

IFTE 2018
4th International Forum on Teacher Education

**INTEGRATION PARADIGM OF VOCATIONAL TRAINING OF
STUDENTS**

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Abstract

The relevance of this problem is caused by requirements of modern education in putting into practice integration training of the teacher of a new formation with a dominant of the active creative personality, in an intensification, systematization of knowledge acquisition in the context of perspective of surrounding reality as whole and insufficient degree of readiness of its theoretical, substantive-process and scientific-methodical orientation. Integration approaches are aimed at strengthening of interrelation of professional and personal aspirations of students, at development of the creative independence allowing the person to define the interests and to make the correct decisions.

The research objective consists in development of multifunctional, theoretically reasonable and practice oriented development paradigm of professional integration competence of students on the basis of integration, system, cultural, communicative and activity approaches and its approbation.

As a result of the experiment (2016-2017 academic years) we have developed the multifunctional integration paradigm of development of professional integration competence including backbone components of target, substantive, organizational and productive orientation.

The research has proved efficiency of used integration methods that is confirmed by results of an experiment. Materials of article can be useful for teachers of higher education institutions and teachers of comprehensive schools in aspect of use the developed integration components in practice.

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Keywords: Integration, cognitive process, interactivity, reflection, conceptuality, educational technologies.



1. Introduction

1.1. Relevance of a problem

The problem of students' integration competence development is one of the most relevant in modern education today. Integration is indicative for culture in general and education in particular way of work with information, knowledge providing development of the studying consciousness (Danilyuk, 2000).

Scientific communities consider it as the many-sided phenomenon of world cognition and suggest bringing contents of professional educational programs and technologies of training into compliance with ideas of students about their future profession and their demand in labor market.

A number of researches are devoted to this problem. Need for integration has been for the first time proved by Gerbart (2007) who has allocated four levels in training: clarity, association, system, method.

On the basis of similar developments in modern education process of different aspectual and different level studying of integration potential of the professional focused training is carried out. In pedagogics integration is treated as the highest form of union of purposes, the principles, content of training providing formation of new knowledge (Belukhin, 2005; Chapayev, 2014).

2. Problem Statement

Andreyev (2015), Starodubtsev, Solovyov, & Valitova (2015) have devoted the works to a research of multidirectional integration problems. The competence paradigm, innovations in education, multifunctional essence of integration communications realization in the course of training, their classification is analyzed (Zeer, Pavlova, & Symanyuk, 2005).

Foreign scientists show considerable interest in this problematics. They consider an integration problem in the context of its many-sided orientation and importance. Rhodes (2001) analyzes social essence of professional integration. McKenzie (2011) refers development of informative independence of experts to important factors of vocational training. The problem of self-mastering communicative educational space reveals on basis of Implementation.

Boström, & Hallin (2013), Thomas (2012) analyze design of professional activity types. The problem of the organization of debatable communication on an integration basis is studied by Race (1993). Leavitt (1989) considers an important problem of development of students' prescription to comprehensive study of surrounding reality problems.

Meyer, Haywood, Sachdev, & Faraday (2008) consider the problem of training of students for independent activity in different conditions. Hamilton investigates a problem of the integration opportunities influencing positive development of interest in independent work (Hsu, Hamilton, & Wang, 2015).

Recently integrated orientation problems of technological support of vocational training of students, considerations of independent work through a prism of integration requirements and new approaches, influence of integration orientation training on improvement of knowledge quality of students are deeply analyzed (Kiselyova, 2016).

The organization of independent work of students on the basis of various forms, methods with inclusion of an integration vector is presented in researches of many scientists. Authors consider the

importance of organizational, substantive-process components as a condition for increase of training efficiency of the versatile expert (Tretyakova, 2015; Poletayeva, & Rodina, 2016).

The questions of integrated communications realization in aspect of development of professional integration competence is analyzed by scientists from a position of definition of optimum means and ways of designing special model with including core competence components in it. The important place in such researches is given to development of an integration complex of vocational pedagogical training of students (Koletvinova, & Flores, 2015; Lenkov, 2016).

In a polyaspect research of the integrated training problem a specific place is held by researches in the context of the concept of polyart education on the basis of a cultural dominant (Yusov, 2004).

The research of the importance of the anthropocentrism and cultural congruity principles in the integrative context of education is presented in works by Savenkova (2014), Melik-Pashayeva, Novlyanskaya, Adaskina, Kudina, & Chubuk (2006). Authors consider a professional position of the teacher as a condition for development of the pupil's identity, pay attention to need for space expansion of "timeless" communication, dialogue of eras and cultures through "living", "deep feeling" of historical events, the phenomena of culture, life of the certain person.

Not less important problem of interactive cooperation on an integration basis is considered in Bukatov's work (Bukatov, 2017).

Education integration process is considered as an optimum form of substantive-process and organizational-functional training of the expert now. The integrated space creates conditions for the solution of the tasks, which go beyond strictly professional activity, allows to improve the real world from a position of new knowledge and new experience got in the integration way.

Now introduction of an integration paradigm to all spheres of vocational training of the teacher acts as one of priority problems of modern education. It is caused by serious changes of the traditional prescriptions of education directed to rapprochement with vital realities, and inclusion in it of the optimum professional components meeting economic, cultural and production requirements of both all society, and its certain representatives. Within the vocational practice-focused integration education the high potential of development of professional and personal qualities of the teacher is put, allowing students on the basis of mastering the complete system of knowledge and views of life independently to choose the vital purposes, to try to obtain them and to form worthy generation of the future. Scientific communities of the last years have developed the special integrative and interactive approaches of theoretical and empirical orientation considering current problems of professional integration competence development of future teachers (Tereshkov, 2011; Semyonov, 2012). Scientists pay attention to problems of different level management of education in the conditions of integration, to questions of functional ensuring complex interaction of the integration focused professional activity, quality criterion and indicators of effective management of integration competence development (Bolotov, 2005; Alimova, 2015).

The determined nature of management of integration activity of students in the context of subject and substantive-process integration, process of technological maintenance of integrationality development, the general, the regulatory, normalizing principles and also integration technologies is analyzed: predictiveness, componentwise, phasing, feedback, etc. (Postnikova, 2007).

Integration problems as the system of the necessary procedures considering features of contents, time, conditions of studying subject matters, orientation to studying a complex of various disciplines by a

universalization of approaches, a problem of cognitive work activation in the context of development of need for self-education, a problem of educational resources integration are considered in researches (Milovanova, & Kharitonova, 2011; Tretyakova, 2015).

In works of modern scientists various aspects and types of integrationality use in educational process are deduced. Each type is considered in the context of their multifunctional activity and the informative importance. Classification of integration types by existence of necessary components of the integrated system, by its qualitative characteristics, temporary characteristics, by type of the integrated system subjects is considered. Each type carries out a role, necessary for reconstruction of a complete picture of surrounding reality (Shaydullina, & Valeeva, 2016).

A number of requirements to development of integration contents are output: the requirement of methodical and didactic ensuring the disciplines integrated horizontally and vertically; general interpretation of terms and concepts of various courses; development of a knowledge component due to intersubject communications at inclusion of the next course with a support on previous; dynamic development of content around the uniform target kernel providing the predicted result and also development of the competences providing not only a subject, knowledge component, but also formation of personal qualities; formation of students' complete scientific outlook, but not fragmentary information in separate objects (Bazaykina, & Rostovtsev, 2016).

Recently the problem of integration is analyzed in the context of anthropocentrism and a cultural congruity. Connection of concepts of education and culture gives the chance to the teacher to overcome a narrow framework of the subject and to join in cultural activity with children on the basis of valuable comprehension of various phenomena (Evladova, 2000). According to the principle of anthropocentrism the pupil becomes the center of educational system, and his consciousness is the most important factor of educational contents integration (Danilyuk, 2000). It demands further improvement of system-activity and the integration approaches providing development of necessary competence components: communicative, research, speech, multicultural, etc. (Novikov, 2002; Savenkova, 2014).

Such approach is focused on broad use of interactive technology. In researches prospects of educational interactivity, interrelation of interactivity with situational integration, necessary conditions for integration of educational process with elements of psychological trainings are analyzed (Grigorovich, 2015; Bukatov, 2017).

In separate researches the levels of integrationality development in education are considered: 1. Technology of integration in education. 2. Distribution of material on the accepted classification characteristics. 3. Organizational function of integration. 4. Reflexive function of integration, etc. Derivation of new knowledge and conditionally new knowledge is carried out from a position of the integration importance of the developed material (Zhumayev, 2011; Bichurina, 2012; Koletvinova, & Flores, 2015).

Now the problem of integration education finds polyaspect reflection in researches of foreign scientists. The attention is paid to interrelation and interdependence of integration competence development with a problem of self-activation of students, development of independent thinking and abilities of introspection (Hsu, Hamilton, & Wang, 2015), to identification of features of integration text interpretation (Isidori, 2015). Methodological approaches are analyzed in the context of realization of integration training

communications (Csorba, 2015), problems of scientific and practical orientation of training (Rotha, & Tobin, 2001).

Scientists allocate three important directions in development of pedagogics. Understanding of education as cultural congruous and culture forming environment (Bondarevskaya, 1997).

1. Transition from knowledge to the personal developing, personal focused paradigm (Terenti, 2001; Alimova, 2015); considerable increase of the general methodological culture of pedagogics, differentiation of empirical and theoretical thinking, a possibility of carrying out a scientific and pedagogical research at the theoretical level (Savenkova, 2014).

3. Research Questions

1) to study necessary scientific-theoretical, scientific-pedagogical, philosophical-educational, scientific-psychological literature on a research problem;

2) to theoretically prove a problem of creation of the corresponding device of students' integration competence development in integrated cultural and educational space;

3) to develop technologies, methodical techniques, realization approaches of professional integration potential of educational resources of vocational training of students;

4) to experimentally check efficiency of the professional focused training in the developed technique, to generalize results of an experiment.

4. Purpose of the Study

The research objective consists in development of multifunctional, theoretically reasonable and practice oriented development paradigm of professional integration competence of students on the basis of integration, system, cultural, communicative and activity approaches and its approbation.

5. Research Methods

5.1. Theoretical and empirical methods

To check a hypothesis the cornerstone complex of the interconnected and interacting substantive-process means of efficiency ensuring of professional integration competence development has been used:

- theoretical – the analysis of multidirectional scientific literature on psychological and pedagogical, philosophical, sociological, culturological problems; analysis of educational and methodical literature; the theoretical analysis of fundamental principles of the offered technique on the basis of which a research hypothesis are put forward; theoretical justification of system of the professional focused work with students on development of integration competence;

- empirical – the included observation, the stating and forming pedagogical experiment, questioning, testing, the analysis of empirical-experimental work results..

5.2. Base of a research

The research was conducted among first-year students of Institute of psychology and education of Kazan Federal University, Karshi state university, Tashkent state university of Uzbek language and literature. 102 persons have participated in an experiment.

5.3. Investigation stages

The research was carried out in two stages:

At the first stage observation of development of students' professional integration competence was made; questioning of students; the level of formation of professional integration components was determined; approbation of a research topic at an initial stage of the stating experiment was carried out. At the second stage the theoretical concept of a research was specified and corrected; the mass training experiment; the analysis, generalization and systematization of the obtained data; completion of a research was made; approbation of a research topic in publications and speeches of authors at scientific conferences was carried out.

5.4. Estimated criteria

In a research special estimated criteria for level determination of mastering the main components of professional integration competence have been developed. Scale of integration orientation; technique of educational integration typology; technique of research of perception of integrity of the world around; technique of integration interactivity in professional activity.

5.5. Course and description of an experiment

The stating stage of an experiment was carried out with first-year students (102 persons) in September, 2016. The stage purpose was to carry out diagnostics of preliminary integration orientation. Students of control group – 71 persons. Students of experimental group – 31 persons. Students of both groups have been given questions from the test of integration orientation for definition degree of interest in a research problem, knowledge level of a subject and abilities to apply integration elements in professional activity. Diagnostics of the offered answers was estimated in points from 0 to 3.

Level diagnostics of integration competence formation was carried out according to the following criteria: low level is superficial possession of an integration indicator of a training material, preservation of separate semantic elements of an integrationality; average level is ability to include in a training material the integrationally integrated components directed to establishment of communication between the phenomena and objects without systematization of educational cognitive activity; high level is ability to design the professional kinds of activity directed to establishment of knowledge interdependence, and to receiving on this basis of the new knowledge allowing to realize surrounding reality, as a unit.

1. Finding of integration components in the offered texts is difficult for me.
2. I have difficulties when finding the principles of integration and differentiation in the text.
3. Getting new knowledge on the basis of integration causes difficulties.
4. It is difficult for me to select a training material of integrated orientation.
5. I doubt in correctness of definition of integration types and their role in systematization of knowledge.
6. Integration and interactive communication causes serious difficulties for me.

Table 01. Level of the general integration proficiency in the studied groups at a stage of the stating experiment

Levels	Experimental group		Control group	
	Quantity	%	Quantity	%
High	4	12%	15	21%
Average	9	29%	22	31%
Low	18	58%	34	48%

The forming stage of an experiment was being carried out in experimental group (31 persons) within September, 2016 – September, 2017.

The purpose of the forming experiment stage is development of integration competence in first-year students and working out necessary means of integration competence development in the integration sociocultural educational environment.

For development of integration competence of students the following methodical prescriptions were used: 1. Practice-oriented systematic polyaspect cognitive activity with students directed to mastering necessary and sufficient components of integrated professional activity. 2. Integration technology of professional and personal orientation. 3. An anthropocentric paradigm of pedagogics and a cultural congruity in the context of integrated interaction. 4. The integration-pedagogical assistance of students focused on creative and productive activity. 5. A self-activation method, on the basis of an integrated intensification and systematization of the gained knowledge. 6. Methods and techniques of the individual and differentiated approaches. 7. Principle of situational conditionality and communicative event. 8. Holding events on the basis of integrated-interactive communication.

The control stage of an experiment was being carried out in September, 2017. The purpose of this stage was to carry out diagnostics of possession types of educational integration of first-year students.

Table 02. Technique of a research of vocational integration guidance. Level of integration orientation

Levels	Experimental group		Control group	
	Quantity	%	Quantity	%
High	12	48%	4	16%
Average	11	44%	11	44%
Low	2	8%	10	40%

Table 03. Technique of a research of educational integration typology. Level of educational integration typology

Integration typology	Experimental group						Control group					
	Levels						Levels					
	High		Average		Low		High		Average		Low	
	ppl	%	ppl	%	ppl	%	ppl	%	ppl	%	ppl	%
Thematic integration	13	52%	11	44%	1	4%	5	20%	15	60%	5	20%
Problem integration	14	56%	10	40%	1	4%	5	20%	13	52%	7	28%
Conceptual integration	12	48%	12	48%	1	4%	9	36%	10	40%	6	24%
Theoretical integration	12	48%	12	48%	1	4%	10	40%	13	52%	2	8%
Dialectic integration	12	48%	12	48%	1	4%	10	40%	13	52%	2	8%

In general students of experimental group by every measure have presented higher level of proficiency in educational integration typology, than students from control group. In experimental group 52% of people have the high and 44%- have the average level. In control group results differ: lower level has been presented by every measure.

Table 04. Technique of a research of students' perception of integrity of the world around. Level of understanding integrity of the world around

Consciousness	Experimental group						Control group					
	Levels						Levels					
	High		Average		Low		High		Average		Low	
	ppl	%	ppl	%	ppl	%	ppl	%	ppl	%	ppl	%
Reasonable	13	52%	11	44%	1	4%	5	20%	15	60%	5	20%
Non-systemic	14	56%	10	40%	1	4%	5	20%	13	52%	7	28%
Superficial	12	48%	12	48%	1	4%	10	40%	13	52%	2	8%
Professional-personal	12	48%	12	48%	1	4%	9	36%	10	40%	6	24%

The research of perception of integrity of the world around has shown significant differences between groups. In experimental group low and average level by every measure have the lower values, than in control group.

Table 05. Technique of a research of professional integration interactivity. Level of integration interactivity

Levels	Experimental group		Control group	
	Quantity	%	Quantity	%
High	14	56%	5	20%
Average	9	36%	11	44%
Low	2	8%	9	36%

The analysis of results has shown that in experimental group 56% and 36% of investigated people have the high and average level of professional integration interactivity.

Integration-creative situations have shown similar results.

Table 06. Technique of a research of interactive games of integration orientation development. Level of proficiency in integration activity in the studied groups

Integration interactivity	Experimental group						Control group					
	Levels						Levels					
	High		Average		Low		High		Average		Low	
	ppl	%	ppl	%	ppl	%	ppl	%	ppl	%	ppl	%
Interactive play of scientific orientation	14	56%	9	36%	2	8%	5	20%	11	44%	9	36%
Interactive play of intellectual and creative orientation	12	48%	11	44%	2	8%	6	24%	9	36%	10	40%
Interactive play of polycultural orientation	13	52%	9	36%	3	12%	6	24%	11	44%	8	32%

The analysis of results has shown that in experimental group 56% and 36% have the high and average level of integration competence. In control group 20% have high level, and 36% have shown low level that can be caused by different technique of teaching disciplines.

Following the results of studying and the analysis of a condition of students' integration proficiency, it may be said, that according to the analysis of the results received on the basis of specially developed criteria of quality, the experimental group has higher level of an integrationality, than control group. This shows efficiency of the worked out development tools of integration competence of the students promoting expansion of their scientific-theoretical outlook, independence of thinking and improvement of professional qualification. According to research results, the experimental group has shown higher level of integration competence in comparison with students of control group. The level of integrated vocational training based on inclusion in substantive-process functions of the different aspectual integration components of teaching and educational character became a significant distinctive feature. In the context of interactive orientation of vocational training of students the experimental group has shown the best results because the incentive of personal interest in obtaining positive result in development of a game and determination of its importance for the subsequent work with pupils has been included.

6. Findings

During the research the following results were achieved:

The most effective way of development of integration competence of students is the choice of an optimum paradigm of the professional and integration training based on creation of polyaspect integrated educational space with derivation of the sufficient and necessary resources and components providing requirements of modern education. It has been established that such professional qualification contributes the development of the expert of an innovative formation able to perceive surrounding reality in its integrity and unity, able to find new in already known and on this basis to present the world to the pupils in new unknown aspect.

In our opinion, work of students with the anthropocentrist principle allowing to make any phenomenon of surrounding reality at a lesson understandable and interesting to all has particular importance. In the course of the practice-focused activity with students we have come to a conclusion that it is necessary to use the integration professional adapted methods of training of students. Integrated, interactive, interpretative, hermeneutical, intellectual, communicative, empathic methods belong to them. They are considered in this article as means of inclusion of personal and semantic factors in author's interpretation of the educational text on the basis of mastering integration competence of training and education in the context of spiritual-moral and intellectual-research development of students.

These methods are considered by us in the context of their polyfunctionality and influence on development of personal qualities of future teachers. In the professional sphere they are directed to mastering erudition, formation of complete vision of surrounding reality and to make independent decisions.

These days integration as a process of teaching and vocational training of students acts as one of the main problems in pedagogics and education. Scientific communities correlate the analysis of this problem to reconsideration of the general structure of education organization, to training students in mastering

competence of the presentation of a training material in aspect of creation pupils' complete system of knowledge and views of the world as on a single whole.

The problem of integration is analyzed from a position of versatility of its aspects: pedagogical, philosophical, sociological, scientific.

In the researches scientists allocate tools and methods to improve quality of education on the basis of various integration forms of professional education. Types of professional activity, their influence on development of creative abilities of students are considered (Gushchin, Nikolsky, & Dyomin, 2009).

Classification of integration types is considered in Shaydullina's, Valeeva's research. Authors allocate the following types of integration: 1) according to existence of necessary components of the integrated system; 2) according to qualitative characteristics of the integrated system; 3) according to modern characteristics of the integrated system; 4) according to the integrated subjects of system (Shaydullina, & Valeeva, 2016).

Harlamenkova in the research writes about forms of integration of research and educational activity. These elements of research activity are directed to improvement of scientific potential of high school education, to improvement of quality of scientific staff training according to requirements of modern education.

Foreign scientists consider an integration paradigm of education in rational research aspects. The priority part in development of integration competence is assigned to social processes, self-education processes. Social integration in education is directed to union of various directions of science. In the works of Cunningham, Hsu, Hamilton, Wang, Virtanen need of establishment of knowledge interrelation and on the basis of the available experience obtaining new knowledge is emphasized. Integration approaches allow to correlate professional and personal aspirations of students in the context of mastering integration competence (Virtanen, 2008; Cunningham, 2010; Hsu, Hamilton, & Wang, 2015).

Meyer, Haywood, Sachdev, & Faraday (2008), consider integration as process of differential motivational conditionality, many-sided target orientation.

Contents and structure of integration approach are considered in work of Makarova (2008). The author dwells on a problem of its main components and conditions of their use.

Intrinsic indicators of integration processes in education in aspect of the new horizons are considered by Averbukh (2004). Modern requirements of education are analyzed.

A variety of interactive forms of education is analyzed in Bukatov's research. Interactivity is considered as an emergence condition of "situational integration" at a lesson, the potential of integrated educational process is analyzed (Bukatov, 2017).

However, comprehensive solution of problem of professional integration competence development of different level orientation isn't noted so far. Factors of design of professional activity types in the context of obtaining new knowledge and new experience are insufficiently analyzed, the substantive-process specifics of professional integration components are not investigated.

7. Conclusion

The research has shown that development of integration competence of students depends on special development of the plan, the program and model of its development taking into account availability to

students. Specially developed complexes of integration tasks and systematic, stage-by-stage work with them in the course of the practice-focused training are necessary. The research has shown efficiency of the chosen approaches, the methods promoting vocational integration training of students. Rather high level of mastering the competence significant integration components providing success of their application in practical professional activity is noted.

Acknowledgments

The work is performed according to the Russian Government Program of Competitive Growth of Kazan Federal University.

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