Influence of special learning technology on the effectiveness of pedagogical ethics formation in future teachers

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Abstract

This study aims to identify the effectiveness of special training technology in the formation of the pedagogical ethics of future teachers, the problem of a regional university in the formation of pedagogical ethics among students and how the entire formation pedagogical ethics process takes place. The study included 102 students (aged 18–22) with pedagogical profiles who were all present. Expert assessment method, a scaling method for studying the level of formedness of the future teacher's professional ethics, a survey of students and teachers (questions with attached assessment characteristics), questioning, including the ranking of value orientations and observation of the process of pedagogical ethics formation among future teachers were used. The revealed results have shown that the propensity and willingness of students for future pedagogical activity, their desire for continuous self-education and self-improvement as well as a creative and responsible attitude towards their profession have not been formed. It was necessary to involve future teachers in a specially designed programme aimed at developing pedagogical ethics as a method of self-regulation in the educational process and within the framework of the organisation of students' extracurricular activities.

Keywords: Influence, Formation pedagogical ethics, Learning technology, Future teachers, Pedagogical process, High school.

Contents

> **Contribution of this paper to the literature**
> This study contributes to the existing literature by identifying the effectiveness of special training technology in the formation of the pedagogical ethics of future teachers, the problems of a regional university in the formation of pedagogical ethics among students, and how the entire formation of pedagogical ethics process takes place which contributes to the optimization of this process.

1. Introduction

The COVID-19 crisis has demonstrated that teacher training needs to be reformed in order to better develop teachers' skills in using new teaching media in both initial training and in service training. The need to improve the teachers' professional level and the formation of a pedagogical corps that meets the needs of modern life during the pandemic has been worsened by the crisis. As a result, the relevance of the study of pedagogical ethics and the development of its organisational and pedagogical foundations increases.

We are reminded that this transition is possible because of the massive initiatives taken throughout the world in response to the challenges facing education systems. This opportunity needs to be seized to find new ways to tackle the education crisis and to develop a set of solutions that were previously considered difficult or impossible to implement. It consists of principles of lifelong education such as the progressive development of the individual's creative potential, the integrity of the educational process throughout life, taking into account the structure and content of a person's educational needs and self-education in the periods between the stages of organised educational activity.

In this regard, improving the effectiveness of a teacher's pedagogical activity involves creating conditions in higher education institutions that require the purposeful development of the future teacher's pedagogical ethics.

The analysis of the problem of pedagogical ethics among Kazakhstani teachers has revealed the factors that affect the dynamics of the decline in pedagogical ethics in educational organisations:

- The principle of continuity, which determines the formation of certain competencies, including ethical ones, and also specifies the prerequisites at the level of the beginning of university training.
- Due to stressful living conditions, the psychophysiological properties of teachers have an impact on their behaviour and communication with students which are characterised by an insufficient level of ethics, the required style of pedagogical communication, an authoritarian style of interaction etc.
- The school does not form an ideology that would be based on issues of ethics and personal culture.
- In schools, popular subjects such as labour, aesthetics, ethics, artistic and law are often ignored and holidays are held as the main thematic events.

Therefore, in the context of the Republic of Kazakhstan and especially in the context of higher educational institutions, there is no scientifically based list of professionally significant ethical requirements for a teacher and no universal and integral professional and ethical model for the formation of the future teacher's personality.

Scientific studies of Kazakhstani researchers in the context of the COVID-19 pandemic, aimed at studying the formation and evolution of teacher pedagogical ethics are limited and imperfect due to the past legacy of Soviet ideology and do not reflect a systemic vision or solutions to the following questions: Do modern Kazakhstani universities respond to the professional needs of students? Do they include the development of moral values and ethical knowledge based on basic national values in educational programmes in order to prepare the future teacher for his professional activity?

The aim of this research is to determine the effectiveness of special learning technology on the formation of pedagogical ethics of future teachers in order to investigate: a) modern problems of teacher's pedagogical ethics formation in a regional university, b) future teachers' perception of ethical education in an educational organisation, c) the educational programme's content on the availability of fundamentals of ethical knowledge in the profile of 'Pedagogy and Psychology' at a Kazakhstani regional university and e) method of optimising the process of forming future teachers pedagogical ethics in specialised training.

2. Literature Review

A comprehensive analysis showed that the issues of pedagogical ethics are reflected in the works of modern researchers. According to Maxwell and Schwimmer (2016) pedagogical ethics examines the essence and specifics of the teacher's individual consciousness in the field of morality. Subsequently, information about the principles and norms of morality comes to students through their consciousness and moral attitudes. The teacher participates in development of the individual's moral consciousness not only individually but also through the pedagogical and student collectives and the parental community. In this case, he acts as a concentrated carrier of public morality.

Our research has shown that the statements we have chosen from previous research, Crawford (2017); Liddy (2021); Maaranen, Kynäslahti, Byman, Jyrhämä, and Sintonen (2019); MacPhail et al. (2019); Whitburn et al. (2021); Malik (2020) have common roots in approaching the problem of improving the quality of specialists' training through the leading principles of professional training including digitalisation, intensification, optimisation and creativity which confirms our hypothesis about the choice and provision of a competence-based approach to the educational process.

Research findings indicated that pedagogical ethics includes three groups of phenomena (patterns):

a) Pedagogical processing of general moral norms.
b) Specific issues of professional pedagogical ethics.
c) The practical expression of pedagogical ethics in the behaviour and activities of the teacher is expressed in his personal qualities (Brodie, 2019).

Previous researches, Garrett, Citkowicz, and Williams (2019); Horn and Peters (2019); Mansfield and Thompson (2017) have demonstrated that pedagogical ethics examines the essence of the main categories of pedagogical morality and moral values. Moral values can be called a system of ideas about good and evil, justice and honour that act as a kind of assessment of the nature of life phenomena, moral merits and actions of people.

Individual concepts Bowe and Gore (2017); Mullen (2017); O'Flaherty and Gleeson (2017); Qanay and Frost (2022) distinguish pedagogical ethics as a relatively independent component of professional ethics.

In support of this, Dexter, Clement, Moraguez, and Watson (2020); Molla and Nolan (2020) examine the professional ethics as a characteristic of specialists that reflects personal, spiritual and mental qualities, a teacher's ability to demonstrate morally acceptable spirituality.

Several leading foreign researchers Biesta, Priestley, and Robinson (2017); De Keijzer, Jacobs, Van Swet, and Veugelers (2022); Szelei, Tinoca, and Pinho (2020) have claimed that the morality of the teacher is a personal ability that is characterised by such a quality as development. The ability to develop means the ability to gradually improve the teacher's professional ethics as well as the ability to manage this process.

Recent research Czerniawski, Guberman, and MacPhail (2017); Malm (2020) emphasises on the process of the teacher's communicative activity, stating that ethical aspects are of paramount importance. The teacher independently reveals for himself the content and meaning of pedagogical norms and justifies the need to comply with them. The studies by Su, Li, and Chen (2021); Kelchtermans, Smith, and Vanderlinde (2018); Shapira-Lishchinsky (2020) and Crawford. (2021) reveal that the teacher's creative activity is required to correlate the norm with the circumstances in order to find ways to implement the norm and to develop the qualities necessary for this. The teacher depends on his attitude toward norms as a stimulus for personal and professional development either as a guide in work or by ignoring certain norms.

According to research by Robandi, Supriatna, Nuryani, and Ibrahim (2017); Gluzman, Sibgatullina, Galushkin, and Sharonov (2018); Rodzalan, Noor, Arif, and Saat (2020), a student's success in an activity depends not only on how he or she feels about the teacher but also on the process of raising him or her.

This study is in agreement with Maxwell (2017) who noted that pedagogical duty is one of the most important categories of pedagogical ethics. It concentrates ideas about the totality of societal requirements and moral precepts presented to the teacher's personality in the performance of his professional duties. They provide for the implementation of certain (predominantly intellectual) labour functions, the correct construction of relationships with students, their parents and work colleagues, a deep awareness of their attitude toward the chosen profession, students, teaching staff and society as a whole.

3. Materials and Methods

3.1. Participants and Settings

The data was collected from a targeted sample of third- to fourth-year students using a questionnaire distributed to 102 students at a university (Pavlodar Pedagogical University).

According to the sampling theory (Layder, 2018; Moser & Korstjens, 2017) which has been repeatedly confirmed by practice, it is not necessary to interview all participants but only a part of the group which may be smaller. We preferred probability sampling as the most objective, since there is a well-founded theory (Krosnick, 1999) that allows us to understand the behaviour of such samples and evaluate their properties (quality) of displaying the characteristics of the entire statistical population.

The following research methods were used: expert assessment method, a scaling method for studying the level of formedness of the future teacher's professional ethics, a survey of students and teachers (questions with attached assessment characteristics), questioning, including the ranking of value orientations and observation of the process of pedagogical ethics formation among future teachers.

To implement the observation:
a) We have compiled a list of important questions about teacher professional ethics in the future: What does 'ethics' mean to you? Why do you choose teaching as a profession (love for children, love for a subject, random circumstances etc.)? What is the content of the concept 'morality'? What moral problems are most urgent for you and your peers today?
b) Principles were defined: consistency and planning which made it possible to record and analyse observational data.
c) Facts were compared, inferences and judgments were formulated.

Thus, we applied three-degree scaling (in the questionnaires, three degrees of answers in the diagnostic card – three degrees of points) which allowed us to transform qualitative indicators into quantitative ones and by comparing integral indicators to determine the level of professional ethics formation.

We suggest that the formation of future teachers' pedagogical ethics at a university can be carried out only in the process of developing students' personalities under the teacher's guidance. In the course of the pedagogical experiment, lists of qualities were compiled. In our opinion, for the activities of a teacher in the aspect under study which was proposed for expert assessment to 52 university teachers teaching in the specialties of higher professional education included in the enlarged group of specialties in the direction of 'education' of which 30% have more than 20 years of teaching experience, 40% have more than 15 years of experience 22% have more than 10 years of experience and 8% have less than 10 years of experience. The teaching staff was asked to determine what qualities should be integral in a modern teacher and what qualities of students' personalities can be considered critical for determining their compliance with the profile of 'pedagogy and psychology'.

4. Results and Discussion

The diagnostics revealed that the level of students' pedagogical ethics formation is average. Third-year students, more than 42.3%, were rated as poorly and moderately trained in this area and only 34.6% demonstrated a sufficient level of pedagogical ethics which can destructively influence the quality of students' knowledge in general.

The results of the study also showed that the level of pedagogical ethics formation was evaluated as high practically in the same proportions, i.e., 23.1% each. Almost a third of the respondents have demonstrated a low level of professional-pedagogical ethics. For example, it was found throughout the experiment that future teachers should avoid using daily phrases, concepts and the use of slang which are inappropriate within school. Thus, this suggests that the inclination and preparation of students for future pedagogical activity, their desire for continuous

self-education and self-improvement as well as a creative and responsible attitude toward their profession have not yet been formed (Figure 1).
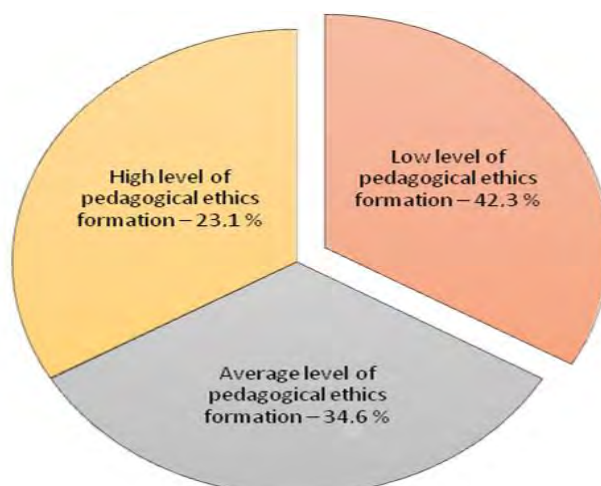

Figure 1. Scheme of the levels of pedagogical ethics formation among future teachers.

According to the scientific logic of our research, we shall briefly describe some of the processes that reveal the essence of pedagogical ethics formation with the help of the special programme, training and have the most direct and essential relationship to it.

By a special programme we mean professional training, improvement and experimentation in the system of teacher education, an essential feature of which is the inextricable link between professional thinking and professional skill acquisition.

At the next stage of our work, we have developed organisational forms, means and methods of practical training in the field of ethics within the framework of the discipline 'professional and pedagogical ethics'. The students' creative work in practical classes can be represented in the form of the following interrelated levels: 1) familiarisation with the topic and educational and methodological material on the topic (sources: recommended reference and information modules, individual and collective search activities, lecture material etc.), 2) discussion of abstracts, impromptu disputes, express topics, discussions and other forms of knowledge exchange that form new conceptual directions and actualise the available information, 3) generalisation of the presented material and beginning a more complex stage of work on the development of the proposed topic: determination of the essence of the problem, the logic of its key concepts and conclusions, 4) project work: search for new scientific ideas on the topic under discussion, guidelines, initiatives and undertakings and 5) consideration of various variable schemes for the practical application of the obtained theoretical conclusions. We used complex pedagogical technologies in practical lessons that included elements of the system of creative pedagogy and the theory of constructive pedagogy in the direction of developing personality oriented express discussions, disputes and other forms of intensifying communication and developing students' practical thinking skills in order to form the active participation of all students in the group in discussion and comparison of various express social events and other significant events in the society.

Let us focus on the structure of a 'creative practical lesson' which is most productive for practical lessons in the elective course 'applied ethics' and is represented as a specially selected problem module and original assignments on their topics that can arouse interest and facilitate successful comprehension of the topics pointed out by students.

Analysing the results obtained from the application of the modular quality system for the final control, we combine the two directions of assessing students' educational activities in the total assessment of the mastery of all modules of the course and set the final grade which is based on the results of studying the course instead of the traditional test on the issues.

Students independently carry out creative work for the development of a personal code of ethics in professional activities and understanding the socio-economic importance of their profession in solving priority national projects in modern Kazakhstan.

We identified the problematic content of practical classes in future teachers' professional and ethical preparation by prioritizing the selection of topics for joint creative projects (two or three students in a project). The relevance of the topics discussed therein is defined by the professional direction of the major.

Therefore, we have developed models of game technologies for each module, developed complex situations that determine the needs of practice, identified difficult-to-solve practical problems of an ethical nature in the profession that are complex in nature and can be disclosed through cooperation between a teacher and a student as well as created a pedagogical workshop, the basis of which is training for a quick and successful entry into the professional activity of a young teacher of vocational training.

The following are the workshop work methods that have been shown to be effective: 1) workshops: there is no alternative to the tolerance strategy in the teacher's professional activity, 2) round tables: individual culture and ethics as the basis of the life quality, the role of emotions in our lives, in professional activities, 3) proprietary workshops: the teacher's ethical and professional management, 4) pedagogical skills contests: communication and relationship between teacher and students and 5) discussion: algorithms of behaviour in the teacher's professional activity. The purpose of the control stage of the experiment was to identify the achieved level of pedagogical ethics formation among students in the experimental and control groups through a set of diagnostic procedures as well as statistical processing of the results achieved in the experimental work.

Next, we present the results of the control experiment which significantly differ from the results of the ascertaining experiment Table 1.

Table 1. The level of formation of students' pedagogical ethics at the stage of the control and ascertaining experiment.

Levels	Number of students (%)			
	Experimental group		Control group	
	SE (Start of experiment)	EE (End of experiment)	SE (Start of experiment)	EE (End of experiment)
Low	31.7%	9.4%	26.8%	18.4%
Average	41.8%	18.9%	40.5%	36.7%
High	26.5%	71.7%	32.7%	44.9%

Data from an experimental group is compared with data from a control group. We observe significant dynamic changes in the results of the experimental group. The low indicator of the formation of pedagogical ethics in the experimental group at the stage of the ascertaining experiment was 31.7% and after the formative experiment, it decreased to 9.4%. The average dropped from 41.8% to 18.9%. The high level of formation of pedagogical ethics increased from 26.5% to 71.7%. All these findings support our hypothesis by demonstrating the effectiveness of our program for the formation of pedagogical ethics. We also tested the effectiveness of the special programme focused on the development of the pedagogical ethics of a future teacher using the Mann–Whitney U criterion. The empirical value U= 604 (p<0.001) was obtained by comparing the levels of pedagogical ethics formation in the experimental and control groups at the EE. The results are shown in Figure 2.
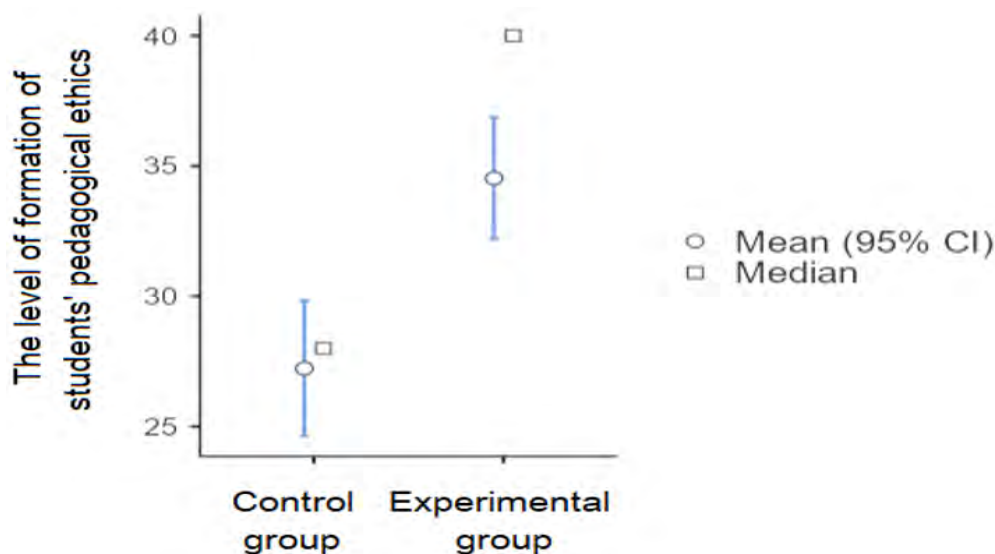
Figure 2. The level of pedagogical ethics formation in the experimental and control groups at the end of the experiment.

Accordingly, the changes that took place in the level of development of the pedagogical ethics of the experimental group are significant which indicates the effectiveness of the special learning technology focused on the development of the pedagogical ethics of the future teacher.

The objective of this study was achieved. The main finding of this study was the absence of a scientifically based list of professionally significant ethical requirements for a teacher and a universal and holistic professional ethical model for shaping the future teacher's personality which echoes the previous findings (e.g., (Anthonysamy, 2021; Meiers, 2007)).

The need for teaching pedagogical ethics at the university was expressed by the fact that it is impossible to solve this problem only with the help of theoretical courses, pedagogy and practical courses in pedagogical skills and pedagogical techniques, since the problem of moral reorientation of the personality of the future teacher by these academic disciplines is not solved. The findings indicate that future teachers' professional training falls precisely at the age of any established moral norms, rules and stereotypes which are already quite difficult to break but sometimes necessary if they do not meet the requirements of the moral and ethical training of a modern teacher. This is consistent with previous studies (Boon, 2011; Darling-HammonD, 2000; Melnychuk, Rebukha, Zavgorodnia, & Bloshchynskyi, 2018). Secondly, this study focuses on exploring special learning technology as future teachers need to have an opportunity (Mergler, 2008) in close chronological proximity to compare the efforts made with the results achieved, since the real demand for acquired skills and abilities contributes to the perception of pedagogical ethics as an integral tool for solving professional tasks.

5. Conclusion

The contribution of the research to the study of a future teacher's pedagogical ethics is that the students in this study had the necessary element of ethical values and orientations as future teachers, an attitude toward new moral thinking aimed at developing the students' abilities to improve their level of ethical culture. Consequently, the personal-activity component of ethical culture reveals the specialist's abilities to express himself in various types of reflexive pedagogical activities and ensures the development of ethically significant personal qualities and their application in practice.

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