The Historical Development of Information Technology in the Teaching of Linguistic Disciplines in the University

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***Abstract*—The article gives a cosmetic analysis of the use of case technologies in teaching the discipline of the humanities. Analysis is built on considering solutions of case study tasks in groups at seminars. The article considers the use of information and communication technology in solving case study tasks. The article describes in detail how information and communication technologies, known as ICTs, form a new vision in the teaching of humanitarian disciplines. The authors of the article made an analysis of the teaching of a certain discipline, showed the history of formation and formation of information and communication technologies in the teaching of the Kazakh language and professional Kazakh language.**

***Keywords*—Case technology, information technologies, group project, communication equilibrium, pedagogic technology, brain storm.**

I. Introduction

Although in the higher educational institutions, as a rule of thumb, considerable efforts are made to study the methods of teaching Kazakh, English and Russian, the efforts that one make may not produce the desirable results in the first place. More specifically, the quality of learning outcomes does not favorably differ from the effort spent on teaching. Are these students, teachers and / or the environment? In this study, we explore the experience of teaching the course of practical Kazakh language assisted with information and communication technologies (ICT) in large groups. In addition, we assess the results of this experience from the perspective of reflexive approach for improving the practice of teaching Kazakh language in language labs or at a distance. Firstly, we present a method of research that is supported by the proposed reflective spiral process. Then we submit comments on the results obtained in classes in various language labs, where computers and programs of completely different period of the history of computer research. Finally, we draw conclusions, summarizing the main results of this study.

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II. The Research Method

Before describing the method that I used in carrying out this research, we would like to describe the explored module of the Kazakh language and its objectives. The module "Kazakh language" is taught as an obligatory component of any academic program in higher educational institutions of the Republic of Kazakhstan. This module is taken by first year students. In this module, the number of students in one group accounts for about full-time and part-time 20 mixed sex students (10 men and 10 women). During one academic year, 72 one-hour practical classes are conducted during 24 weeks. And practical classes have the same schedule. This module highlights a number of key problems, including teamwork, the solution of certain tasks that I set for students, using various case studies. It is believed that practical classes along with the content of performing lexical and grammatical exercises include writing essays or reports. In this case, the use of a case-study is necessary to develop a specific task or situation for a group of students, which they must solve on their own. Not always students are in the classroom, there are those who admitted to distance learning and it is for them I developed the electronic educational and methodical complex discipline that includes case tasks, lexical and grammatical exercises, texts and dictionaries with tests. The case technology includes electronic training manuals (online tutorials). Electronic textbook as a software for educational purposes can be represented as a system consisting of two subsystems: information (content part) and software "[1.209 pp.]. The information part of the textbook or the teaching and methodological complex of the discipline usually contains the material of a traditional printed collection. There are methodological recommendations for the study of discipline, multimedia products, grammatical and lexical tasks and exercises, tests, questions for self-control, crosswords, and drawings. The trainee can use methodological instructions for studying a topic, textbooks and teaching aids with tests for self-control, video lectures, and multimedia. The effect of computer training increases with the rise in the share of material given by a teacher. "Educational slide-lectures and video films are effective tools for distance learning, which have their advantages over classical lectures, because they are characterized by maximum in formativeness, a clear structure of the material and the most accessible form of its presentation. The possibility of their replication and rapid

delivery to the branches and representative offices of distance learning have made video films and slide lectures effective components of distance learning"[1. 209 p.]. It is very convenient for self-study and similar to the method of Khan. The trainee receives tasks by mail and a complete set of rules and tasks for solving a specific exercise. He can independently study thoroughly the rules several times and focus on the completion of both individual tasks and teamwork". Case studies, where the word "case" has the meaning "set", are most widely used in correspondence education: content (textbooks) and methodological manuals in the form of training sets (cases) are given directly to the student or sent to him by mail (correspondent learning came out of here). As a rule, feedback is also provided by mail - questions to the teacher through the completed course works and other activities "[1.207 pp.].To provide the skills needed to master the language of working environment, students work on exercises in groups where they are exposed to project management, designing requirements (where students collect, analyze and specify requirements to certain subjects and problem on the Kazakh language), essay writing, drafting text dialogs, and material testing. In addition, each student presents an individual report that addresses the problems, lessons and future improvements of his / her project taken associated with his / her individual curriculum. The results of each group work were recorded in accordance with the achievements in the areas as described above. Moreover, the exam for this module was designed in a way to reflect the achievements of students in different fields in accordance with the learning outcomes of the module. The results of the exams were carefully moderated, and the marks obtained in each section of the exam were recorded. Furthermore, the results of training students in the assignment and examination, and especially in similar subject areas, for example, Professional Kazakh language, International Legal Terminology, Academic Writing were compared. Lately, reviews of students and teachers were analyzed.

III. The reflective process

The ultimate goal of this study is to use the results and conclusions obtained (based on the data and facts gathered above) in a reflexive manner to improve the practice of teaching Kazakh language in language laboratories and using ICT. It is planned that this ultimate goal can be achieved by studying the following problems:

• In what way did computers like the invented in 1642 the world's first counting machine invented by the French mathematician Blaise Pascal, which could add decimal numbers, help to learn the grammar of the Kazakh language, namely, the partition of the name of the numerals? It is well known that according to Pascal, an arithmetic machine produces an action that approaches the thought more than anything an animal does. Are there any areas of failure and how can they be classified?

• Were there any positive results? If so, which ones? Are they related to homework, a team or both?

• Were there any specific comments on the management of group projects and project management skills using innovative computer technologies?

• Was it easy for students to take courses in listening, reading and writing for presentations using ICT?

• Were there common areas where student achievement was the same in both the exam and group work? If so, can the level of student achievement be linked?

• Was the feedback received from students during group and practical sessions consistent with the results of the above?

After the results of the above-mentioned problems are received, we will formulate recommendations for improving the teaching and learning of the Kazakh language. Here it is necessary to consider the use of ICT, invented and put into operation in different years. For example, in 1673 the German mathematician Leibniz created the first arithmetic machine, and since 1820 the arithmometers began to be created serially. In 1823 Charles Babbage revolutionized the world of ICT by proposing to create a universal machine with memory based on programs. In 1940, a counting machine based on an electromechanical relay using a mathematical logic apparatus could be used in the study of languages, by entering certain programs that allow one to conduct listening sessions. From this stage, these machines can be used to learn the language, by listening. It should be noted that the first computer "ENIAC" was created in the United States in 1946. In addition to other scientists, John von Neumann participated in the creation of the computer, which helped to create the first elements of storing data and programs that greatly helped in the creation of the first programs for the study of language disciplines. These programs first allowed students to listen to information on the subject matter, it could be texts for translation, exercises or lexical assignments. All topics were taken from a standard work program, tailored to the specialty of a particular group. We will consider the work of first year students of the specialty "Finance", which were taught at different periods and on different computers as they improve.

IV. Outcomes of Undertaking Coursework

Homework in this module is done independently, at home or at the university. Thanks to certain programs that are stored on a hard disk or on removable media, students can at any time convenient for them do their homework on language subjects. At the very beginning of the development of technology, students were given assignments for writing presentations, reports, and essays. To do this, it was necessary to open a simple Microsoft Word program, created by creating an MDI. "MDI is an abbreviation of the Multiple Document Interface (an interface for working with multiple documents at the same time). In MDI applications, two or more windows can be active at the same time. Along with MDI there are SDI applications (Single Document Interface, interface for working with one document). In SDI-applications, only one window can be active at any time. MDI-applications are a convenient tool for the simultaneous display of text or data stored in different files. This structure of windows can be used to edit texts, opening and displaying several different documents simultaneously. An example of such work with files is the Microsoft Word program.

"[1.465str.] when writing or typing a report or an essay, the student can use this program to the fullest, while outlining by opening additional windows. To meet the main tasks of this module, students can use this program in solving cases, in preparing any material in class and at home. In addition, programs like PowerPoint, Prezy, and Excel should be used to solve cases, through the PowerPoint program, students prepare their presentations that are convenient for showing a solution to a particular task of the case, through the program. Students can more clearly demonstrate visual material when solving a particular case, through the Excel program, students conduct accurate a detailed calculation of any calculations put before them in the task of the case. In August 1981, a computer named IBM PC was officially introduced. After its creation, models of the newest computer technologies, allowing to use different programs besides the Internet, were successfully created, which was a huge success in the study of languages. Based on the results of the group work of students, the following can be noted:

• Project management: The initial work of students was presented, which were only listening on computers of the old model. After that, the phase of certain programs was considered, allowing you to prepare presentations, take tests, observe your progress in studies, and download the necessary files. All this is connected with progress in solving case studies, performing lexical tasks, writing grammar exercises. This laid the foundation for several progressive methods of studying the language disciplines among which we can note the Khan method, which allows the learner to return to the original problem and repeat its rules again, thus securing the material.

• Requirement document: with particular attention to functional, non-functional requirements for solving case problems, the use of innovative computer technologies in solving the tasks assigned, the evolution of the system and a glossary of terms used in the project.

• Design document: programs PowerPoint, Prezy, Excel are used to solve the case problems and obtain the expected results. To further support creative thinking, students were invited to provide more views to describe the problem of the case study, directly related to the topic of a particular practical lesson in the solution of which ICT is used.

• Prototype: students need to develop slides for a particular topic using the latest computer programs, they use certain programs to display the results of a case study, a specific task, or exercises taken from an electronic textbook, many of which give today a chance to choose the best that suits a particular topic of the lesson. For convenience, students use a set of topic abbreviations and a glossary, using the Microsoft Word program, various archivers, programs for viewing images and tests. "Win Ace has its own program for viewing text, images, html pages and ASCII files (in DOS encoding). In addition, it can create multi-volume archives in the formats ace, zip, bcab ". [2.64 pages]

• Table of types of tasks and forms of training: the results of this table should be displayed in tables, for ease of monitoring and mapping of the relationship between types of tasks and forms of training.

Table № 1. Table of types of tasks and forms of training

Types of tasks	Form of training			
	remote	full-time	extramural	Independent work
Presentation	+	+	+	+
Essay Writing	+	+	+	+
Creating a Crossword	+	+	+	+
Solution of the case	+	+	+	
Writing a report	+	+	+	+
Performing lexical tasks	+	+	+	
Performing grammatical tasks	+	+	+	

Table 1 presents the types of specific tasks that students are performing in different types of training. In doing so, it is necessary to take into account individual tasks related to the use of ICT, the implementation of which properly develops the competencies of the learner. It should be noted that second year students take a professional Kazakh language course that it is directly related to their future career. In this case, the role of ICT is very important. That's what the scientist Ostreikovsky wrote on this matter: "The first feature of the modern technological revolution is the emergence of fundamentally open technological systems open to the sphere of knowledge. These are information and computing technologies. The creative power of modern IT, their utility directly depend on the level of their openness to the national and world information (intellectual) potential. "[3.95 pages.] At the same time, the teaching of such serious disciplines as professional Kazakh language helps the student in the performance of presentations, writing essays, reports and in solving cases to collect the necessary information on a particular topic, to strengthen their knowledge in their specialty. The information necessary for the student with the development of ICT became more accessible, entered the sales market and became profitable. With the development of ICT information has become easy to share, information has partly turned into a product necessary for the learner. "The second feature of the modern U-turn, closely related to the first, is the transformation of information into an ordinary commodity, and the commodity becoming the most mass object of sale. Information market on the scale (turnover) and growth rates in most developed countries far outstripped the market of tangible products and services. In the first place, according to its economic significance, the market of signs has moved forward, pushing the market of things to the background. "[3.96 pages.] Here, to the market of signs, we can primarily include traditional paper information presented in the form of books, magazines, patents, recipes and other information documents. These types of training will help the student to prepare well for passing examinations in certain subjects. .

V. Analysis of Exam Results

One exam (comprehensive) was held, which took place at the end of the 2002/2003 academic year and accounted for 60% of the final grade. The exam had obligatory and optional sections. The purpose of the exam was to evaluate of learning outcomes in a number of areas, including creative exams with essay writing. Areas with a low scorecard were considered for improving lectures and practical exercises, focusing on the ways in which subjects can be studied using ICTs (and less focus on minor issues) that students should study at this particular level of the module. We propose to name the achievement ratio in the course work of the exam as the average degree of difference in achievement between the group project (coursework) and the exam. Thus, it gives us an indication that while we encourage joint work on doing self-employed work at home by using ICT in practice, there is still a question of whether this always leads to a better achievement in the subject area at the individual level or not. On the one hand, it can be argued that this is the responsibility of a person or student. On the other hand, this requires the adoption of mechanisms for studying individual achievements within the group. One of the methods that we found useful and used in the subsequent teaching of this module in 2002/2003 was the use of meetings with groups in accordance with the planned milestones during the implementation of group projects that implies using ICT. It would be useful to see feedback on this approach so that one will be able assess this approach over the next few months.

The ultimate goal of this study was to use effectively ICT to solve the task case group projects in a way that improves learning and teaching language subjects. This research led us to further development on the basis of case studies, methodological recommendations and course of educational and methodical manuals on discipline "the Kazakh language". In the course of development, along with popular goals and tasks of humanitarian disciplines, we applied the methodology for the development of spiritual and moral education of students in higher education. This technique in our work is closely connected with the case study and helps develop a patriotic and spiritual and moral direction in the education of the student. "Spiritual and moral development of the learner is the most important part of the efficiency of the educational process. Spiritual and moral development of the individual student is a way to achieve spiritual and moral intelligence and a process of development of student’s spiritual and moral capacity through the exteriorization and interpretation of the educational potential of academic disciplines. In this regard, it is undeniable that the disciplines of the social and humanitarian cycle take first place here. Therefore, the modernization of social and humanitarian education, in our opinion, is revealing its spiritual and moral potential, maximum realization of the spiritual and moral orientation of the educational disciplines in the process of teaching them, developing additional teaching and methodological courses with a spiritual and moral content "[12. 217 s.].

While using the technique of conducting debates in the team solution of case problems, it is necessary to develop the skills of creative and critical thinking, which is of paramount importance in the development of the complete personality of the learner. To carry out the design work to address case tasks with students' teacher need more time to prepare the necessary material for the use of innovative communication technologies in teaching humanities. We believe that this study is a step forward towards educational research that will help improve training activities.

VI. Discussion

6.1. Analysis and Assessment of Evidence Gathered

During practical classes in 2002-2003, it became quite obvious to us that some students were not at ease when performing tasks related to listening. The speech of the announcer on some electronic carriers sounded with technical hindrances, indistinctly, which significantly hampered to understand the structure of the whole task, to cover its essence, which was associated with previously read lectures. Moreover, it was even more difficult when these students worked on issues related to the group project in practical classes.

To understand the reasons for this observation, we had to conduct informal discussions with students and teachers in addition to our own analysis. It helped us identify it as phenomena rather than a mere observation. We would call this phenomenon "low achievements in practical exercises". Below we briefly outline the main results of studying this phenomenon:

1. Absenteeism: this manifested itself in practical exercises and lectures, which is confirmed by registration in practical classes and observations of the number of students in the lecture hall. Students who confirmed their absence at the lectures (apart from their absence in some practical classes) had different reasons why they did not attend training regularly. Some explained this by working late shifts in the workplace to support their studies and life. Others had such reasons as illness, worked on other tasks, commitments, attending job interviews, simply "could not do it", etc. While this affected their academic achievement at the individual level during the practical sessions and the module as a whole, this significantly (negatively) affected the group work associated with the course work. This is because the participation of team members engaged in the group project is vital for coordination, communication, distribution of work and achievement of pre-established milestones in accordance with the project plan. 2. Lack of follow-up activities between the lecture and practical work: although this can be considered as the result of absenteeism, there were still students who regularly attended lectures and practical classes, but who had poor results in practical classes. This was mainly due to the lack of follow-up actions of students between lectures and practical training.

3. Low commitment to achieving the goals of pre-set exercises in practical exercises: Unfortunately, this was evident in some students who demonstrated lack of motivation. They participated in other things during practical classes, such as replies to e-mail messages. While the tutors approached the students to help raise their motivation and draw their attention to the session, there were several cases

whose behavior was hard to bear.

4. Contradictory views between the teacher and the teachers. This was evident during the work on problems associated with the appointment of a group project as a software development process, tools, modeling language were almost new, and also used for the first time by teachers. This in some cases led to students receiving conflicting testimonials from the lecturer compared to what they received from their teacher in a practical lesson. With the help of ICT, students have the opportunity to help themselves in the passage of a topic, its repetition and mastering.

6.2. Project management

Reading individual student reports, it was clear to us that there was at least one problem related to the use of ICT in the class. These problems exerted less influence on the groups in which students were more involved in teamwork, as well as the presence of mature students who had earlier experience in the practical implementation of projects, for example, part-time students. To help reduce the impact of these problems, the following implementation measures were proposed in 2000/2001:

• Students had to learn the full extent of ICT to improve their knowledge in order to be in demand by specialists in labor market. It is known that the prospect of transition to an information society was new in the last century, but now it is more and more relevant and necessary for students. "At the present time, it became clear that: one or another country could take a worthy place in the world in the XXI century, and equal participation in the economic competition with other countries, it must rebuild and adapt its structures, priorities, values, institutions to the requirements of industrial IT. "[3.97 pages] In order to manage a particular project and at the same time be in step with the times, the educator should first of all study the language disciplines with the help of ICT, as ICT enables the repetition of the material in any accessible place, repeated listening to a full understanding of a certain topic.

• Several stages of the transition to ICT in language subjects were developed, which will help to pass the psychological barrier of students and help to adapt in the ICT environment. "To the psychological problems should be attributed first and foremost the problem of the readiness of the population for the transition to the information society. This transition is currently hampered by a low level of information culture of the population, insufficient computer literacy, and hence the low information needs, as well as a lack of desire to develop them. " [3.100 pages] At present, humanitarian disciplines are becoming more and more influenced by ICT, among which language disciplines are in the forefront. Informatization of the society goes first of all through state and social institutions for which the preparation of students and undergraduates is conducted in universities.

As for language classes, second-year students also take a Business Correspondence and Professional Kazakh language or Professional Russian language. By doing so, they learn terminology, writing various application forms, filling in different documents. Here our task is to maximally help the learner learn the discipline with the help of ICT.

• A number of pre-planned meetings were organized with the tutor between the teacher and each group on the basis of the main results. Although these stages were announced ahead of the expected tasks, some very interested students suggested including this schedule as part of the document issued at the beginning. This was taken into account for implementation in 2001/2002 • A mentor participates in four key meetings during the life cycle of the project and he / she must sign the minutes of these meetings in addition to crossing out the other four that he / she does not attend.

• Attending sessions that need to be recorded, and any absent students with whom they should contact their colleagues and inform them about the progress of the project so far. In addition, the faculty administrator should be informed about more than 3 consecutive ones (for the implementation of 2001/2002).

• Although formally it was not announced to all students, students who were invited (or did it without explanation) to create a common repository of information about this project, were very helpful. This will be offered to students and included in the plan of course paper for 2001/2002.

Despite these proposed measures, we must say that we agree with the observation of V.A. Ostreikovsky: "Similarly, intellectual (information) goods act as a factor in the formation of the information society with its information (intellectual) market." [3.97 pages] Teaching a language by using ICT classes enables the student to prepare to receive information more specifically and accurately.

6.3. An Agenda for Higher Education

In general, there are many methods in which lecturers can conduct their lectures or practical exercises, for example, the use of student interaction, good pace, presentation of the lecture / practical agenda, summaries and much more. In all such assignments, the sing market renders tremendous assistance in the study of languages and in the teaching of linguistic disciplines. According to the scientist VA. OSTREIKOVSKY "advertising and the market of circuses, whose turnover is connected with domestic and international tourism (after all tourism is mainly connected with information purposes)" [2. 96 pages] refer to the market of signs. Nowadays it is quite natural to realize any idea by using ICT, so already in practical classes in the Kazakh language, where technical and humanitarian specialties pass several topics on the development of tourism and the market as a whole helps them in the future work with the necessary information, create their advertising written in proper Kazakh, and to be able to choose the necessary terminology in advertising of a particular type of product or services.

There are characteristics (which are personal attributes) for teaching in this direction, such as charisma and voice, which are not easy to change, but they contribute to the achievement of an effective lecturer. In addition, the instructor must have strong subject knowledge to make his lecture more effective, especially when practical and real examples are easily presented. In addition to the above issues and in order to be a more effective lecturer in higher education, it is necessary to have the following as part of

your internal agenda.

1. The lecturer should build coherence between the processes of teaching and using ICT. Any topic of the lesson should reveal additional material used for studying the language using computer technology.

2. Lecturers should use innovative computer technologies when presenting a specific topic, use language labs when listening to or solving certain cases.

3. The teacher should be a reflexive teacher, using his previous experience, when he / she was a student, and then became a lecturer.

4. The lecturer should be an adaptive teacher in terms of responding to changes in the environment, the emergence of new ICT tools and techniques, and the special needs of students.

5. You need to know the methods / methods to improve the learning process. To do this, the teacher should first of all improve himself, keeping up with the latest advancements in the development of ICT and creating his own electronic textbooks and teaching aids. For foreign students who do not know the language, it is necessary to develop another program, texts and exercises to help them master the language.

VII. Conclusion

The ultimate goal of this study was to use the electronic teaching aids and textbooks designed by teacher and based on his methodology. In doing so, he must use, along with his knowledge, special literature, take into account the level of knowledge of the language of his students. In order to make it easier for students to learn the Kazakh language, we thought about using the project method and the method of working in pairs. This study led us to develop additional measures to manage group projects. In addition, teachers and IT support specialists need training in the use of tools. Teachers also need additional time and budget to participate in workshops provided by tool suppliers to update themselves with new features provided by tools for further improvements in student projects. Teamwork and development of team skills are important not only for the implementation of the group course work of the software development module, but also for the training of programmers who are willing to work within teams, as is the case in the industry. In addition, it will cultivate the collaborative spirit in individuals. This will not only affect the individual, but also a society as a whole. Consequently, this contributes to achieving one of the key objectives of educational research.

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