students' confidence, leadership and negotiating skills, as well as sensitivity to other people's feelings while reaching a mutual decision (Conley, 2015). Thirdly, it fosters a positive attitude towards collective contributions. Fourthly, group work stimulates students' self-development by making it possible for them to compare their level of competence to that of other people. Finally, group work is an indispensable means of developing students' communicative skills in a foreign language. Without interaction with other students in the course of studying, language learning might fail.

Along with positive outcomes, some drawbacks have been pointed out by researchers. In particular, K. Fushino (Fushino, 2010: 701) admits that interaction in a group is rather unpredictable. Teachers cannot force their students to participate in collaborative activities properly when learners are influenced by a number of factors, including classroom layout, students' interpretation of their tasks and peer relationships.

The significance of internal factors, such as the individual's determination, need for

achievement and success, curiosity, desire of new experiences, is hard to overestimate. Highly motivated learners also build their confidence outside the classroom, and digital technologies provide ample opportunities for that. Although students' individual studies can produce solid results, the teacher's expertise in structuring learning is indispensable. Teachers choose from an immense variety of tasks and approach the most appropriate ones to suit learners' needs the best.

Until recently, the learner's input was carefully controlled. Teachers struggled to provide a comprehensible, interesting, relevant, and not too complex content. Their teaching was aimed at "controlling the learner's exposure to the language; making them aware of significant features and patterns; providing opportunities for practicing the language; ensuring that learners receive feedback about their performance" (Littlewood, 1984: 60).

The importance of formal instruction has been decreasing gradually. It is a major factor only when it is the learner's sole source of language experience. Teachers are now attempting to exploit recent technology developments to capture students' attention and respond to their needs.

Nowadays in-class activities provide communicative experience similar to communication in a real-life setting. The latest approaches to teaching consider the learner as a member of larger socioeconomic and political systems, holding multiple race, class, and gender subject positions. The emphasis is put on the conflicting perspectives that the learner faces beyond work and study – as a parent, a consumer, a citizen, a member of vernacular communities (Canagarajah, 2002), and the communities they dream of joining (Care, 2016: 5). Thus, English learning is also influenced by its practical dimensions and its responsiveness to personal and social challenges.

The purpose of the paper is to describe how external and internal factors affect learning. A number of specific examples demonstrate that the nature of tasks and their sequence facilitate certain learning styles and are important for reaching multifold purposes.

2. Methodology and methods

The methodology of the work encompasses general and specific methods of exploring pedagogical phenomena and techniques. Particularly, the emphasis is put on investigating the influence of traditional and innovative technologies on teaching of a foreign language and development of students' foreign language competence. With the help of observation of the educational process, theoretical analysis and synthesis, we evaluate methodological approaches' flexibility and potential for further use.

3. Results and discussions

Based on Littlewood's classification (Littlewood, 1984: 92–93), the basic framework for teaching English as a second language includes: (a) pre-communicative activities and (b) communicative activities.

Pre-communicative tasks aimed at part-skill training, mastering separate aspects of learning, such as sounds or meanings, through cognitive techniques (e.g. explanations, grammar exercises) or habit-forming techniques (e.g. repetition, drills). For some majors, reading and writing skills have greater importance than speaking and listening. This is the reason why students seek opportunities to practice the language outside school.

At the stage of communicative activities, learners integrate their separate sub-skills into an effective system for communicating meanings and acquiring the language through natural processes. Learners' attention is focused on meanings to be communicated rather than on language items to be learnt. However, some learners may display a limited communicative competence and express themselves inadequately. For example, making casual conversation may be difficult or frustrating for some students, especially when it causes misunderstanding and requires laborious efforts to clarify information.

Technology-driven learning is the latest strategy to improve students' speaking skills. There are two types of technology support for language speaking skills. The first one is Computer-Mediated Communication, such as voice chat or videoconferencing (e.g. Skype or Zoom). Videoconferencing has become the norm for the majority of tele-collaboration projects, tandem learning and social media exchanges. Under the lockdown conditions, when learning is distant, teachers are still able to maintain effective teaching practices, such as group work. Particularly, the videoconferencing platform Zoom facilitates team-building by enabling conference hosts to split participants into breakout rooms.

The second-type tools facilitate a self-speaking practice that strengthens learners' vocabulary and pronunciation. One of the most used speech technologies is automatic speech recognition (ASR) which captures learners' voice and then transcripts it into a text using a speech-to-text technology. It has been shown that the speech-to-text technologies have a positive impact on learning outcomes for non-native speakers (Nguyen et al, 2018: 130).

Similarly, students' writing activities have overgrown the classroom limits and have

found the way to social networks offering various opportunities for socialization. Young people often get emotionally engaged in interpersonal exchanges, demean opposing views and shift their criticism from ideas to the opponent's personality. For this reason, university teaching should reinforce ethical standards in online communication contexts close to the natural ones (Duzhyk, 2020: 63).

In spite of the ample opportunities for self-education, in-class interaction is still a powerful source of learning. The teacher's choice of tasks and their sequence help her or his students achieve language proficiency. Further, we explain how some activities included in an "English for specific purposes" course for master's and bachelor's students are structured to facilitate learning.

In planning and conducting lessons, we mainly adhere to fundamental principles, such as a variety of tasks, repetition and internalization of the content. In order to create an anxiety-free, friendly atmosphere, we choose a basic learning framework by opening the lesson with pre-communicative or "silent" activities which are not immediately related to speaking and writing.

Willian Littlewood (Littlewood, 1984: 93–94) argues that listening and reading as "silent" activities offer a number of practical advantages in the classroom, such as:

− introducing interesting and motivating materials, relevant to the learners' own concerns;

− offering a wide variety of tasks which provide learners with a clear purpose;

− enabling learners to perform more or less simultaneously;

− participating in a deeper sense, processing mentally the language to which they are exposed;

− laying the foundations for their internal representation of the language in the atmosphere free from anxiety and distraction.

Let us consider a number of activities from the "Experimental research" lesson developed on the basis of the textbook entitled "Cambridge English for Scientists" (Tamzen, 2011). The students can proceed with completing them in a given order (Exercise 1 − Exercise 2 − Exercise 3). This approach is appropriate for students who learn deductively (from rules to examples). We offer a reverse sequence (Exercise 3 − Exercise 2 − Exercise 1) to students who possess an inductive learning style (discovering rules from examples). Both approaches activate learners' ability to recognize the previously learned grammar and vocabulary as well as utilize them in their own speech at the communicative stage.

Pre-communicative activities
Exercise 1. Read the text. Describe the stages of an experiment.

The scientific method is a process in which experimental observations are used to answer questions. Scientists use the scientific method to search for relationships between items. That is, experiments are designed so that one variable is changed and the effects of the change observed. While the exact methodologies used vary from field to field, the overall process is the same. First, the scientist must define the question − what exactly they are trying to find out. Next comes the formation of a hypothesis, which is an idea or explanation for a situation based on what is currently known. The next stage of the method is the design of an experiment which will allow this hypothesis to be tested. Usually a primary run of the experiment is conducted, and any changes to the experimental set-up made. In each experimental run, data collection takes place, followed by data analysis. Finally the data is interpreted and from this the scientist is able to draw conclusions.

Exercise 2. Put the stages of the scientific method in order:

A. The data is interpreted and from this the scientist is able to draw conclusions.

B. The design of an experiment will allow the hypothesis to be tested.

C. The formation of a hypothesis is usually based on what is currently known.

D. The scientist must define a question − what exactly they are trying to find out.

E. A primary run of the experiment is conducted, and changes to the experimental set-up are made.

F. In each experimental run, data collection takes place, followed by data analysis.

Exercise 3. Match the beginnings of sentences *(1−4)* ***with their endings*** *(a−c):*

1) Scientists use the scientific method to...

2) The scientific method is a process in which...

3) Experiments are designed so that...

4) While exact methodologies used vary from field to field...

a) one variable is changed and the effects of the change observed.

b) the overall process is the same.

c) search for relationships between items.

d) experimental observations are used to answer questions.

Communicative activities are related students' experiences which establish the relevance of the topic for internalization:

Do you take part in research work at your university?

Have you conducted any experiments?

What kind of experiments have you conducted?

What kind of equipment have you used?

Have you ever received a grant?

Have you ever participated in any international or domestic conference? Share you experiences with the group.

Are you going to apply to a post-graduate program? Why or why not?

Would you like to study abroad? Where?

Once you graduate from the university should you stop learning?

What are some ways a person can continue to learn?

In order to minimize any pressure on learners while speaking, the student-oriented questions are introduced in familiar social situations after the flexibly structured pre-communication stage.

To facilitate an inductive learning style, teachers often choose to start a lesson or a new cycle of activities with a series of questions. For example, a lesson on Virtual Reality for computer science students at a bachelor's level can be complemented by reading the text about Augmented Reality. With the help of the following questions, an English teacher can check the understanding of the topic and the knowledge of the additional material.

1) What is virtual reality? What does it allow you to do?

2) What devices are used to experience virtual reality?

3) What applications of virtual reality do you know?

4) Why virtual reality is called "telepresence"?

5) What benefits and limitations does it have?

6) What is augmented reality?

7) Is there any difference between virtual reality and augmented reality?

8) What AR apps do you know?

9) Can you describe how does augmentation work?

10) Do you use any AR apps?

Than the discussion is followed by an exercise on matching sentences (a–i) to appropriate headings (1–8).

1. What is Augmented Reality?	a. The term itself was coined back in 1990, and one of the first commercial uses was in television and military.
2. A History of Augmented Reality	b. As the world continues to create more data, the workload for data center managers also increases. Augmented reality can simplify and lessen their tasks.
3. How does Augmented Reality work?	c. New AR games promote a more active outgoing way of life (PokemonGo, Ingress).
4. Types of Augmented Reality	d. A view of the physical real-world environment with superimposed computer-generated images, thus changing the perception of reality, is the AR.
5. Augmented Reality Devices	e. Like any other connected technology, AR is vulnerable to security threats and unauthorized access by hacker attacks and malware.
6. Possible Applications of Augmented Reality	f. Marker-based AR requires a special visual object and a camera to scan it. It may be anything from a printed QR code to special signs.
7. Potential Dangers of Augmented Reality	h. Cameras and devices are scanning the surroundings and with this info a device locates physical objects and generates 3D models.
8. The Future of Augmented Reality	i. AR hardware includes sensors, cameras, accelerometer, gyroscope, digital compass, GPS, CPU, displays etc.

After completion the task, students are asked to read the text about augmented reality which can be found at https://thinkmobiles.com/blog/what-is-augmented-reality/. At this stage of the lesson, students individually work on unfamiliar words and expression as well as learn new facts on the topic.

The blog's basic information is supplemented by a video representing augmented reality phenomena and reiterating the points expressed by the author. Through combining reading, watching and listening, students' sensory perception is activated, which improves understanding of the texts. Technology-enhanced learning has been readily exploited by educators to build non-linguistic representations of texts as a part of internal and external visualization strategies (De Koning & Van der Schoot, 2013).

Finally, students answer the following questions:

What new information about AR have you learned today?

What do you think of the future of AR?

Conclusions

Successful learning takes place when external and internal factors are accounted for.

Modern technology is a powerful source for self-education. With its help, it has become possible to enrich students' vocabulary, to improve their pronunciation, and generally enhance their language ability. Technolo-

gy-driven learning fosters self-awareness of personal shortcomings, the ability to find resources compatible with individual learning styles. This is why technology is being incorporated in lessons at all levels of education. However, digital reality makes an educational process more complex. As a necessary extension of curricular activities, it places more demands on teachers. According to Morgan (Morgan, 2009: 94), teachers will not be replaced by computers, but teachers who use computers for instructional purposes may replace those who do not.

At the same time, traditional approaches advancing students' knowledge have not lost their relevance. A broad variety of strategies are needed for productive learning as well as the teacher's professional expertise. Thus, integrated strategies enhancing learning should be part of modern teaching and serve as a basis for further research.

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