REZEKNE ACADEMY OF TECHNOLOGIES
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FORMATION OF THE PROFESSIONAL COMPETENCE OF STUDENTS – FUTURE TEACHERS OF VOCATIONAL TRAINING IN THE SYSTEM OF HIGHER EDUCATION IN KAZAKHSTAN

Doctoral dissertation for the degree of Doctor of Pedagogy

Scientific adviser
professor, Dr. paed., Velta Lubkina

Rezekne 2017

Anotācija

Meruyert Zhanguzhinovas promocijas darbs„Studentu – topošo profesionālās izglītības pedagogu profesionālās kompetences veidošanās Kazahstānas augstākajā izglītībā" izstrādāts Rēzeknes Tehnoloģiju akadēmijaā Dr. paed. profesores Velta Ļubkina vadībā.

Pētījuma objekts: studentu – topošo profesionālās izglītības pedagogu profesionālās kompetences veidošana.

Pētījuma priekšmets: studentu – topošo pedagogu profesionālās kompetences veidošanās likumsakarības un dinamiskās saites.

Pētījuma mērķis: noskaidrot profesionālās kompetences veidošanas likumsakarības un dinamiskās saites Kazahstānas augstākās izglītības sistēmā, izstrādāt modeli, metodiku un vērtēšanas kritērijus, kā arī noteikt to ieviešanas dinamiku uz studentu – topošo specializācijas „Apģērba dizains" profesionālās izglītības pedagogu piemēra.

Annotation

The doctoral dissertation "Formation of the Professional competence of students – future teachers of Vocational training in the system of higher education in Kazakhstan" of Meruyert Zhanguzhinova has been worked out in Rezekne Academy of Technologies under supervision of professor, Dr. paed., Velta Lubkina.

The research object: the Formation of Professional competence in the process of professional training of students – future teachers of Vocational training.

The subject of the study: regularities and dynamic links of the Formation of Professional competence of students – future teachers.

The aim of the research: to identify the regularities and dynamic links of the Formation of Professional competence for the system of higher education of Kazakhstan, to develop the Model, Methodic and Criteria for the assessment, and to identify the efficiency of their implementation on the example of the preparation of students – future teachers of Vocational training in Clothing design.

Valsts pētījumu programma
„Inovatīvi risinājumi sociālajā telerehabilitācijā Latvijas skolās iekļaujošās izglītības kontekstā" (INOSOCTEREHI)

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List of conventional symbols

BD	Basic disciplines
SCES RK	The State Compulsory Educational Standard of the Republic of Kazakhstan
CD	Clothing design
ETU	Eurasian Technological University
OC	Optional component (elective disciplines)
KazNAA named after T.K.Zhurgenov	Kazakh National Academy of Arts named after T.K. Zhurgenov
KazNPU named after Abai	Kazakh National Pedagogical University named after Abai
RL	The Republic of Latvia
PC	Professional competence
PD	Profiling disciplines
VT	Vocational training
RK	The Republic of Kazakhstan
WC	Working curriculum
WTP	Working training programme
ISW	Individual student's work
ISWL	Individual student's work with lecturer
TPE	Technical and Professional education
TC	Typical curricula
TTP	Typical training programme
TMC	Training methodical complex
TMCD	Training methodical complex of discipline
FPC	Formation of Professional competence
RTA	Rezekne Academy of Technologies
ECTS	European Credit Transfer System

Introduction

Improvement of the quality of human capacity and provision of future Kazakhstan with highly skilled workforce is possible only under the condition of modernization of higher education in the republic, its integration in the global educational space (Государственная…, 2010, 2016). The field of higher education is the first priority for modern economic development of the country, since the quality of higher education predetermines sustainable competitiveness of the country in the context of globalization (Teaching…, 2010).

As the process of globalization, internationalization of the economy and business advances, higher education faces new objectives – training of professional workforce able to operate effectively in changed market conditions. Particular attention must be given to the Formation of Professional competence of students – future teachers of Vocational training, including in the specialty Clothing design, in the system of higher education in Kazakhstan (Epro, 2015; Zhanguzhinova, Magauova, et al., 2014; Сутырин, 2003; Татур, 2004).

In this regard, the current stage of the reform of higher vocational school of the Republic of Kazakhstan and the development of educational process in HEIs set new requirements for innovative update of its organization, content and methodic (Zhanguzhinova, Magauova & Nauryzbaeva, 2016).

Rapid increase in scientific and technological progress, integration of the Republic of Kazakhstan into the global community, emergence of new information technologies sets increasingly demanding requirements for education. Higher education institution shall not only provide quality educational services, but also promote the formation of intellectual potential, restructuring economy and development of science-based production. Currently, new requirements are coming to the fore – innovative education, integrated with intensive scientific research activity, interdisciplinarity of education and scientific research, close connection of training with the consumers of industry and economy (Innovations…, 2003; Research…, 2008).

Sectoral science, as well as fundamental, currently is experiencing the period of a deep crisis, related to the lack of demand, underfunding, loss of scientific workforce for various reasons, therefore, a relevant trend for modern researchers is the sectoral science as a bridge, a connecting element between highly technological developments of academic, institutional science and production (Государственная…, 2010, 2016).

“Science for the sector” – this idea is the central today in the formation of the strategy of a new specialists' training model in the system of education, forming human potential, which defines

the economic potential of country to a crucial extent (Bērtaitis, Briede & Pēks, 2011; Байденко, 2002; Вербицкий, 2004; Корчагин, 2005).

Accordingly, the problem of professional preparation of students – future teachers of Vocational training, including clothing designers, for light industry in Kazakhstan is a direct reflection of core aspects of the sector. Consequently, a number of remaining challenges appears:

– lack of formed subject-oriented practical knowledge of the specificity of productive process (Климов, 2010);
– dysfunction of the system of sectoral training of specialists (Татур, 2004);
– lack of a model for the formation of a specialist with applied abilities (Ильяшева, 2001);
– disunity of methodology, which results from the lack of the aim, idea, realization of the necessity and social significance of the outcome – education product (Байденко, 2005).

Improvement of the quality of human capacity and provision of future Kazakhstan with highly skilled workforce, able to operate effectively in changed market conditions, assimilation of the best foreign standards and technologies, is possible only under the condition of modernization of higher education in the republic, its integration in the global educational space (Мухаметкалиев, 2011; Сарсенбаева, 2005).

Kazakhstan's accession to Bologna declaration requires update of educational paradigm from knowledge-based (where the learning outcome is knowledge, based on knowledge, skills, attainments (KSA) (Бабанский, 1997; Кузьмина, 2001; Сластенин, Исаев & Шиянов, 2003) to competence-based paradigm (where the learning outcome is competency, which defines knowledge, skills, attitude) (21th century competencies, 2016; Key competences…, 2010; Tuning…, 2000; Towards…, 2005). In order to implement the reforms in education, there is a necessity in a review of knowledge content, application and possession of methodology of this knowledge, as well as practical attainments, based on the integration into the theory and practice of a new Model of professional education (Аминов, 2004; Гнатышина, 2008; Джордж & Джоунс, 2003). It has become evident that, for an effective activity in present – day circumstances of transition period, the system of pedagogical workforce training should change the goals of pedagogical education, its content and technologies (Epro, 2015; Dzerviniks, 2016; Research…, 2008; Татур, 2004).

The Republic of Kazakhstan in its international activity in the field of higher education is oriented towards creation of mutually beneficial contacts with many world countries (Zhanguzhinova, Magauova, et. al., 2014). The cooperation is established at a national level within the framework of the programmes of international organizations (Latvian…, 2016, 2017; Nacionala…, 2017).

It forms the need in training of competent specialists, demanded in the conditions of modernization and innovative development of society. Moreover, they should be able to ensure competitiveness of products and services, be highly qualified and independent in realization and improvement of their own knowledge. As academics have noted (Innovations…, 2003; Nacionala ..., 2017; Гуров, 2012), "...the national education system will never be able to meet today's requirements, if we lack modern teachers".

Regarding the necessity to fulfil social demand of society for training of skilled workforce for Vocational training, the problem of the Formation of Professional competence of students of Vocational training, including Clothing design, is becoming particularly relevant as a key determinant in the development and formation of a competitive, socially mature, specialist possessing professional competency (Татур, 2004).

The solution of the issue of the Formation of Professional competence has a crucial economic, social, scientific significance, which will facilitate actualization of pedagogical potential, while Professional competence of a teacher itself is considered an intellectual value and serves as human capital (Key competencies…, 2002; Kompetenzentwickluns..., 2000).

Socially-economical crisis and crisis in education has led to the emergence of a number of gaps between the rate of social, informational and innovative transformation and the level of use of scientific achievements in educational process; society's demands for training of teachers, their general and professional culture and a low level of Professional competence; the need in provision of continuous Formation of Professional competence of teachers and the lack of holistic system for their training; the need in broad scientifically-pedagogical, culturally-educational communication and non-harmonized interaction of educational, cultural institutions and public associations (Research…, 2008; Teaching…, 2010; Towards…, 2005).

The resolution of these challenges to a great extent depends on a scientifically justified system of training of pedagogical staff for Technical and Professional education institutions (TPE) of Kazakhstan (Абдулкеримов, 2011; Ибрагимов, 2006).

The author of the present doctoral dissertation is a student awarded with the scholarship from the State Education Development Agency of Latvia – VIAA, and an applicant for the title of Doctor of Pedagogical Sciences in Latvia, Rezekne Academy of Technologies, based on the agreement between the Ministry of Education and Science of the Republic of Latvia and the Ministry of Education and Science of the Republic of Kazakhstan on the cooperation in the fields of education, science and youth (2013) (Latvian…, 2016 – 17; Nacionala…, 2017; Соглашение…, 2013).

Interdependence of educational and socially economical system redefines educational functions of professional preparation. It predetermines the need to increase focus on the study of the

problem of the Formation of Professional competence of future teachers, including in specialty Clothing design (Innovations…, 2003; 21th…, 2016).

For Technical and Professional education institutions of Kazakhstan, specific aspects of this problem, such as: the Formation of Professional competence, training of specialists, assessment of activity of teachers, are reflected in scientific and methodic works (Абишева, 2007; Гарафутдинова, 2011; Дюшеева, 2009; Ибрагимов, 2006; Ильяшева, 2001; Магауова, 2008; Сарсенбаева, 2005; Уматалиева, 2012).

In this regard, **the research problem** defined is: insufficient development and formulation of theoretical and practical bases of the Formation of Professional competence of students – future teachers of Vocational training, including in the specialty Clothing design in Kazakhstan that impedes the integration into the global educational space and requires the study of European experience for the identification and setting of regularities and dynamic links of the Formation of Professional competence of students in Kazakhstan.

The research object: the Formation of Professional competence of students – future teachers of Vocational training.

The subject of the study: regularities and dynamic links of the Formation of Professional competence of students – future teachers.

The aim of the research: to identify the regularities and dynamic links of the Formation of Professional competence for the system of higher education of Kazakhstan, to develop the Model, Methodic and Criteria for the assessment, and to identify efficiency of their implementation based on the example of the training of students – future teachers of Vocational training in Clothing design.

The questions of the research:

1. What regularities and dynamic links are the base for the system of higher education in Kazakhstan for the Formation of Professional competence of students – future teachers of Vocational training?
2. What Criteria are the basic for the assessment of Professional competence of students – future teachers of Vocational training?
3. How does the implementation of the Model affect the Formation of Professional competence of students – future teachers of Vocational training?

Research objectives:

1. To study and analyse scientifically-theoretical base of international and Kazakhstan's experience regarding the issue of the Formation of Professional competence and to develop a

definition of Professional competence of students – future teachers of Vocational training.

2. Based on analysis, to identify the regularities and dynamic links of the Formation of Professional competence for the implementation in the system of higher education in Kazakhstan.
3. To develop the Criteria for the assessment of Professional competence of students – future teachers of Vocational training.
4. Based on the research, to develop a scheme of the Model and the Methodic for the formation of Professional competence of students – future teachers of Vocational training based on the example of the specialty Clothing design.
5. To conduct approbation and to prepare scientifically justified recommendations for the implementation in HEIs of Kazakhstan.

The bases of methodological research:

Theoretically-methodological and culturological aspects of formation of a new generation specialists (Bankauskienė & Masaitytė, 2016; Bērtaitis, Briede & Pēks, 2011; Berglin, Cederwall, Hallnäs, Jönsson, Kvaal, Lundstedt, Nordström, Peterson & Thornquist, 2006; Čehlova, 2002; Geske & Grīnfelds, 2006; Jurgena, 2002; Kepalienė & Bechtel, 2008; Žogla, 2001; Выготский, 2002; Зязюн, 2003).

Conceptualization of the system of international higher education (Apple, Teitelbaum, Dewey & Palmer, 2001; Beļickis, 2001; Blūma, 2008; Cassidy & Eachus, 2000; Daniela, Lūka, Rutka & Žogla, 2014; Epro, 2015; Čehlovs, 2008; Fien, 2002; Gonzalez & Wagenaar, 2003; Huckle, 2008; Halbe, Adamowski & Pahl–Wostl, 2015; Jurgena, 2002; Rauhvargers, 2003, 2009; Reichert & Tauch, 2003; Roskos & Stukalina, 2016).

Concept of human intellectual potential development (Briede, 2015; Hlas & Hildebrandt, 2010; Heck, Saunders & Smith, 2015; Geske & Grīnfelds, 2006; Irbīte & Strode, 2016; Žogla, 2001; Выготский, 2002; Шадриков, 2005).

Professionally-significant personality characteristics of a teacher (Andersone, 2009, Danilane & Lubkina, 2007; Desimone, Porter, Garet, Kwang Suk Yoon & Birman, 2012; Dzerviniks, 2016; Friedman & Ben – David, 2000; Garet, Porter, Desimone, Birman & Yoon, 2001; Jelagaitė, 2015; Андреев, 2006; Кузьмина, 2001; Сластенин, Исаев & Шиянов, 2003; Щербакова, 2003).

Formation of Professional competence of teachers and capacity-building in the system of methodical work in Technical and Professional education (Baumert & Kunter, 2013; Briška, Klišāne, Brante, Helmane, Turuševa, Rubene, Tiļļa, Hahele & Maslo, 2006; Delamare Le Deist, 2005; Dementjeva, 2012; Epstein & Hundert, 2002; Gaveika, 2016; Greaves (Grīvza), Stueck & Svence, 2016; Indrašienė & Sadauskas, 2016; Mahoney, Cairos & Farwer, 2003; Maslo & Tiļļa, 2005; Rychen & Tiana, 2004; Stoof, Martens & Merrienboer, 2002; Strods, 2011; Zogla, 2005;

Ахметова, 2007; Байденко, 2002, 2005; Вербицкий, 2004; Максимов, 2007).

Conceptualization of teacher's professional development (Blūma, 2008; Blank & Alas, 2008; Darling – Hammond, 2010; Desimone, Porter, Garet, Kwang Suk Yoon & Birman, 2012; Freeman, 2002; Harris & Sass, 2014; Halbe, Adamowski & Pahl – Wostl, 2015; Katane, Katans & Īriste, 2016; Lāce, 2014; Latkovska, 2015; Līce & Reihmane, 2016; Loughran, Berry & Mulhall, 2012; Mardesic, 2014; Sederevičiūtė – Pačiauskienė & Valantinaitė, 2016; Sass, Anastasia Semykina & Harris, 2014; Soika, 2016; Андреев, 2006).

Framework and principles of modern system of continuous professional education (Aizsila, 2009; Andersone, 2009; Beļickis, 2001; Blūma, 2008; Geske & Grīnfelds, 2006; Jarvis, 2004; Kennedy & Choi, 2008; Koķe, 2002; Obin, 2003; Rauhvargers, 2003, 2009; Reichert & Tauch, 2003; Smékalová, 2015; Szulc, 2016; Strods, 2011; Tauriľa, 2012; Tatarinceva & Gode, 2016; Zariņa, Drelinga, Iliško & Krastiņa, 2016; Zeiberte, 2010; Алексеева, 2005; Аминов, 2004; Балл, 2003).

Pedagogical regularities of the organization of educational training process (Andersone, 2009, 2016; Bechtel, 2008; Garleja, 2004; Coghlan & Brannick, 2005; Kokare, 2011; Mietule, 2013; Maslo, 2006; Špona, 2006; Strode, 2010; Žogla, 2001).

Research methods:

1. *Theoretical methods:*
   - analysis of scientific literature;
   - analysis of normative documents.
2. *Data collection methods:*
   - questionnaires (for students, teachers, employers).
3. *Data processing methods in SPSS:*
   - descriptive statistics (mean);
   - Kruskal – Wallis test;
   - Wilcoxon test;
   - Mann – Whitney U – test;
   - Kendall Tau b test;

Research base:

Pilot experimental research conducted:

- *In Kazakhstan* – Kazakh National Academy of Arts named after T.K. Zhurgenov; Almaty Technological University; Eurasian Technological University; Kazakh National Pedagogical University named after Abai; Central Asian University;
- *In Latvia* – Rezekne Academy of Technologies; Liepaja University;

- *In Lithuania* – Vilnius College of Design; Lithuanian University of Educational Sciences.
- The research included 137 students, 26 teachers and 22 employers.

Educational curriculum and approbation in educational process includes:

- Modular education programme.
- Conduction of master – classes (72 h), lectures (6h) on the developed theoretical and practical materials of the Methodic during the scientific training in Manchester Metropolitan University, Great Britain (2010).

Scientific research plan of the doctoral thesis topic is included in the plan of "Professional Education" department of Eurasian Technological University (Kazakhstan) and German Agency for International Cooperation (GIZ).

Research stages

1	**Preparatory stage**	**2008 – 2009**	Theoretical apprehension and study of topicality of the issue in professionally–pedagogical theory and practical activity of Technical and Professional education institutions and the Professional competence of teachers in Clothing design. Definition of the research object, aim and issues, key tasks, design and methods.
2	**Ascertaining stage**	**2010 – 2011**	Study of philosophic, sociological, psychically-pedagogical literature, introduction of the ascertaining experiment, the concept and the methodic of experimental work are developed and theoretically justificated.
3	**Formational stage**	**2012 – 2014**	The formational experiment conducted, data of basic experimental part of the research completed and systematizated, the research results are integrated into educational curriculum of the specialty of training process.
4	**Control stage**	**2015 – 2017**	Scientific research work in Latvia, RTA. Restructuring of the content of the doctoral thesis, formulation of the scientific method in accordance with Bologna requirements and Latvian legislation. The theoretical analysis of the research problem conducted. Study of international and European experience of the Formation of Professional competence with introduction of additions and changes in the doctoral dissertation, based on the example of normative documents of Latvian higher education system. Identification of the results of two respondents' survey stages in four countries: Kazakhstan, Latvia, Lithuania, Great Britain. On the basis of the application of modern data processing programmes the analysis and identification of dynamics and results of the Formation of Professional competence conducted. The recommendations for HEIs in Kazakhstan on the training of students – future teachers of Vocational training are developed.

Scientific novice of the research

Based on scientifically-theoretical analysis and the experience of international and Kazakhstan's researchers, the definition of "Professional competence" of students – future teachers of Vocational training is developed.

For the first time in higher professional education of Kazakhstan, regularities and dynamic links of the process of the Formation of Professional competence of students – future teachers of

Vocational training in the process of professional preparation are identified:

Regularities:

- regularity of content goal;
- activity-oriented organizational regularity;
- resultative criterial regularity;

Dynamic links:

- "sectoral innovations" in education;
- "education standard" of professional preparation in HEI;
- "education paradigm" in training of specialists;
- "mechanisms of process" of pedagogical process;
- "direction of education" in HEI;
- "organization of training" in pedagogical process.

The scheme of the Model for the system of higher professional education of Kazakhstan and the Methodic, which includes the recommendations for HEIs of Kazakhstan on the training of students – future teachers of Vocational training, is developed.

The Criteria for the assessment (motivational, contentive, procedural) is developed and theoretically justified and the levels (reproductive, interpretive, creative) of Professional competence of students – future teachers of Vocational training are described.

Practical significance of the research

The approbation of the Model on the basis of the developed Methodic were conducted.

- A sample of teaching methodical aids "Technological bases of modular educational programmes for training of designers" is developed.
- Advanced thematic plans and programmes of course design and educational methodical supply of the Module "Costume design" are implemented.
- The recommendations for HEIs of Kazakhstan on the training of students – future teachers of Vocational training are developed.
- Handout materials are developed: a catalogue of Elective Disciplines, recommendations and descriptors of the programmes for students and teachers, a Catalogue of souvenir products; presentation of student works at expositions, fashion shows, conferences, contests, festivals.
- During the period of scientific research (2008 – 2017), the author participated personally in the organization and conduction of pilot experimental work, in the implementation of the developed recommendations, carrying out management, pedagogical, scientifically-methodical activity in the organization of the process of the Formation of Professional competence

of students – future design teachers for Technical and Professional education institutions in the process of their undergraduate level training.

Approbation of research results

The main provisions and results of the dissertation research were reported at the International Scientific and Practical Conferences:

The results of the dissertation research are reflected in 56 scientific and scientific – methodical works, including: in 22 articles in leading scientific journals, including 7 articles in the journals of the Higher Attestation Commission of the Republic of Kazakhstan and the Kyrgyz Republic, 9 articles in journals with the impact factor quoted by the Scopus data baze and Orcid, 4 articles in the magazines Thomson Reuters and ISI Web of Knowledge.

- Publications in conferences (America, Great Britain, Spain, Italy, Kazakhstan, China, Kyrgyzstan, Latvia, Lithuania, United Arab Emirates, Russia);
- Publications in the G – Global Virtual project;
- Publications in the journals of VAK (Kazakhstan, Kyrgyzstan, Russia);
- Publications of 2 study-methodical supplies.

Publications in journals with impact factor, cited database Thomson Reuters

1. Zhanguzhinova, M.Y., (2017). Formation of the Professional competence of students – future teachers of Vocational training in the system of higher education in Kazakhstan. *Society. Integration. Education. Proceedings of the International Scientific Conference, 1, 275–285.* Rezekne: RTA. Retrieved June 28, 2017, from http://conference.ru.lv
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7. Zhanguzhinova, M.Y., et al., (2013). Technology of Organization of Students' Independent Work. *Middle East Journal of Scientific Research, 15 (5), 652–657*. doi: 10.5829/idosi.mejsr.2013.15.5.12425 Retrieved October 10, 2017, from orcid.org/0000–0002–9124–4099
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7. Zhanguzhinova, M.Y., (2015). Technological basic of modular educational programme for designers training. *Messenger, 3 (47).* (ISSN: 1728–5496). KZ, Almaty: Education Sciences.

Certificates of participation in the conferences

1. Zhanguzhinova, M.Y., (2017). Formation of the Professional competence of students – future teachers of Vocational training in the system of higher education in Kazakhstan. *Society.*

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Publications of educational methodical supply

1. Zhanguzhinova, M.Y., (2017). Methodic of Formation of Professional competence. *Study – methodical Supplement, 50*. (ISBN 9965–19–339–8). Rezekne: RTA.
2. Zhanguzhinova, M.Y., (2015). Color Introduction. *Teaching Manual, 64.* (ISBN: 9965–00–562–2). Almaty: Areket–print.

Theses for the defense:

1. The theoretical analysis and empirical research of the Formation of Professional competence of students – future teachers of Vocational training in Kazakhstan justifies the following regularities for organization of the pedagogical process in specialization of Clothing design:

- **of content and goal** for educational and productive processes on defining aims and the content of professional preparation of specialists;
- **activity-oriented organizational,** which defines types of professionally-pedagogical and practical activity of students and the Organization of the process of Formation of Professional competence;
- **resultative-criterial,** which reveals direction of functioning and improvement of professionally-pedagogical and production-technological competences with accordance with the Criteria for the assessment of student's achievements;

2. The implementation of regularities is conditioned by the six dynamic links which have been revealed by the research between students, teachers, employers and the content of training and which is put into practice by the organization of future teachers Vocational training towards Formation of the students' Professional competence.

3. The worked out Criteria for the assessment (motivational, contentive, procedural) are sufficient to identify the effectiveness of implementation of the Model and Methods of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design in the system of higher education of Kazakhstan, based on Modular Educational programme "Costume design", that, accordingly modified, is applicable by other professional HEI of Kazakhstan.

Structure of the doctoral thesis:

The work comprises 169 pages, includes 15 figures and 37 tables. The doctoral thesis consists of introduction, three parts, recommendations, bibliography and 51 annexes. Conclusions include summary of theses of theoretical interpretation and practical application of data results.

1. Scientifically-theoretical bases of the Formation of Professional competence of students – future teachers of Vocational training

1.1. Theoretical bases of Professional competence

Global changes, innovative development of modern society and modernization of production shape new approaches in educational paradigm (Государственная…, 2010, 2016).

The aim of educational system of new era is a professional preparation of competent specialists for different innovative production sectors for the fulfilment of state order (ГОСО..., 2006, 2008, 2010, 2011; Государственная..., 2010; 2016).

For the optimization of the gap between scientifically-theoretical and practical training of specialists, there is a need in the formation of professional pedagogical competence, based on modern universal didactic methodics, modular education programmes (MEP), construction of a new Model for training of specialists in conformity with modern requirements, which define teaching strategy (Metodiskie…, 2015; Pedagogisko…, 2016; The concept…, 2012).

Disclosure of scientifically-theoretical bases of Professional competence is based on fundamental definitions of the terms of the Bologna process glossary that have single meanings for education systems of different countries, including Kazakhstan.

The core of the problem of the Formation of Professional competence is the definition of such notions a *"competency"*, *"competent", "competence"*.

"Competency" – is a dynamic combination of a number of parameters: *knowledge and its use, skills, attitudes, descriptive results (Learning outcomes) of acquisition of training programme/module* (Blūma, 2008; Pedagogisko…, 2016; Tuning…, 2000; The concept…, 2012; 21th century…, 2016; Глоссарий..., 1999). The notion of competency can include formal qualification, as well as such elements as an ability to "transfer" skills and knowledge in a new professional situation or an ability for innovations (Epro, 2015; Innovations…, 2003; Букреева, 2012;). Competency level can be assessed based on a person's ability (disclosure of personal characteristics of a specialist) to use skills in possession (Беляева, 2011; Уматалиева, 2012).

In UNESCO glossary (2004), competency-based training is understood as "training, based on definition, acquisition and demonstration of knowledge, skills, behaviour patterns and attitudes, required for a certain labour activity". Competency is a didactic unit of acquisition, a combination form of knowledge, skills, attitudes that allows coping with set tasks (Baumert & Kunter, 2013,

Teaching…, 2010; Vronska, 2016). This stems from the strengthening of practical orientation of vocational education, namely, students' application of theoretical knowledge, skills, attitudes in practical activity, experience gain, which is topical within the framework of the research (Adubra, 2014, Špona, 2006). A research 21st century competences, (2016) identified that competency are based on knowledge, skills, character (21st century…, 2016). The study of several works of Russian scientists (Беляева, 2011; Родермель, 2011) identified the notion of competency as a personal characteristic of a specialist. In the researches scientists of Kazakhstan (Мухаметкалиев, 2011; Омирбаев, 2014), the definition of competency is based on the State Compulsory Educational Standard of the Republic of Kazakhstan (2011), (hereafter – SCES RK), where the requirements for key competency of a bachelor in specialities are defined as: should have to understand, to know, have an ability, skills and attainments, be competent, while the term competency is defined as knowledge, skills, attainments. According to Key competences (2010), which is a benchmark for the European Union (hereinafter – EU) countries, it is prescribed that competences define job descriptions of organizations in qualification structure on the national level, and the diversity of definitions set out above should be summarized by the concept of training programme cycles, where cycle A includes general compulsory disciplines, cycle B – profiling disciplines, C – optional component (Training curricula). Both cycles should provide not only the access to the next cycle, but also create a training trajectory for the preparedness of futures specialists for labour market.

As dissertation research is oriented towards the improvement of the Formation of Professional competence of students – future teachers of Vocational training in Kazakhstan, based on the scientific theory and influence of international experience, as well as from the analysis of terms provided previously, it was revealed that **"competency"** – *is knowledge, skills, and attitude.*

The study of the theory (Freeman, 2002; Towards…, 2015) identified that knowledge is based on two types: rational (based on abilities in action) and intuitive (motive–based), which define knowledge and understanding (Bloom…, 1956; 21th century…, 2016), based on the combination of data, information, experience and individual interpretation of the content. Organized systematization of students' thinking, considering interdisciplinary links in HEI (Loughran, Berry & Mulhall, 2012), facilitates determination of knowledge context and is a precondition for competency in education (Hlas & Hildebrandt, 2010), which define ideas and understanding possessed by a specialist for taking effective actions in the achievement of his own aims during the realization of cognitive activity (Baumert & Kunter, 2013; Bechtel, 2008).

On the basis of the theory analysis provided above is identified, that **knowledge** *forming thinking, based on interdisciplinarity, necessary for a student for understanding, acquisition and development of motivation in cognitive activity and is motive-based.*

Arrangement knowledge and formation of wholeness and systematicity of students' thinking based on the theoretical aims in the solution of objective practical tasks of innovative production sectors define the nature of regularity in the study of discipline content (Key…, 2010; Беляева, 2011).

The study of the theory (Loughran, Berry & Mulhall, 2012; Danilane & Lubkina, 2007; Hlas, Hildebrandt, 2010) defined skills as possibilities and abilities, acquired as a result of purposeful, systematic and constant efforts for fluent and adaptive implementation of ways of complex activities or operational functions (Harris, & Sass, 2014; Smékalová, 2015), related to cognitive and technical attainments and interpersonal communication (Szulc, 2016; Ušča, Lubkina & Pigozne, 2012), on the basis of student's acquired knowledge for organization of all activity types and application in changing conditions (Zhanguzhinova, Magauova & Nauryzbaeva, 2016; Soika, 2016).

The aims and objectives of dicsipline's essence study form the types of activities in different conditions based on the application analytical prognostic skills on organization of pedagogical process (Harris & Sass, 2014; Smékalová, 2015).

Based on the theory analysis provided above, was identified, that **skills** – *it is consciously mastered student's way of organization and implementation of actions on the base of content of acquired knowledge in changing conditions.*

The study of the theory (Freeman, 2002; Loughran, Berry & Mulhall, 2012; Towards…, 2005) identified that skills realization is connected with "colaboration pedagogy" on the base of attitude that defines personal characteristics and professional experience of a specialist (Key competences…, 2010; Беляева, 2011; Букреева, 2012), through attainments (perceptive, intellectual and motor), acquired in the implementation process of all activity types (Indrašienė & Sadauskas, 2016; Latkovska, 2015).

Organization of pedagogical process realize activity types based on theoretical knowledge and practical attainments, which form an adequate assessment system, motivated attitude towards specialty, profession and gnoseological need in raising of the level of self-education, as well as personal characteristics, experience and qualification of a specialist (Key competences…, 2010; Szulc, 2016).

Based on the theory analysis provided above, the definition for the research was identified: **attitude** – *is a complex of personal characteristics of a specialist and his professional experience, which depend on attainments in the process of activity.*

In higher education system, defined by the Bologna process, there are *general* (for all courses/modules of given cycle) competency and *objective* (relating to object area) competency; as well as *methodical competency*, which are understood as an ability to organize and effectively manage external factors (time, training), make decisions and solve problems; interpersonal and systemic competency (Blūma, 2008; Глоссарий…, 1999).

During the investigation of the theories (Baumert & Kunter, 2013; Epstein & Hundert, 2002; Key…, 2002) on the term **general competences**, their definition as *an ability to understand and use knowledge* was identified. The term *"general competences"* is a synonym of the term "*key competences"*, according to the definition of SCES RK (2011), *key competences* – is a complex of knowledge, skills, attainments, abilities, applied in life situations (ГОСО..., 2006, 2008, 2010, 2011). "Key competences" are the "key", the base for other, more specific and object–oriented competences (Baumert & Kunter, 2013; Ключевые…, 2000). Key competences have overprofessional and overobjective character and are necessary in any field of activity (Key …, 2002; Rychen & Tiana, 2004; Концепция…, 2002; Хуторской, 2003).

In the European project "Definition and Selection of Competencies" (DeSeCo), key competences are defined as «significant in many spheres of life and are the key to success in life and effective functioning of society". According to Delamare Le Deist (2005), Ключевые… (2000), Концепция… (2002), essential features of key competences are: requirements of general literacy, socially-ethical competences, economical and organizational managerial competences, special competences. Key competences are different universal mental means, tools (ways, methods, techniques) of a person in the achievement of aims (results) significant for him (Stoof, Martens & Merrienboer, 2002; Truskovska, 2013). Baumert & Kunter (2013), Dzerviniks (2016) characterize them as an ability of a person to solve problems, cope with situations self–sustained and in cooperation with others. In the opinion of David, Johnson, Ehrlinger & Kruger (2003), key competences are the definition and selection of abilities and characteristics of a personality, which are valuable at this time in this society.

The study of the terms "general" (according to the definition of the European Union) and "key" (according to definition in Kazakhstan) competences, allowed to conclude that these two terms are synonymous, and the term *"general competences"* will be used in the further work.

The study of the European scientists' theory (Bērtaitis, Briede & Pēks, 2011; Rychen, Tiana, 2004) on the term **objective** competences identified that they have common objective content of education. However, according to researchers from Kazakhstan, these competences are defined as *basic* (Болонский…, 2009; Мухаметкалиев, 2011). By the definition of SCES RK (2008), *basic competence* – is an ability of a specialist to solve a complex of professional tasks based on

universal, intellectual, communicative, emotional and volitional powers (knowledge, skills and attainments, properties and abilities). Indriksons (2017); Выготский (1999) define basic competences as not related to all activity types, in which the student is involved, but only to those, which cover basic educational domains and academic subjects. Daniela, Lūka, Rutka & Žogla (2014) consider that objective competences reflect activity-oriented objective component of generally objective education content and should ensure complex achievement of its aims. Stoof, Martens & Merrienboer (2002) highlight that objective competences are normative and practical component of education, allowing integration of theoretical knowledge in activity, applying knowledge in the solution of specific tasks or problematic situations. In the opinion of Анциферова (1989), Rudzīte & Rutka (2016), basic competences are a complex procedure, complex of educational components, which have personal activity-oriented character. Магауова (2008) states that basic competences are a complex of educational standards in a systemic form. Гнатышина, (2008), Кожуховская (2011), Хуторской & Краевский (2003) conclude that basic competences have integral characteristics of the quality of student training, related to their ability of purposeful sensible application of a complex of knowledge, skills and activity types, regrading interdisciplinary matters.

The conducted research on the terms "basic" (according to the definition in Kazakhstan) and "objective" (by definition of European Union) competences allowed to come to the conclusion that both these terms are synonyms, and the term "*objective competences"* will be used in the further research.

The research of the theory (Bankauskienė & Masaitytė, 2016; Briede, 2004) on the term **methodical** competences identified the objective content of education. However, according to researches from Kazakhstan, they are defined as *special competences* (Ахметова, 2007; Болонский…, 2009; Ибрагимов, 2006; Мухаметкалиев, 2011). According to SCES RK (2008), special competences are defined as a specialist's ability to solve a complex of professional tasks in the selected sphere of activity based on certain knowledge, skills, and attainments. In the opinion of Altet (1994), Bērtaitis, Briede & Pēks (2011), Blank & Alas (2008) methodical competences are developed for each specialty of higher education, taking into consideration the requirements of employers and social demand of society. Adubra (2014), Zeiberte (2010) state that methodical competences include the use of professionally functional applied knowledge, skills, attitude, their solution in practical tasks; Dzerviniks (2016). Heck, Saunders & Smith (2015), Maslo (2006) note that methodical competences promote realization of a specialist in a certain field of professional activity. David, Johnson, Ehrlinger & Kruger (2003) emphasize that methodical competences are gained as a result of an acquisition of the disciplines cycle content of subject's training, undergoing

professional practice and fulfilment of the course and graduate qualification works by the students in HEI. Абдулкеримов (2011), Байденко (2005), Маркова (2003) conclude that special competences promote the acquisition of professional activity and further professional improvement of the Formation of Professional competence of students – future teachers. Special competences are necessary for carrying out certain activity (Key competences, 2010; 21th century…, 2016).

The research of the terms "methodical" (by definition in the European Union) and "special" (according to the definition in Kazakhstan) competences allowed to conclude that both these terms are synonyms, and the term *"methodical competences"* will be used in the further research. Based on the term analysis set out above, a scheme of competences was developed (see Figure 1.1.1.).

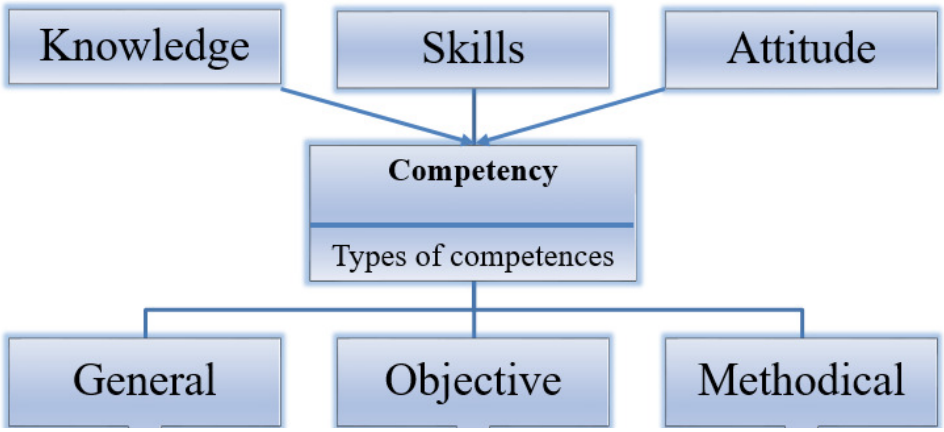

Figure 1.1.1. **Scheme of competences**

Therefore, the analysis of the term *"competency"* was the basis of the research on the Formation of Professional competence of students – future teachers in specialty "Vocational training" in Kazakhstan, which depends on knowledge, skills, attitude.

Conducting theoretical research of the terms *"competent",* it was identified that it is a characteristic of a specialist, who is able and has a right to judge something and possesses competence (Epro, 2015; Rychen & Tiana, 2004); understanding of knowledge for practice, defining a set of operational skills, possession of algorithms for problem-solving tasks, necessary for future specialists (Mahoney, Cairos & Farwer, 2003; The concept..., 2012). The analysis of the terms allowed to conclude that **"competent"** – *is a definition of the professional qualities of a specialist, possessing competency.*

The research of the term "*competence"* identified personal characteristics of a specialist, which include: possession of relevant competency, including personal attitude and competences

also towards the object of activity (Maslo & Tiļļa, 2005; 21th century…, 2016). Raven, (1984) considers that *competence* can be defined as *an extent of a person's involvement in the activity*; ability to understand and act, maintaining "adequate link with the world" Apple & Teitelbaum, (2001). In the framework of such understanding, one can speak of a competency, which can be conditionally named as "general ability for activity", and of its basic aspects: preparedness for goal-setting, preparedness for assessment (Ксендзова, 2001), preparedness for action, preparedness for reflection. Леонтьев, (1982) defines competency as availability of knowledge for successful activity. Yet, Кирикова, (2000) concludes that competence is an ability to creatively approach professional activity.

The conducted research on the terms in the theories set out above, allowed to conclude that **"competence"** – *is knowledge, skills, attitude of a specialist, having ability for professional activity.*

The research of the theory Blūma (2008), Rauhvargers (2003, 2009), Tauriľa (2012), 21th century… (2016) identified that the notion of competence is related to a specific field of activity. The activity of a teacher is characterised by his ability to form student's personality, taking into consideration the limitations and conditions of educational programme (Anspoka, 2011).

The conducted analysis of the theory provided above allowed to define that Professional competence of students – future teachers of Vocational training is based on **two types of competence:** *professional-pedagogical and productive-technological.* For the disclosure of their structure and characteristics of the competences of a teacher in Vocational training, activity types, application of competences in work forms for the development of the Methodic and formation of the Criteria for assessing Professional competence.

According to the definition of SCES RK (2008), *Professional competence* is an ability of a specialist to solve a complex of professional tasks based on integrated knowledge, skills and experience, as well as personal characteristics, which allow carrying out professional-pedagogical and practical activity types effectively.

The integrative multilevel structure of educational and productive processes identifies competence types (Боровских & Розов, 2010; Букреева, 2012; Гуров, 2012), which lead to the necessity to further research of *professionally-pedagogical* and *productive-technological* competence types (see Figure1.1.2.).

The analysis of the theory provided above allowed to identify terms (knowledge, skill, attitude), competency, types of competences (general, objective, methodical). Activity types (professionally-pedagogical and practical), which are dependent on educational and productive processes,

defined professionally-pedagogical and productive-technological competence types, which forming Professional competence of students – future teachers of Vocational training.

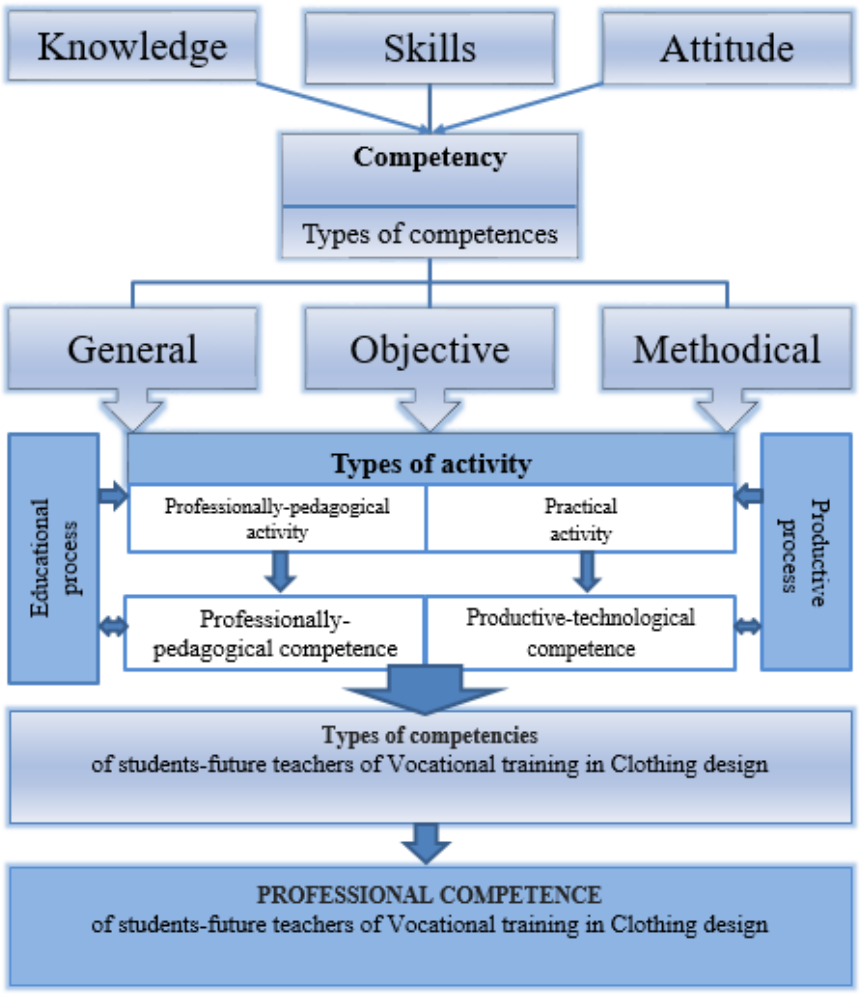

Figure 1.1.2. **Scheme of Professional competence of students – future teachers of Vocational training**

Therefore, on the basis of the analysis and conclusions of the theories provided above, the author of the doctoral thesis developed a definition of **Professional competence** *of students – future teachers of Vocational training: it is a complex characteristic of knowledge, skills and attitude of specialists, providing their preparedness and ability to carry out effective professional–pedagogical and practical activity in conditions of constantly changing modern educational and productive processes.*

The formation of competences in definition of laws and phenomena, based on the knowledge, skills and attitude of students – future teachers of Vocational training revealed the necessity to define regularities of pedagogical process.

1.2. Regularities and dynamic links of pedagogical process of the Formation of Professional competence of students – future teachers of Vocational training

1.2.1. Competencies types and regularities of the Formation of Professional competence

The study of the theories Baumert & Kunter (2013), Delamare Le Deist (2005), Maslo & Tiļļa (2005), Zogla (2005), Ахметова (2007), allowed to structure **professionally-pedagogical competence**, including: methodical, psychologically-pedagogical, differential psychological, reflection of pedagogical activity and autopsychological, special and professional types of competence.

Methodical competence, according to Coghlan & Brannick (2001), is an integral characteristic of professional conditions, wich include socio-cultural, moral, humanistic education of personal and moral qualities of a future teachers of Vocational training (Dzerviniks, 2016; Žogla, 2006), reflecting content goal in functioning of methodological and methodical knowledge, skills, experience, motivation, abilities and preparedness for creative self-realization in organization of educational-methodical activity for the formation of skills to organize all pedagogical process activity types (O'Brien & Sarkis, 2014; Tanrısever & Erisen, 2009).

Psychologically-pedagogical competence, according to Ušča, Lubkina & Pigozne (2012), based on professional conditions forms adequate, resultative criterial regularity of professional and personal characteristics of a teacher, which allows to achieve qualitative results in pedagogical process (Шадриков, 2005) and includes communicative competence (culture of communication and teaching tact), rhetorical competence (professional speech culture), cognitive competence (professional erudition), (Dolenc & Abersek, 2015, Indriksons, 2017), professionally-technical competence (skill to use modern methodologies and technologies, including informationally-communicative technologies), professionally-informational competence (ability to carry out pedagogical diagnostics), (Epstein & Hundert, 2002; Mahoney, Cairos & Farwer, 2003), reveals in assessment judgements in pedagogical activity that forms social characteristics of a personality of future teachers of Vocational training (Gaveika, 2016; Laverghetta, 2011).

Differentially-psychological competence, according to Andersone (2009), Rutka (2012), comprises of the knowledge of a teacher on individual psychological characteristics of each student. Intensity of differential psychological competence formation depends on professional conditions, which forming criterial, levels and results of the possession of teaching subject, information in the specifics, dynamics and variability of the directions of the profession (Dzerviniks, 2016; Рубинштейн, 2000), orientation type and ability of special, methodical and psychologically–pedagogical, and autopsychological competencies (Bankauskienė & Masaitytė, 2016; Maslo & Tiļļa 2005) on the basis of assessment judgements in teaching activity, forms communicativeness and adequate assessment system (Patton, 2002).

The reflection of pedagogical activity or autopsychological competence, according to Выготский (2002), Леонтьев (1982), is the most essential element of self-awareness, formed on the base of activity organization future teacher of Vocational training. Professional conditions are focused on the formation of heuristic, prognostic knowledge, skills, attitudes and self-improvement of the specialist (Curzon, 2008; Halbe, Adamowski & Pahl – Wostl, 2015). Dependence of cognitive and self-sustained types of activity, based on the assessment judgments on awareness of the prestige of the profession, forms gnoseological need to raise the level of self-education, qualification, creativity (Adubra, 2014; Atkinson, 2004).

Special and Professional competence, based on the definition of Хмель (2010); Epstein & Hundert (2002), determined by professional conditions on unity of content goal on theoretical and practical preparedness of a teacher in the fulfilment of professional functions. Competence is integrated in the professional and personal characteristics of a teacher and defines a training trajectory (Biggs & Tang, 2007), acquisition of knowledge (Rychen & Tiana, 2004) and purposeful application in prediction, planning and realization of activity (Cassidy & Eachus, 2000). Activation of a teacher in the development of his own abilities (Burleson, 2005), desire for self-realization in socially beneficial activity (Mahoney, Cairos & Farwer, 2003) provides professional development of a future specialist already during the training period in HEI and in practice (Epstein & Hundert, 2002). The productive-technological activity form awareness of the importance of the profession and interest in the specialty (Bechtel, 2008; Epro, 2015).

The analyse of the theories provided above let to reveale the structure of the professionally-pedagogical competence (see Annex 1.2.1.1.), including:

– types (methodical competence, psychologically-pedagogical competence, differentially-psychological competence, reflection of pedagogical activity or autopsychological competence, special or professional);

– characteristics of competence on activity types (educationally-methodical, pedagogical, training, cognitive, self-sustained, productive technological) on the basis of a research of the organization of the activity of students of future teachers;
– formation of the indicators of Professional competence, a set of professional conditions, external factors (organization of educationally-methodical process of activity, assessment judgements, the prestige of profession, practice), which evidence of the results on the basis of the criteria for the Formation of Professional competence.

On the figure 1.2.1.1. the types of professional-pedagogical competence of the students – future teachers of Vocational training are presented.

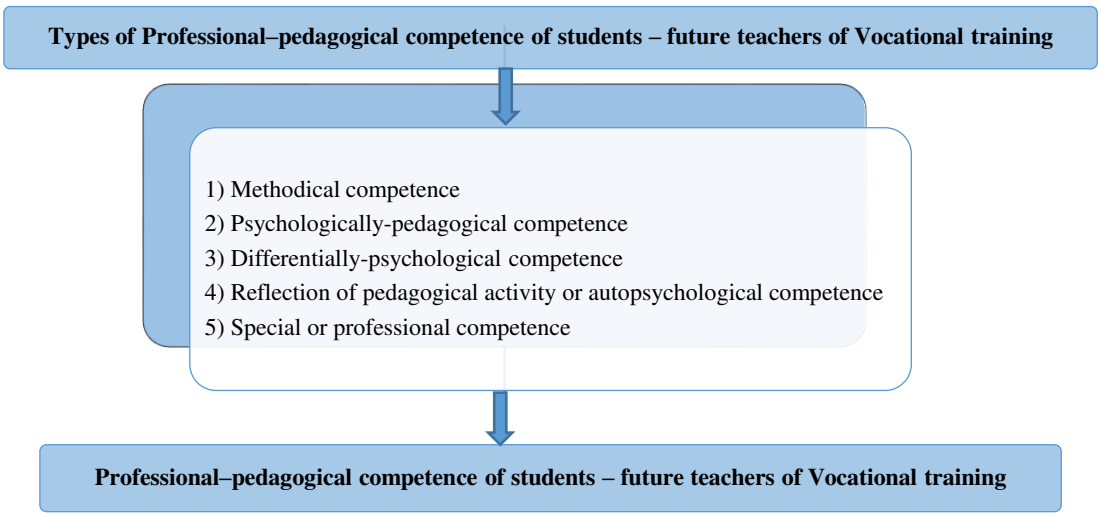

Figure 1.2.1.1. **Professional-pedagogical competence of students – future teachers of Vocational training**

The research of Professional-pedagogical competence of students – future teachers of Vocational training let to reveal in the process of Formation of Professional competetnce the existence of regularities of: content goal, activity-oriented organizational, resultative criterial.

The study of the theory (Blank & Alas, 2008; Darling – Hammond, 2010) identified that professionally-pedagogical competence can be realized only with *productive-technological competence*, since it requires relevant practical knowledge, skills, attitude of a specialist for industry (Гуров, 2012) on organization of production, considering technically-economical and constructively-technological reasonability, work experience in the conditions of modern production

(Букреева, 2012), development of technical documentation, manufacturing of production (Гурье, 2009).

The study of the types of productive-technological competence and the analysis of the theories Kennedy & Choi (2008), Rauhvargers (2003, 2009) identified that knowledge, skills and attitude of a teacher of Vocational training includes acquisition of knowledge: (organizationally-productive (Гуров, 2012; Климов, 2010); technological (Babadogan, Kutlu & Ogulmus, 2009; Щукина, 2010); constructive (Кожуховская, 2011; Коблякова & Юсупова, 2000); technical (Бундина, 2006; Гарафутдинова, 2011); organizationally-commercial/entrepreneurial (Lubkina, 2000; Сапугольцева, 2012); economical (Harris & Sass, 2014; Шадриков, 2005); analytically–investigative (Creswell (2003; Колесникова, 2005), design-based (Sang–Duck Seo, 2009; Абишева, 2007), engineering graphical (Cogill, 2010; Кривобородова & Коблякова, 2000), informational computer-based (Dolenc & Abersek, 2015; Dlouh & Burandt, 2015), with acquisition of skills and formation of attitude (Асессоров, 2009; Лисенкова, 2008). During the repeated actions and operations, not only the skills, but also the personal characteristics of a specialist are formed (Harris & Sass, 2014; Turusheva, 2010). Personal characteristics of a specialist are defined as the depth and stability of knowledge, skills and attitude acquisition, effectiveness and their practical application and possibility to improve (Maslo, 1995, 2003, 2006; Truskovska, 2013, 2000); facilitating acquisition of professional productive-technological experience (The concept…, 2012; Букреева, 2012). Experience, based on the attitude towards the practical activity, facilitates the implementation of activity on a higher level, which is reached in the process of training and facilitates the acquirement of qualification (Creswell, 2003; Rychen & Tiana, 2004; Ахметова, 2007; Беляева, 2011).

The analysis of the theories provided above allowed to identify the types of productive-technological competence: *1) organizationally-technological; 2) technically-economical; 3) project-based gnoseological.*

The study of the types of **organizationally-technological competence** identified: organizationally-productive, technological, constructive competence (Джордж & Джоунс, 2003; Дочкин, 2009).

Process-o*rganizational* competence forming practical knowledge possession (Loughran, Berry, & Mulhall, 2012; Towards…, 2005), which allow to perform organization of practical activity (Вербицкий, 2004) and carry out professional conditions on managerial functions, decisions (Гурье, 2009) on the basis of general professional and special knowledge, skills, attitude (Земцова, 2008).

Technological competence forms possession of technology (Adam, 2008; Blūma, 2008) and prediction of realization of the results of pedagogical process on practice (Strode, 2010), based on knowledge, skills, attitude (Truskovska, 2013; Климов, 2010), applied professional conditions on realization of abilities and competencies students – future teachers of Vocational training in organization of practical activity (Stašāne, 2009; Каримова, 2005).

Constructive competence includes: possession of special constructive project-oriented knowledge, skills, attitude (Кожуховская, 2011), rationally-analytical (Сыпабеков, 2010), prognostic thinking (Sang – Duck Seo, 2009; Корчагин, 2005), professional conditions with using of modern technologies (Zeiberte, 2010), reasonable choice in organization of productive technological, project-oriented, intellectually-analytical activity types (Tauriľa, 2012; Кожуховская, 2011), that form the possession of constructing skill in pedagogical process and in practice (Горина, 1981; Джонс, 1976).

The analysis of the theories provided above allowed to identify a structure of organizationally-technological competencies of students – future teachers of Vocational training (see Annex 1.2.1.2.), which includes:

– types of organizationally-technological competence (process–organizational; technological; constructive), forming the goals and content of Vocational training;
– competence characteristics of teachers of Vocational training, activity types (practical, productive-technological, project-oriented, intellectually-analytical), revealing in the organization of activity of students – future teachers;
– formation of the assessment indicators of Professional competence, a set of professional conditions, external factors (organization of practical activity, practice), indicating results based on criteria in the process of Formation of Professional competence.

The study of the theory (Dolenc & Abersek, 2015; Journal…, 2004; Lubkina, 2000) on **technically-economical competence** identified technical, organizationally-commercial/entrepreneurial, economical competencies of teachers of Vocational training with application of knowledge, skills, attitude (see Annex 1.2.1.3).

Technical competence includes: knowledge, skills, attitude necessary for realization in sectoral productions (Климов, 2010) with application of methods (Bankauskienė & Masaitytė, 2016; Кожуховская, 2011) and technologies (Dolenc & Abersek, 2015; Lubkina, 2000), professional conditions on topical technical means of production (Кривобородова & Коблякова, 2000) and tasks of organization of productive-technological activity (Букреева, 2012; Гуров, 2012), that ensures knowledge on mechanisms of pedagogical process design on practice.

Organizationally-commercial/entrepreneurial competence based on professional conditions of training of high-demand specialists, according to the modern development trends of different production clusters includes: knowledge, skills, attitude (Bērtaitis, Briede & Pēks 2011; Zhanguzhinova, Magauova & Nauryzbaeva, 2016). The organization of the process of educational and methodological activities contributes to the formation management attainments (Harris & Sass, 2014; O'Brien & Sarkis, 2014), development of analytical, prognostic (Dlouh & Burandt, 2015), entrepreneurial abilities of specialists for organizationally-methodical activity, develops knowledge of purposeful activity essence of pedagogical process and skill to ensure project–oriented activity teachers of Vocational training (Сапугольцева, 2012).

Economical competence includes: knowledge, skills, attitude, dependant on the necessity of training of high-demand specialists, according to changing socially-economical conditions (Bērtaitis, Briede & Pēks, 2011; Алексеева, 2005). Organization of the process of educational and methodological activity forms professional conditions in HEI for students – future teachers of Vocational training for adequate reaction to the market changes (Garet, Porter, et al., 2014), apply analytical (Turusheva, 2010), prognostic abilities for intellectually-analytical activity (Зимняя, 2006), that forms knowledge of pedagogical conditions and their application in pedagogical process (Smékalová, 2015).

The analysis of the theories provided above allowed to identify a structure of technically-economical competence (see Annex 1.2.1.3.), which includes:

- types of technically-economical competence (technical; organizationally-commercial (entrepreneurial; economical), forming the goals and content of Vocational training;
- characteristics of competence of teachers of Vocational training, activity types (practical, organizationally-methodical, intellectually-analytical), manifested at the organizing the activities of students – future teachers;
- the formation of indicators of Professional competence, a set of professional conditions, external factors (practice, organization of educationally-methodical activity process), indicating results based on criteria in the process of Formation of Professional competence.

The study of **project-based gnoseological competence** identified: analytically-investigative, project-oriented, engineering graphical, informational computer-based knowledge, skills, attitude (Babadogan, Kutlu & Ogulmus, 2009; Harris & Sass, 2014).

Analytically-investigative competence depends on content goal of knowledge, which develop the possession of analytically-prognostic skills of students – future teachers of Vocational

training (Felzers, 2006); includes professional conditions for adequate work assessment and estimated judgments (Blank & Alas, 2008; Cogill, 2010) on the basis of the results of analytical, prognostic, investigative activity (Adam, 2008; Ксендзова, 2001) for self-development and self–realization of future specialists.

Project-oriented competence includes: interdisciplinary theoretical and practical knowledge (Dlouh & Burandt, 2015), dependant on the professional conditions of necessity of having propaedeutic training students – future teachers of Vocational training on design bases (Абишева, 2007; Жангужинова, 2009, 2011), through systemic orientation in content goal of all components of design; defining a broad spectrum of qualifications with continuous improvement in the process of self-education of specialists in project-oriented, creative activity, dependant on the prestige of the profession (Кожуховская, 2011).

Engineering graphical competence requires from future specialists possession of professional conditions for the application of theoretical special knowledge, practical, methodical skills and professional attitude in the regularity of content goal of construction and design (Бундина, 2006; Кожуховская, 2011). Experience of project-oriented technological activity forms knowledge of the essence of pedagogical process and assessment judgements students – future teachers of Vocational training (Zhanguzhinova, Magauova & Nauryzbaeva, 2016).

Informational computer-based competence includes: theoretical and practical professional, special and methodical knowledge of content goal in components of pedagogical process in professional conditions of informational and computer-based technologies (Dlouh & Burandt, 2015) for project-oriented and analytical activity (Каримова, 2005) in the conditions of modern innovative productions (Dolenc & Abersek, 2015; Двуличанская, 2011), on the basis of assessment judgements (Dlouh & Burandt, 2015).

The analysis of the theories of productive-technological competence provided above allowed to identify a structure (see Annex 1.2.1.4.), (see Figure 1.2.1.2.), including:

- types of project-based gnoseological competence (organizationally-technological, technically-economical, project-based gnoseological), forming the goals and content of Vocational training;
- characteristics of competence of teachers of Vocational training and activity types (analytical, prognostic, investigative, project-oriented, creative, project-oriented technological, analytical), manifested at the organizing the activities of students of future teachers;
- the formation of indicators of Professional competence, a set of professional conditions, external factors (assessment judgements, the prestige of the profession), indicating results based on criteria in the process of Formation of Professional competence.

The types of productive-technological competence of students – future teachers of Vocational training are presented on figure 1.2.1.2.

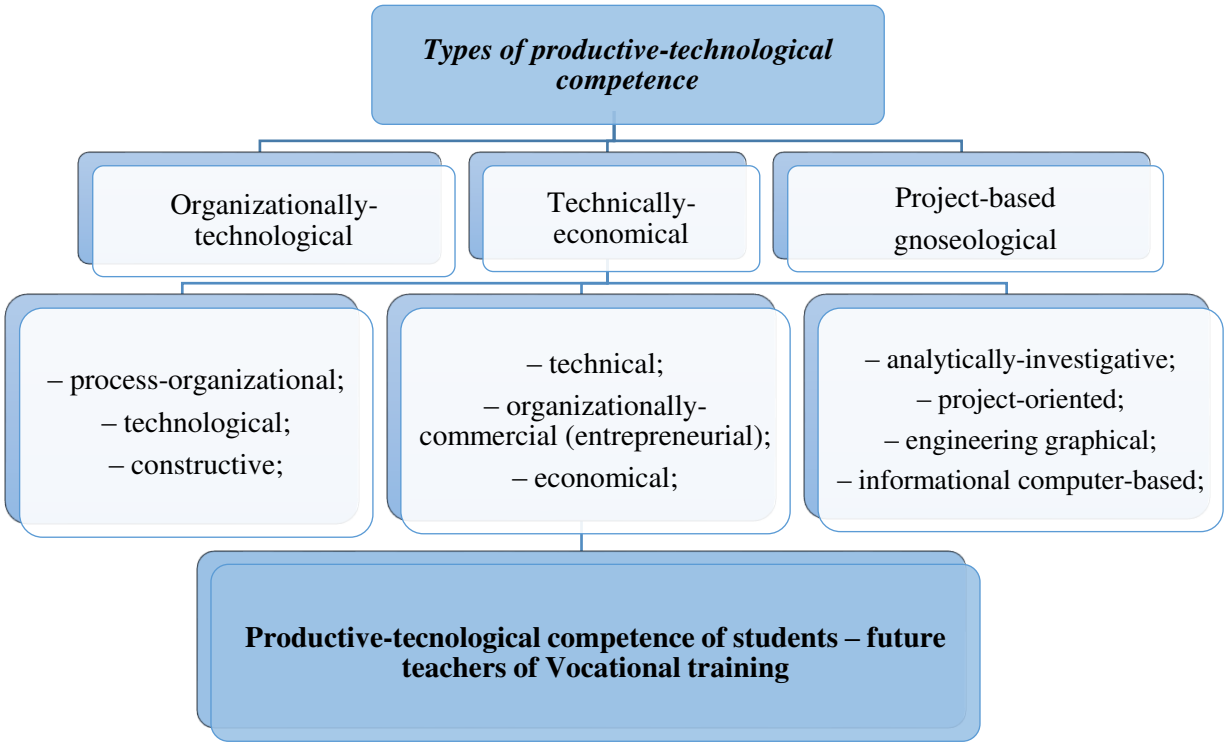

Figure 1.2.1.2. **Productive-technological competence of students – future teachers of Vocational training**

In the process of Formation of Professional competence the analysis of structures of professionally-pedagogical and productive-technological competence of students – future teachers of Vocational training allows to identify the following regularities:

– *the determination of the aims and content of professional preparation of specialists for educational and productive processes* forms on the base of **regularity of content goal**.

– *choice and creation of the types of professionally-pedagogical and practical activity of the Formation of Professional competence based on* **activity-oriented organizational regularity**.

– *Criteria for the assessment of Formation of Professional competence of specialists based, sucsess of functioning and improvement of professionally-pedagogical and productive-technological competencies stipulates* **resultative criterial regularity**.

1.2.2. Specificity of the Formation of Professional competence of students – future teachers of Vocational training

1.2.2.1. Approaches and principles of the Formation of Professional competence

The study on Professional competence identified two types of competence: *professionally-pedagogical and productive-technological* (see subchapter 1.2.1.), which facilitated the identification of scientifically-practical significance of the dissertation research and the necessity in the study of didactic principles and approaches of the Formation of Professional competence.

The study of the theory of Thumser – Dauth (2007), Беляева (2011) identified *didactic principles,* which realize professional goals and content, based on *systematicity* (Andersone, 2009), functional and interdisciplinary link through *livelong* (Beļickis, 2001; Blūma, 2008), *intellectually-cognitive development*, dependant on training approaches (Kennedy & Choi, 2008). *Self-development* of future teachers of Vocational training and are based on the requirements of the organization process of the Formation of Professional competence (Cohen, Manion & Morrison, 2007). Organization of pedagogical process forms *technological effectiveness* (Bankauskienė & Masaitytė, 2016; Blūma, 2008) of education programmes (Thumser – Dauth, 2007) with *variability* of the description of the training programme/module acquisition results and content (Metodiskie…, 2015; Pedagogisko…, 2016). Dependence of knowledge on motives, skills on content, attitude on attainments promotes the acquisition of competencies for further *activity* (Омирбаев, 2014; Navikienė, 2014), outlining objectives for *the development of creative potential* (Hlas & Hildebrandt, 2010), *communicativeness,* forming personal characteristics of a specialist.

Therefore, on the basis of the theory analysis set out above, the following **didactic principles** are identified: *systematicity, livelong, intellectually-cognitive development, self-development, technological effectiveness, variability, activity, development of creative potential, communicativeness* (see Annex 1.2.2.1.1.).

The study of the theory on scientific approaches of the Formation of Professional competence, based on the identified regularities in Latvia (Baltušīte, 2012; Blūma, 2008) and other European countries (Baumert & Kunter, 2013), Kazakhstan (Магауова, 2014), Kyrgyzstan (Добаев, 2010), Russia and UIS countries (Жиркова, 2012), identified the necessity to study: *activity-oriented, personal-oriented, competence-oriented and modular* approaches for introduction into the pedagogical process for the preparation of students – future teachers of Vocational training.

Activity-oriented approach implies consideration of the key activity role in the process of personality formation, its inner structures on the basis of internal factors (Выготский, 1986). The development of human consciousness depends on the *activity* (Леонтьев, 1982) as a methodological direction of research (Daniela, Lūka, Rutka & Žogla, 2014), dependent on identified regularities: *of content goal, activity-oriented organizational, resultative criterial.*

Activity – in the pedagogical process purposefully and effectively realizes knowledge in solving the tasks of innovative sectors of industry based on *methods and forms* (Давыдов, 2005; Леонтьев, 1982), through developing the motivation and *creativity* of students (Innovations…, 2003), dependant on "*livelong and integrity"* of education (Establishing, 2006; Dolenc & Abersek, 2015). Application the didactic principles of: activity, livelong, systematicity, creative potential, intellectually cognitive development (Тиль, 2009) form the practical significance of the dissertation research according to the requirements (ГОСО, 2014), which are bases for the development of the Criteria for the assessment of Professional competence with decriptors. On the basis of the analysis of theories, the principles of the activity approach are revealed (see Annex 1.2.2.1.1.).

Research of theories of Latvian scientists (Jurgena, 2001; Špona, 2006; Žogla, 2005) and European theorists and practitioners (Jarvis, 2004; Tauriľa, 2012) revealed, that **personal-oriented approaches** in education in facilitates the consolidation of knowledge through the development of students' motivation based on the disclosure of internal factors (Blank & Alas, 2008) personal structure of a person and his individual characteristics. Personal development of students (Щербакова, 2003) forms on the principles of personal-oriented approach *(personalization and choice, creativity and success, self-development, creative potential, communicativeness, intellectually-cognitive development)* on the basis of the goals of the pedagogical process, according to the requirements of SCES RK (ГОСО, 2011, 2014), and normative conditions (РУПр, 2015) (see Annex 1.2.2.1.2.) on indicators of Professional competence assessment.

The principle of Personalization and choice considers individual personal of students (Laverghetta, 2011; Maslow, 1987), including their individual personal characteristics and different levels of Professional competence of students based on resultative criterial regularity, that allows to in professional preparation characteristics and allows applying *variability* of teaching methods in formation their subjective authority.

The principle of creativity in individual and collective creative activity promotes creativity and success to define and develop individual characteristics of a students on te base of activity-oriented organizational regularity (Аминова, 2004).

The principle of self-development identifies an integral personal-oriented characteristic of a person on the basis of regularity of content goal, which promotes *self-development* of students and disclosure of *creative potential* (Maslo, 2006; Rojers, 2001).

The principle of communicativeness is the basis for achieving the goals in the process of working together in a professional environment, manifested in *the intellectual-cognitive development* of critical thinking of the future specialist activity–oriented organizational regularity (Curzon, 2008; Indriksons, 2017; Боровских & Розов, 2010).

Therefore, the principles of personal-oriented approach are forms through knowledge that promotes motivation of students – future teachers of Vocational training.

The study of the theory of Baumert & Kunter (2013) identified that **competence-oriented approach in HEI** represents the concept of the content of education with the definition of goals and objectives of the trajectory of learning on the basis of disclosure of internal factors that form the skills of students and identify the evaluation of the results of the educational process (Strods, 2011). It allowed identifying the principles of competence-oriented approach: *conceptually-contentive knowledge systems, livelong of vocational education, knowledge of the essence and components of vocational education* (see Annex 1.2.2.1.3.), according to the requirements and normative conditions (ГОСО, 2014), wich bases for development of the Criteria for the assessment of Professional competence with descriptors (РУПр, 2015), which will be discussed below.

The principle of conceptually-contentive knowledge system, based on regularity of content goal, which identifies the content, basic definitions, forms of work, didactic principles and methods, forming systematicity and training trajectory in activity (Goldshmid & Goldshmid, 1972).

The principle of livelong of vocational education provides the opportunity of multidimensional development and realization of a personality with establishment of favourable conditions on the basis of livelong of training – "Lifelong learning" (Establishing, 2006; Болонский…, 2009). Activity-oriented organizational regularity is reflected in raising of self-education and qualification level for successful realization in further professional activity that identifies resultative criterial regularity (Гончаренко & Балл, 2013).

The principle of knowledge of essence and components of education (Špona, 2006) forms *systematicity* of functional structure on the basis of interrelated components (subjects of pedagogical process, educational content, content of material base (means), dependant on their *intellectually-cognitive* development in pedagogical process on the basis of regularity of content goal.

Therefore, the principles of competence-oriented approach depend on the content of Professional competence and form the skills of students – future teachers of Vocational training during preparation in HEI.

The tendencies of credit systems in training, according to Bologna declaration (Rauhvargers, 2011), made it necessary to study *modular approach* of the Formation of Professional competence, on the basis of content goal, activity-oriented organizational and resultative criterial regulations.

Modular approach in professional education of Kazakhstan represents actual concept in organization of pedagogical process (Омирбаев, 2014), forming the competence attitude of students through the development of professional attaintments. The goal of the training is defined by the qualification requirements of the National Compulsory Education Standard of the Republic of Kazakhstan (Мухаметкалиев, 2011). The content of modular education programmes is directed towards the acquirement of certain competencies (Navikienė, 2014; Pedagogisko…, 2016; The concept…, 2012), for acquisition of knowledge, skills, attitude (Tanrısever & Erisen, 2009), described in form of *learning outcomes* (Глоссарий…, 1999) (see Annex 1.2.2.1.4).

The study of modular approach through principles: *know – how, technological effectiveness, variability*, depends on the requirements (ГОСО, 2006, 2008, 2011, 2014), normative conditions, formation of the descriptors and the Criteria for the assessment of Professional competence (РУПр, 2015), which are discussed below.

The principle of Know – how is characterizes by adaptability didactic principles and methods of teaching of organization of pedagogical process of regularities of content module programm in accordance with content and goal and activity-oriented organizational regularities, which allow to activate cognitive activity and *intellectually-cognitive development* of students (Зеер, 2005).

The principle of technological effectiveness reveales in structuring the content of training by a sequence of didactic system elements on the basis of activity-oriented organizational regularity (The concept..., 2012).

The principle of variability forms flexibility management of the process of modular training through *variability* of principles, methods and means of training, individualization of educational cognitive activity of students on the basis of resultative criterial regularity (Букреева, 2012). The research of the principles of competence-oriented approach revealed the formation of attitude based on attainments development of students – future teachers of Vocational training.

Therefore, the study of the approaches identified, that motives are allow studets to achive knowledge, the content of education is based on the development of skills, the professional attitude of a specialist forms attaintments due to application of the didactic principles in pedagogical process, which include content and goal and activity-oriented organizational, resultative criterial regularities of Formation of Professional competence. The revealed concusion demonstrate the need to consider the Criteria for assessing professional competence and dynamic links in the next part of the thesis.

1.2.2.2. Criteria for the assessment of Professional competence and dynamic links

Based on the study of regularities of content goal, activity-oriented organizational and resultative criterial, as a result of the study of approaches and didactic principles, the following descriptors, which forming:

- *in knowledge – motives, motivational criterion;*
- *in skills – content, contentive criterion;*
- *in attitude – attaintments, procedural criterion.*

The study of the theory Andersone (2009), Coghlan & Brannick (2005), Maslo (2006), Strode (2010), Žogla (2001) allowed to identify the Criteria for the assessment of Professional competence of future teachers of Vocational training in Clothing design:

Motivational criterion gives an assessment of knowledge, which forming personal need in professional characteristics through the direction of education (Bērtaitis, Briede & Pēks, 2011; Felzers, 2006). Cognitive and social motives are set as the foundation of motivational criterion (Маркова, 1996; Сарсенбаева, 2005). Formation of motives is based on methodology, which influences the content and the process of professional preparation on the basis of education standard (Кузьмина, 2001). The level of Professional competence formedness depends on the typology of motives based on education paradigm (Зеер, 2005; Зимняя, 2006). Necessity of successful fulfilment of set tasks defines the motives (Danilane & Lubkina, 2007) through self-development (Андреев, 2006). The stimulation of interest towards the development of social characteristics of a personality (Čehlova, 2002; Jurgena, 2002) forms the desire of students to achieve success in activity, based on sectoral innovations. Students' self-expression as authors defines the motives, which reveal creative approach on the basis of organization of training (Зязюн, 2003).

The analysis of the theories provided above allowed to identify the definition of **motivational criterion** that, *on the basis of the descriptors – motives, is implemented in the processes of: professional preparation, raising of self-education and qualification level, assessment of competence of future teachers of Vocational training in Clothing design. Criteria indicators include: interest in specialty, gnoseological need in raising the level of self-education, qualification, awareness of the importance of profession, creativity, social characteristics of a personality, communicativeness, adequate assessment system* (see Table 1.2.2.2.1.).

Table 1.2.2.2.1.

Motivational criterion

№	Indicator name
1.	*Interest in specialty*
	Depends on students personality motivation, develops interest in specialty, forms the prestige in professional environment.
2.	*Gnoseological need in raising the level of self-education, qualification*
	Development of natural, psychological, moral instincts of a personality stimulates the need in widening the horizon, raising of social status of a specialist.
3.	*Awareness of the importance of profession*
	Students' understanding of the importance of profession in further professional activity and development of active life attitude of future teacher in design
4.	*Creativity*
	Synthesis of internal psychological state with external creative expression forms the expression of author's signature – style, project and style preferences, work forms and techniques, based on creative growth, self-realization ideas.
5.	*Social characteristics of a personality*
	Development of professional, personal qualities of students, based on moral psychological satisfaction with a completed project/order or material reward for the labour, adequate creative activity assessment system.
6.	*Communicativeness*
	Is expresses as an awareness of the necessity to broaden the area of professional interests, communication spheres, social status, understanding of specificity of project-oriented pedagogical process in the segment of social services that provides the services for the needs of society, production sectors, clusters.
7.	*Adequate assessment system*
	Ability of a person to sensibly assess activity processes on the basis of the parameters: experience, comparative analysis based on induction and deduction. Expressed as an orientation of a specialist in the specificity of profession, possession of analytical assessment apparatus, formed by a broad spectrum of knowledge and professional growth, practical work experience, communicative characteristics of a personality – skills to compare personal achievements with the level of preparedness of other persons.

Thus, the study of motivational criterion allowed to define the motives of students – future teachers of Vocational training in Clothing design in application of Professional competence on the basis of: direction of education, educational standard, sectoral innovations, education paradigm, organization of training.

Contentive criterion allows to assess the content of cognitive processes, which suggest the formation of *skills* and understanding of *the content (in this research – design)*; general understanding and systemic orientation in theoretical and practical training in design and didactic principles; knowledge of analytical assessment apparatus on the basis of standard education (Dlouh & Burandt, 2015). Assessment of activity effectiveness consists of the main components: professionalization (acquirement of Professional competencies and experience) and attitude (personal characteristics) (Andersone, 2009). Contentive criterion is dependent on mechanisms of process: psychological (knowledge, skills, attitude and changes in the structure of personality and activity) and functional (forms didactic principles of pedagogical impact) (Strods, 2011). Contentive criterion through the direction of education considers the needs of production, state order, cluster, interests of employers (Zeiberte, 2010), by the implementation of innovative technologies on the basis of international quality standard raising and sectoral innovations (Innovations…, 2003).

The study of the theory identified the definition of the term **contentive criterion,** *on the basis of the descriptor – content forms skills in the processes: professional preparation, raising of self-education and qualification level, assessment of competencies of future teachers of Vocational training in Clothing design. Assessment criteria indicators include: systemic orientation in all design components; knowledge of constructing mechanisms of project-oriented pedagogical process, knowledge of purposeful activity essence of project-oriented pedagogical process, knowledge of design content as a subject of pedagogical process as a subject of pedagogical process, knowledge of project-oriented pedagogical components for the formation of Professional competence; knowledge of criteria on adequate work assessment, knowledge of project–oriented pedagogical conditions* (see Table 1.2.2.2.2).

Table 1.2.2.2.2.

Contentive criterion

№	**Indicator name**
1.	*Systemic orientation in all design components*
	Awareness of general and individual tasks and aims in knowledge of design basics in discipline cycles (Training curricula) A, B, C, based on interdisciplinary and dynamic links and regularities.
2.	*Knowledge of constructing mechanisms of project-oriented pedagogical process*
	Application of acmeological, gnoseological, heuristic knowledge in the field of theoretical, project graphical, constructively technological disciplines of design Module "Clothing Design" on the basis of interdisciplinary interrelations.
3.	*Knowledge of purposeful activity essence of project-oriented pedagogical process*
	Understanding of theoretical aims in the solution of subject-oriented practical tasks, which are established in practice, in work on projects, course works, in student's practical and self-sustained work.
4.	*Knowledge of design content as a subject of pedagogical process*
	Orientation in conditions of pedagogical process structuring through the application of interdisciplinary link opportunities and universality of regularities of harmonization in design, considering that work on a project requires systematicity.
5.	*Knowledge of project-oriented pedagogical components for the Formation of Professional competence*
	Identification of specific of each discipline of Module: Color introduction identifies the knowledge on harmonization of color combinations; Project graphic forms taste, analysis, knowledge of composition and graphic; Costume design conducts practical realization of knowledge on clothing design, modelling, construction.
6.	*Knowledge of criteria on adequate work assessment*
	Is formed as a result of analysis, prediction, comparison with other models; objective and subjective assessment is formed on the basis of a broad spectrum of knowledge and development of analytical assessment apparatus of students – future teaches of Vocational training in Clothing design.
7.	*Knowledge of project-oriented pedagogical conditions*
	Knowledge application in educational training process – is formed on the basis of normative, pedagogical and professional conditions.

Therefore, contentive criterion provides an assessment of Professional competence content, which forms skills, based on: education standard, mechanisms of process, direction of education, education paradigm, sectoral innovations.

Procedural criterion assesses *attainments* in the process of professional preparation of students, identifies the results of the direction of education though training aims and tasks in activity

process (Blūma, 2008). For reasonable use and fulfilment of professional functions in activity process of a specialist, there is a necessity in the formedness of education paradigm on the basis of knowledge, skills, attitude and Professional competence, free possession, possibility of variability of its use for the realization of project solution in work process. Mechanisms of process, including normative conditions, form the process (Kokare, 2011). Procedural criterion depends on organization of training though forms of work, which define the effectiveness of work (Strode, 2010). Formedness of procedural criterion is motivated attitude of HEI graduates in the process of professional activity, ability to apply knowledge, skills, attitude and Professional competence in work process, employers satisfaction with the results of specialists' work (Felzers, 2006).

The study of the theories identified the definition: **procedural** criterion *is a formed set of attainments in the processes of: professional preparation, raising of self-education and qualification level, assessment of competencies of future teachers of Vocational training in Clothing design, on the basis of the indicators: possession of theoretical knowledge on module Costume design, possession of practical knowledge on module Costume design, skill to organize all activity types, related to Costume design, possession of analytical prognostic skills, skill to ensure project activity, possession of project-oriented pedagogical process providing technology, possession of construction of project-oriented pedagogical process* (see Table 1.2.2.2.3.).

Table 1.2.2.2.3.

Procedural criterion

№	**Indicator name**
1.	*Possession of theoretical knowledge on module Costume design*
	Includes skills to use special professional terminology on application of acquired knowledge on the basis of regularities and dynamic links in work on practical projects.
2.	*Possession of practical knowledge on module Costume design*
	Application of knowledge, skills, attitude in work on subject-oriented practical tasks of the module Costume design
3.	*Skill to organize all activity types, related to Costume design*
	Ideological conceptual ground for a project concept, selection of coloristic solutions, creative graphical delivery, project-oriented compositional solution, constructively technological delivery in material, presentation and further development of a project.
4.	*Possession of analytical prognostic skills*
	Predication and formulation of style directions, colour trends, project-oriented constructive solutions for further realization of ideas in practice.
5.	*Skill to ensure project activity*
	Application of all mechanisms of project: creation of sketches, selection of coloristic harmonies, materials, accessories, conduction of constructing technological works, modelling, project presentation and its further development.
6.	*Possession of project-oriented pedagogical process providing technology*
	Use of technological conditions, requirements, forms of work, effective modelling technologies in the project creation.
7.	*Possession of construction of project-oriented pedagogical process*
	Use of theoretical training in special terminology, knowledge of technical, compositional and graphical conditions of design model, possession of constructive competencies in the process of project creation.

Therefore, procedural criterion is defined by the process of Formation of Professional competence through attainments, acquired on the basis of: education paradigm, mechanisms of process, direction of education, organization of training.

Therefore, the study of the Criteria for the assessment of Professional competence (motivational, contentive, procedural) confirmed the existence of **resultative criterial regularity** that contributed to the identification of **Professional competence levels** of students – future teachers of Vocational training in Clothing design.

Each criterion consists of seven indicators, which provided with the opportunity to develop "*reproductive, interpretive, creative"* levels, which will be discussed below:

Reproductive level of Professional competence of students – future teachers of Vocational training in Clothing design characterizes a novice specialist, interested in profession, having professionally pedagogical basic preparation. Fragmented view of design components is characterized by the possession of general surface knowledge on design core disciplines. Knowledge on the module Costume design mainly appear in theoretical preparation. Experience of project–oriented pedagogical practical activity is expressed less, which is a result of inability to express analytical prognostic skills, ensure project activity, lead projects management, practices, practical classes, student's self-sustained work with teachers, carry out project-oriented pedagogical process providing technology and construction.

- *Motivational component* – poorly expressed interest in specialty, incomprehension of importance of profession, lack of creativity, social characteristics of a personality and adequate assessment system.
- *Contentive component* – expressed in a lack of systemic orientation in all design components, incomprehension of constructing mechanisms of project-oriented pedagogical process and purposeful activity essence of project-oriented pedagogical process; awareness of the essence of the module Costume design, expressed in fragmented components of project-oriented pedagogical formation of Professional competence, incomprehension of criteria for adequate assessment of work and project-oriented pedagogical conditions.
- *Procedural component* – expressed in partial possession of theoretical knowledge and lack of practical knowledge on Costume design, inability to organize all types of activity, related to Costume design, lack of analytical prognostic skills, inability to ensure project-oriented activity, lack of project-oriented pedagogical process providing technology and construction of project-oriented pedagogical process.

Negative characteristic of this teachers' competence level is the formation of narrow-focused, low-skilled specialists (see Table 1.2.2.2.4.).

Table 1.2.2.2.4.

Reproductive level of Professional competence of students – future teachers of Vocational training in Clothing design

№	Indicators	Description of indicators
Motivational criterion		
1.	Interest in specialty	Poorly expressed or absent
2.	Gnoseological need in raising the level of self-education, qualification	Weak motivational characteristics of a personality necessary for professional development
3.	Awareness of the importance of profession	Incomprehension of internal and external factors of Professional competence
4.	Creativity	No professional orientation or absent
5.	Social characteristics of a personality	Poorly expressed in professional activity, do not form professional development of a personality
6.	Communicativeness	Poorly oriented towards the establishment of professional connections for self-development
7.	Adequate assessment system	Poorly expresses or absent due to the lack of professional experience
Contentive criterion		
1.	Systemic orientation in all design components	Non-systematicity or its lack in orientation in all design components
2.	Knowledge of constructing mechanisms of project-oriented pedagogical process	Partial, fragmented knowledge of project-oriented pedagogical process content realization, or lack of them
3.	Knowledge of purposeful activity essence of project-oriented pedagogical process	Incomprehension of the aims due to the lack of knowledge for activity realization
4.	Knowledge of design content as a subject of pedagogical process	Incomprehension of design specificity due to the lack of professional skills
5.	Knowledge of project-oriented pedagogical components for the formation of Professional competence	Partial, fragmented knowledge of knowledge content, or lack of it.
6.	Knowledge of criteria on adequate work assessment	Absence of analytical skills due to the lack of content knowledge, which forms professional experience
7.	Knowledge of project-oriented pedagogical conditions and their use in educational and training process	Poor orientation in the content of project-oriented pedagogical conditions and inability to realize them
Procedural criterion		
1.	Possession of theoretical knowledge on Costume design	Poorly expressed attainments on theoretical knowledge, or lack of orientation in the process of Costume design
2.	Possession of practical knowledge on Costume design	Poorly expressed attainments on practical knowledge, or lack of orientation in the process of Costume design
3.	Skill to organize all activity types, related to Costume design	Inability or complete lack of activity oriented organizational attainments in Costume design
4.	Possession of analytical prognostic skills	Weak possession of analytical prognostic skills, or lack of them
5.	Skill to ensure project activity	Weak organizational activity project-oriented skills, or lack of them
6.	Possession of project-oriented pedagogical process providing technology	Poor orientation in project-oriented pedagogical process providing technology, or lack of professional attainments
7.	Possession of construction of project-oriented pedagogical process	Poor orientation in construction of project-oriented pedagogical process, or lack of professional attainments

Interpretive level of Professional competence of students – future teachers of Vocational training in Clothing design characterizes an experienced specialist, possessing general and objective theoretical knowledge, understanding and orientation in all components of design and the Module Costume design content, with expressed skills in achievement of set aims, as well as skill to provide reasoned adequate assessment, analysis, prognosis in the process of project activity, based on motivated attitude of a specialist.

- *Motivational component* – expressed in the interest in specialty, with awareness of the necessity in raising of self-education level for realization in profession, through development of creativity and social characteristics of a personality, communicativeness and assessment of personal achievements.
- *Contentive component* – expressed in orientation in design components, constructing mechanisms of project-oriented pedagogical process, awareness of activity-oriented goal's essence of project-oriented pedagogical process; the content of the Module Costume design, expressed in knowledge of design content as a subject of pedagogical process, components of project-oriented pedagogical formation of Professional competence, work assessment criteria, project-oriented pedagogical conditions and their use in educational training process.
- *Procedural component* – expressed in possession of theoretical knowledge on Costume design, orientation in practical knowledge on Costume design and in activity types, related to Costume design, with analysis and predictions of design trends, understanding of project activity, project-oriented pedagogical process providing technology, construction of project-oriented process.

Negative characteristics of the level are formed because of the lack of balance in awareness of external and internal adequate assessment of professional activity, in insufficient ability of a specialist to operate with comprehension of the process. Due to the lack of analytical comprehension and the necessity of systematization of theoretical knowledge with practical experience. Insufficient level of knowledge and subject-riented practical knowledge in the field of construction, design, modelling and clothing manufacturing technologies negatively affect Professional competence, as semi-skilled specialists are developed. However, creativity is a positive characteristic of this competence level of teachers.

The table 1.2.2.2.5. below shows the interpretive level of Professional competence of students – future teachers of Vocational training in Clothing design.

Table 1.2.2.2.5.

Interpretive level of Professional competence of students – future teachers of Vocational training in Clothing design

No.	**Indicators**	**Description of indicators**
	Motivational criterion	
1.	Interest in specialty	Expression of motivated attitude towards specialty
2.	Gnoseological need in raising the level of self-education, qualification	Motivational characteristics of a personality form professional development
3.	Awareness of the importance of profession	Understanding of internal and external factors of Professional competence
4.	Creativity	Reveals professional qualities of a specialist through knowledge, skills, attitude
5.	Social characteristics of a personality	Expressed in professional activity, form professional development of specialists personality
6.	Communicativeness	Establishment of professional connections for self-development, professional growth, qualification
7.	Adequate assessment system	Formed with professional experience on the basis of Professional competence
	Contentive criterion	
1.	Systemic orientation in all design components	Partial or complete orientation in design system and components
2.	Knowledge of constructing mechanisms of project-oriented pedagogical process	Partial or complete knowledge on the realization of the project-oriented pedagogical process content
3.	Knowledge of purposeful activity essence of project-oriented pedagogical process	Understanding of knowledge aims for activity realization
4.	Knowledge of design content as a subject of pedagogical process	Understanding of specificity of design on the basis of professional skills on Costume design
5.	Knowledge of project-oriented pedagogical components for the formation of Professional competence	Partial or complete knowledge on knowledge content on Costume design
6.	Knowledge of criteria on adequate work assessment	Possession of analytical skills based on knowledge content on Costume design, which form professional experience
7.	Knowledge of project-oriented pedagogical conditions and their use in educational and training process	Orientation in the content of project-oriented pedagogical conditions and the ability to realize them
	Procedural criterion	
1.	Possession of theoretical knowledge on Costume design	Partial or complete attainments on the theory of Costume design
2.	Possession of practical knowledge on Costume design	Partial or complete practical attainments based on knowledge of Costume design
3.	Skill to organize all activity types, related to Costume design	Possession of activity-based organizational attainments on Costume design
4.	Possession of analytical prognostic skills	Possession of resultative criterial attainments for the assessment and planning of professional activity processes
5.	Skill to ensure project activity	Possession of attainments of project, based on organization and activity
6.	Possession of project-oriented pedagogical process providing technology	Orientation in project-oriented pedagogical process of technology on the basis of professional attainments
7.	Possession of construction of project-oriented pedagogical process	Orientation in project-oriented pedagogical process of construction on the basis of professional attainments

Creative level of Professional competence of students – future teachers of Vocational training in Clothing design characterizes experts, who are ready and able to demonstrate their knowledge, skills, attitude in all types of professionally-pedagogical and practical activity in the conditions of constantly changing modern productive and educational processes.

- *Motivational component* – expressed in the interest in specialty with gnoseological need in raising the level of self-education, qualification, awareness of the importance of profession, creativity, social characteristics of a personality, communicativeness, adequate assessment system.
- *Contentive component* – expressed in knowledge of design content as a subject of pedagogical process, constructing mechanisms of project-oriented pedagogical process, purposeful activity essence of project-oriented pedagogical process; content of the module Costume design, expressed in knowledge of design content as a subject of pedagogical process, components of project-oriented pedagogical formation of Professional competence, adequate work assessment criteria, project-oriented pedagogical conditions and their use in educational training process.
- *Procedural component* – expressed in possession of theoretical knowledge on Costume design, practical knowledge on Costume design, skill to organize all activity types, related to Costume design, possession of analytical prognostic skills, skill to ensure project activity, possession of project-oriented pedagogical process providing technology, possession of construction of project-oriented pedagogical process.

The characteristics of Creative level of Professional competence of students – future teachers of Vocational training in Clothing design define "highly skilled" specialists, able to realize all types of professionally-pedagogical activity: in teaching of special theoretical and practical disciplines, supervise diploma theses, course projects, all types of practices, individual works of students with teacher, stimulate students to raise educational process effectiveness, carry out implementation of productive projects (see Table 1.2.2.2.6.).

Therefore, the study of the Criteria for the assessment (motivational, contentive, procedural) with indicators (seven indicators in each criteria) defined the descriptors (motives, content, attainments) (see subchapter 1.2.2.2.). Descriptions were provided for the identified levels of Professional competence of students – future teachers of Vocational training in Clothing design: reproductive, interpretive, creative.

Table 1.2.2.2.6.

Creative level of Professional competence of students – future teachers of Vocational training in Clothing design

No.	**Indicators**	**Description of indicators**
	Motivational criterion	
1.	Interest in specialty	Pronounced motivation, which is expressed in all types of activity, revealing personal characteristics of a specialist
2.	Gnoseological need in raising the level of self-education, qualification	Pronounced motivational characteristics of a personality, which form professional self-development of a specialist
3.	Awareness of the importance of profession	Understanding of internal and external factors of Professional competence for professional development
4.	Creativity	Pronounced motivation, which reveal professional and personal characteristics of a specialist
5.	Social characteristics of a personality	Pronounced motivation, expressed in professional development of personality of a specialist on the basis of activity types
6.	Communicativeness	Active communication, establishment of professional contacts for self-development, professional growth, qualification
7.	Adequate assessment system	Formedness of professional judgement on the basis of experience, formed by Professional competence
	Contentive criterion	
1.	Systemic orientation in all design components	Holistic orientation in all design components on the basis of systemic approach
2.	Knowledge of constructing mechanisms of project-oriented pedagogical process	Formedness of theoretical and practical organizational activity knowledge based on interdisciplinary link of project-oriented pedagogical process content
3.	Knowledge of purposeful activity essence of project-oriented pedagogical process	Formedness of knowledge of content goal about essence of project-oriented pedagogical process for realization of activity
4.	Knowledge of design content as a subject of pedagogical process	Formedness of knowledge of content goal for understanding the specificity of design on the basis of professional skills
5.	Knowledge of project-oriented pedagogical components for the formation of Professional competence	Formedness of knowledge for understanding of interdisciplinary links of content on the example of module Costume design
6.	Knowledge of criteria on adequate work assessment	Formedness of resultative criterial analytical knowledge on the basis of professional experience on Costume design, which defines knowledge content
7.	Knowledge of project-oriented pedagogical conditions and their use in educational training process	Formedness of organizational activity knowledge for their realization and orientation in the content of project-oriented pedagogical conditions
	Procedural criterion	
1.	Possession of theoretical knowledge on Costume design	Formedness of knowledge on the theory of Costume design and application of attainments of organization and activity
2.	Possession of practical knowledge on Costume design	Formedness of practical knowledge on Costume design and application of attainments of organization and activity
3.	Skill to organize all activity types, related to Costume design	Professional competence of a specialist in organizational activity attainments on Costume design
4.	Possession of analytical prognostic skills	Professional competence of a specialist in resultative criterial attainments for the assessment and planning of professional activity processes
5.	Skill to ensure project activity	Professional competence of a specialist in organizational activity project-oriented attainments
6.	Possession of project-oriented peda-gogical process providing technology	Professional competent attainments of orientation in project-oriented pedagogical process technology
7.	Possession of construction of project-oriented pedagogical process	Professional competence attainments of orientation in construction of project-oriented pedagogical process

1.2.2.3. Dynamic links of the organization of the pedagogical process of Formation the Professional competence of students – future teachers of Vocational training

The study of the theory (Danilane & Lubkina, 2007) identified the need to address *internal factors*, dependant on personal psychological characteristics – abilities of a teacher-pedagogical abilities, which represent personal characteristics of the student himself: synthesis of mind qualities, feelings and will of a personality (Kalniņa, 2010; Meyer – Stamer, 2002); value orientations and choice of profession by the student: didactic (Kokare, 2011; Mietule, 2013), academic (Harris & Sass, 2014), communicative abilities (Сластенин, Исаев & Шиянов, 2003), internal activity of a personality: pedagogical imagination and ability to distribute attention (Maslo, 2006; Кирикова, 2000), desire for self-realization in future profession (Sass, Semykina & Harris, 2014), (see Annex 1.2.2.1.1.).

On the basis of the analysis of the above mentioned theories, *internal factors* were identified:

1) personal characteristics of the student himself;
2) value orientations and choice of profession by the student;
3) internal activity of a personality;
4) desire for self-realization in future profession.

Therefore, the following definition is identified: **internal factors** *define the goals of professional preparation of specialists based on* **regularity of content goal**.

The study of the theory (Baumert & Kunter, 2013; Delamare Le Deist, 2005) allowed to identify internal factors based on the specificity of teachers profession and his assessment judgements, which identify prestige of profession (Harris & Sass, 2014; Loughran, Berry, & Mulhall, 2012). Special knowledge, skills and attitude on the subject (specialty) define organization of training methodical activity process (Altbach, 2004; Blūma, 2008), (see Annex 1.2.2.1.1.).

On the basis of the study of the above mentioned theories, the content of *external* factors was identified:

1) organization of the process of training methodical activity, on the basis of professional conditions;
2) assessment judgements, dependant on competence assessment;
3) prestige of profession, on the basis of the Criteria for the assessment of Professional competence;
4) practice, applying competence types.

The analysis of the theories provided above allowed to identify a definition: **external factors** *define the process of professional preparation of specialists based on* **regularity of content goal**.

The study of the theory (Creswell, 2003) allowed to identify that professional conditions are characterized by: self-development, livelong, variability (Sang – Duck Seo, (2009), are forming subjective personal approach and motivation of students (Baltišūte, 2006; Абишева, 2007); are dependant on systemic approach (Климов, 2010), which promote adequate assessment of Professional competence (Кожуховская, 2011), (see Annex 1.2.1.1, 1.2.1.2, 1.2.1.3, 1.2.1.4). The analysis of the theories provided above identifies that *professional conditions* depend on:

1) sectoral innovation process (Innovations…, 2003; Кожуховская, 2011);
2) progressive design (Зязюн, 2003; Леонтьев, 1982);
3) educational technologies (Navikienė, 2014; Žogla, 2001);
4) methodology of progressive design with application of competence types (Briede, 2004).
5) moral value-based attitude towards profession, on the basis of the Criteria for the assessment of Professional competence (Rudzīte & Rutka, (2016);
6) informativeness and erudition (Выготский, 1999; Леонтьев, 1982);
7) lifelong self-improvement through assessment of competencies (Blūma, 2008; Koķe 2002);
8) responsibility for the product of professional activity (Алексеева, 2005).

As a result, a definition was identified: **professional conditions** *form competences of a specialist on the basis of professional knowledge, skills, attitude for educational and productive processes of professional preparation, dependant on* **regularity of content goal**.

Pedagogical process in the Republic of Kazakhstan is structured by the requirements of the State Compulsory Educational Standard (ГОСО, 2008; 2011), (see Annex 1.2.2.1.1, 1.2.2.1.2.), which defines educational programmes on the basis of *pedagogical conditions*, dependant on:

– *vertically:* the Ministry of Education and Science of the Republic of Kazakhstan, regional education administrations, the Republican training methodical council (RTMC RK) in the leading HEIs of the republic; Training methodical union (TMU) on the basis of each HEI; Academic/ Scientific councils; Scientifically practical centres and institutions;
– *horizontally:* institutions of Technical and Professional Education (TPE), HEIs of relevant profiles, centres for training and raising of qualification of specialists.

The analysis of the documents and theories listed above allowed to propose a definition: **pedagogical conditions** form the content of professional preparation of specialists based on **regularity of content goal**.

The study of pedagogical conditions identified pedagogical interaction with normative conditions, based on common systemic normative education documents for training of specialists in

all Kazakhstan, which form pedagogical process. The study of the approaches in training (see Annex 1.2.2.1.1, 1.2.2.1.2, 1.2.2.1.3, 1.2.2.1.4.) identified the principles and their characteristics and application in the Formation of descriptors and the Criteria for the assessment of Professional competence, normative conditions, which will be addressed below. Normative education documents of foreign HEIs and of Kazakhstan on professional preparation of baccalaureate in Education and Pedagogy are also examined in the research (see Annex 1.2.2.2.2.).

Normative conditions in Kazakhstan are based on the education documents:

The State Compulsory Educational Standard of Higher Professional Education in specialty (SCES RK) (see Annex 1.2.2.1.1, 1.2.2.1.2, 1.2.2.2.2)*:*

1) The State Compulsory Educational Standard of the Republic of Kazakhstan (SCES RK).
2) Typical curricula for baccalaureate in specialties (TC).
3) Typical training programmes for baccalaureate for specialties (TTP).
4) Working curriculum of the specialty (WC).
5) Working training programmes for baccalaureate in specialties (WTP).

The study of the normative education documents allowed to identify a definition: **normative conditions** *regulate the content of professional preparation of specialists for educational and productive processes based on* **regularity of content goal**.

The study of competence types identified activity types (see Annex 1.2.1.1, 1.2.1.2, 1.2.1.3, 1.2.1.4) of students – future teachers of Vocational training (Čehlova, 2002; Mahoney, Cairos & Farwer 2003), which characterize practical significance of the research:

– *training methodical activity* includes development, arrangement, planning, reformation, confirmation, preparation for issuing, integration of education documentation in educational institution and for training methodical support, improvement of pedagogical mastery, preparation and conduction of practices;

– *pedagogical activity* carries out training regularities based on scientific and practical activity of a teachers (Indrašienė & Sadauskas, 2016; Latkovska, 2015);

– *educational activity* is directed towards the creation of conditions by a teacher for the development and further self-development of future specialists (Jarvis, 2004; Katane, Katans & Īriste, 2016);

– *cognitive activity* is directed towards the acquirement and development of knowledge, is dependent on unity of sensory perception, theoretical thinking and practical activity (Loughran, 2002; O'Brien & Sarkis, 2014);

– *practical activity* is dependent on the consequent organization of technological cycles, related to organization of production (Zhanguzhinova, Magauova & Nauryzbaeva, 2016);

– *project activity* is dependent on cognitive activity and is related to scientific categories "project", "activity", "creativity" (O'Brien & Sarkis, 2014);
– *intellectually-analytical activity* is conducted based on the laws of dialectics, formal logic, applying general scientific research methods for project assessment and decision-making (Agresti, *2010;* Garet, Porter, Desimone, Birman & Yoon, 2001);
– *organizationally-methodical activity* is planed cognitive activity of teachers and HEI staff, directed towards the acquirement and improvement of existent, as well as development and integration of topical methodical aspects, principles, forms and methods of effective organization of teaching process (Adam, 2008; Špona, 2006; Pedagogisko…, 2016);
– *prognostic activity* depends on project-oriented and intellectually-analytical activity types for planning and prediction of possible study processes (Ahrens, Purvinis, Zaščerinska & Andreeva, 2016; Dlouh & Burandt, 2015);
– *research activity* is directed towards acquirement and application of new knowledge, using cognitive and creative types of activity (Hanson & Grimmer, 2007; Irbīte & Strode, 2016);
– *creative activity* is the formation of cultural values and their interpretation (Андреев, 2006; Дружилов, 2001; Федеральный…, 2009).

Therefore, **activity types** *are based on competence types and identify practical significance of training of specialists on the basis of the Criteria for the assessment of Professional competence.*

On the basis of the conducted study and analysis of the theory (Aizsila, 2009; Dlouh & Burandt, 2015; Tauriľa, 2012; Zeiberte, 2010), it was identified that the **organization of the process of Formation of Professional competence** *solves systematic issues of pedagogical process based on the requirements, education trajectory, forms of work, identify* **resultative criterial regularity**.

The study of the theory (Андреев, 2006; Гольдберг, 2006) and the normative education documents (SCES RK, TC, TTP, WC, WTP) identified the *requirements* (see Annex 1.2.2.1.1, 1.2.2.1.2, 1.2.2.1.3, 1.2.2.1.4), which are dependent on the organization of the process of Formation of Professional competence based on:

1. *systematicity of stages* of the Formation of Professional competence: professional preparation, raising of self-education and qualification level, assessment of competencies, dependant on **regularity of content goal;**
2. *interrelations of training stages* ,dependant on interaction of students, teachers, employers on the basis of **activity-oriented organizational regularity**;
3. *different types of training activity* (theoretical and practical training), which are defining pedagogical process, practice and interrelation with employers and forming on the basis of

resultative criterial regularity and the State Compulsory Educational Standard of the Republic of Kazakhstan, *based on* **activity-oriented organizational regularity** *for the organization of types of professionally-pedagogical and practical activity of the process of Formation of Professional competence.*

The study of the theories (Daniela, Lūka, Rutka & Žogla, 2014; Halbe, Adamowski & Pahl–Wostl, 2015; Pedagogisko…, 2016) and normative documents (ГОСО…, 2006, 2008, 2011, 2012; РУП…, 2014, 2015; ТУПр, 2012, 2014; ТУПл 2014;) allowed to identify that the *organization of the process of Formation of Professional competence* of students – future teachers of Vocational training identified the education *trajectory* in HEI. The study of normative documents on credit–module technology, in accordance with Bologna system (Болонский…, 2009; Глоссарий…, 1999; Присоединение…, 2010), identified that the sequence of training activity elements for realization of education aims depends on the Criteria for the assessment of Professional competence. Obin (2003), Reichert & Tauch (2003) define *trajectory* as a system of reasonable techniques of pedagogical impact on students for realization of personal potential in chosen direction. The subject of training trajectory shaping is pedagogical process (Щербакова, 2003), which depends on the Model, based on methodic and educational programmes/modules, which guarantee achievement of the set result (Bankauskienė & Masaitytė, 2016; Maslo, 2006; Špona, 2006).

Therefore, **training trajectory** *orients education process towards the Formation of Professional competence based on* **activity-oriented organizational regularity.**

The process of interaction of competence types (Key competences …, 2010; Kennedy & Choi, 2008; Rauhvargers, 2003, 2009; 21th century…, 2016) and approaches in training (Kokare, 2011) with an aim to realize Professional competence (Delamare Le Deist, 2005), based on the requirements for training of specialists (Zeiberte, 2010; Алексеева, 2005; Аминов, 2004).

Organization of the process of Formation of Professional competence includes *forms of work*, based on:

1) Education aims, based on the strategy of pedagogical process (see subchapter 1.1.).
2) Establishment of optimal conditions for professional preparation of specialists, according to the requirements of Bologna process on credit-module technology of training (see subchapter 1.1.).
3) Consideration of conditions of practical activity types (see subchapter 1.1., 1.2.1.).
4) Implementation of didactic principles of activity-oriented, personal-oriented, competence-oriented, modular approaches (see subchapter 1.2.2.1.).

5) Provision of motives, content, attitude (see subchapter 1.1.) on the basis of compliance with the Criteria for the assessment: motivational, contentive, procedural (see subchapter 1.2.2.), defining the results of training by pedagogical diagnostics.
6) Consideration of interests and ensuring preparedness of pedagogical interaction of students, teachers, employers in the process of Formation of Professional competence (see subchapter 1.1.).

The analysis of the theories provided above allowed to identify that **dynamic links** *form interrelation of content goal, activity-oriented organizational, resultative criterial regularities (see subchapter 1.1.) and fulfil functional, integrative, didactic, interdisciplinary tasks on the Formation of Professional competence.*

On the basis of the theoretical analysis and the definition of the terms, the structure of dynamic links of the Formation of Professional competence of students – future teachers of Vocational training, including in Clothing design, was identified and is provided below (see Figure 1.2.2.3.1.).

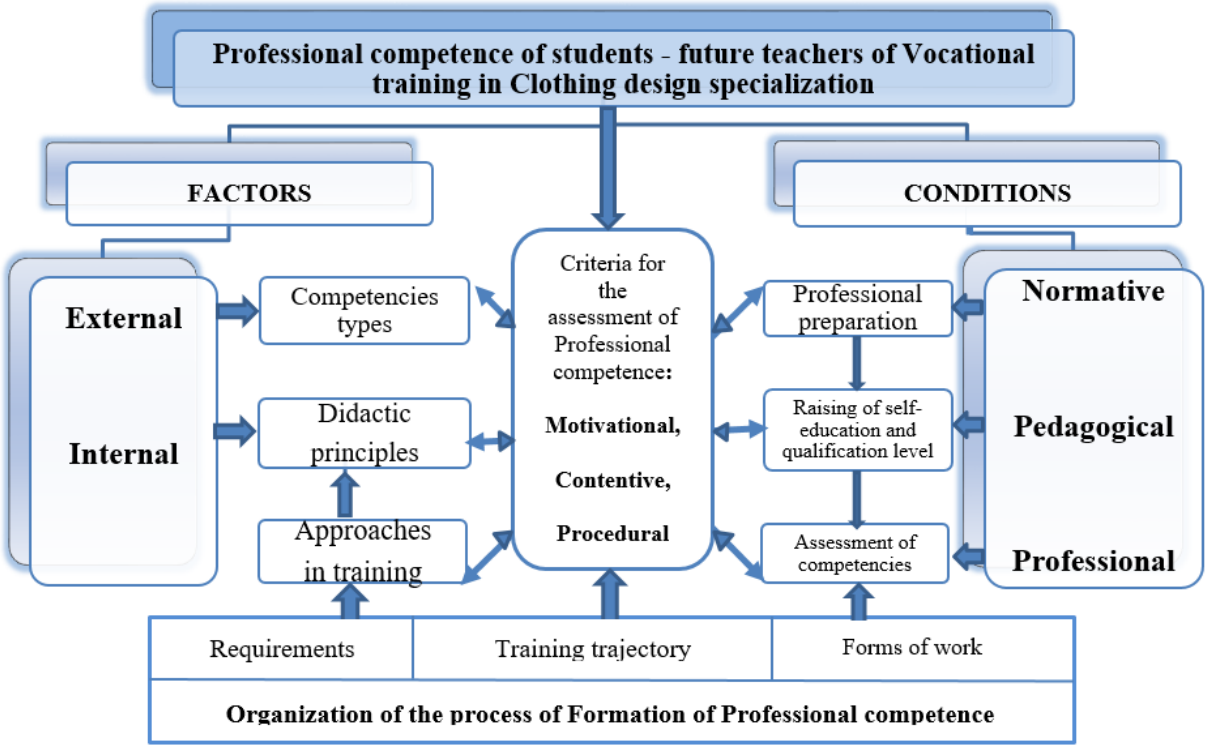

Figure 1.2.2.3.1. **The structure of dynamic links of the Formation of Professional competence of students – future teachers of Vocational training, including in Clothing design** (Zhanguzhinova, 2017)

The research of the structure of dynamic links of the Formation of Professional competence of students – future teachers of Vocational training, including in Clothing design, identified the need of their detailed theoretical justification, which will be presented below.

The external factors, which define competence types, necessary for the development of the Criteria for the assessment of Professional competence, which facilitate the assessment of competencies on the basis of the improvement of professional conditions, what determine the dynamic link "sectoral innovations" in education.

Formation of motives, content, attainments of Professional competence of students depend on internal factors on the basis of didactic principles and the Criteria for the assessment of Professional competence, which facilitate the raising of self-education and qualification level on the basis of pedagogical conditions of the dynamic link "education standard", which forms the content of professional preparation of specialists in higher educational institutions of the Republic of Kazakhstan.

Educational policy of higher educational institutions defines approaches in training on the basis of the Criteria for the assessment of Professional competence, which contribute to the professional preparation of specialists, which is regulated by the normative conditions of the dynamic link "education paradigm".

The organization of the process of Formation process of Professional competence forms the requirements, which regulate the approaches in training with didactic principles, this revial the dynamic link "mechanisms of pedagogical process".

Organization of the process of Formation of Professional competence defines the dynamic link "direction of education" on the basis of the training trajectory and the Criteria for the assessment that facilitates the identification of Professional competence of students – future teachers of Vocational training in Clothing design.

Organization of the process of Formation of Professional competence depends on the forms of work for the stages: professional preparation, assessment of competencies and raising of self-education qualification level and that indicates the systematicity of the dynamic link "organization of training".

In the annex 1.2.2.2.7. the dynamic links of the Formation of Professional competence of students – future teachers of Vocational training are presented below on the basis of fig. 1.2.2.3.1.

In the table 1.2.2.3.1. the Criteria for assessing the Professional competence of students – future teachers of Vocational training in the specialization of Clothing design and dynamic links are presented below.

Table 1.2.2.3.1.

Criteria for the assessment of Professional competence of students – future teachers of Vocational training in Clothing design and dynamic links (Zhanguzhinova, 2017)

Criterion name		**Motivational**	*Dynamic links*	**Contentive**	*Dynamic links*	**Procedural**	*Dynamic links*
Descriptors	*No.*	*"motives"*		*"content"*		*"attainments"*	
Indicators of the Criteria for the assessment of students – future teachers of Vocational training in Clothing design	**1.**	Interest in specialty	direction of education	Systemic orientation in all design components	education standard	Possession of theoretical knowledge on Costume design	education paradigm
	2.	Gnoseological need in raising the level of self-education, qualification	education standard	Knowledge of constructing mechanisms of project-oriented pedagogical process	mechanisms of process	Possession of practical knowledge on Costume design	mechanisms of process
	3.	Awareness of the importance of profes-sion	sectoral innovations	Knowledge of purposeful activity essence of project-oriented pedagogical process	direction of education	Skill to organize all activity types, related to Costume design	direction of education
	4.	Creativity	sectoral innovations	Knowledge of design content as a subject of pedagogical process	education standard	Possession of analytical prognostic skills	organization of training
	5.	Social characteristics of a personality	education paradigm	Knowledge of project-oriented pedagogical compo-nents for the formation of Professional competence	mechanisms of process	Skill to ensure project activity	organization of training
	6.	Communicativeness	education paradigm	Knowledge of criteria on adequate work assessment	education paradigm	Possession of project-oriented pedagogical process providing technology	mechanisms of process
	7.	Adequate assessment system	organizatio n of training	Knowledge of project-oriented pedagogical conditions and their use in educational training process	sectoral innovations	Possession of construction of project-oriented pedagogical process	mechanisms of process

As a result of the analysis provided above, it is identified that:

1. *External factors affect competence types based on the assessment of competencies, dependant on professional conditions that identifies dynamic link* **No.1 – sectoral innovations.**
2. *Internal factors promote the formation of didactic principles, which effectively affect raising of self-education and qualification level based on pedagogical conditions that identified dynamic link* **No. 2 – education standard.**
3. *Approaches in education promote formation of professional preparation, which depends on normative conditions that identified dynamic link* **No. 3 – education paradigm.**
4. *Organization of the process of Formation of Professional competence includes the requirements, according to which, the approaches in training and didactic principles are formed, that is a base for dynamic link* **No. 4 – mechanisms of process.**
5. *Organization of the process of Formation of Professional competence identifies training trajectory, which depends on Professional competence of students – future teachers of Vocational training in Clothing design that identified dynamic link* **No. 5 – direction of education.**
6. *Organization of the process of Formation of Professional competence includes forms of work, professional preparation, assessment of competencies and raising of self-education and qualification level based on* **resultative criterial regularity** *that defined dynamic link* **No. 6 – organization of training.**

The study identified that regularities and dynamic links carry out **pedagogical interaction**, *which solves integrative issues and functions between regularities and dynamic links of the Formation of Professional competence for the organization of pedagogical process (see Figure 1.2.2.3.2.).*

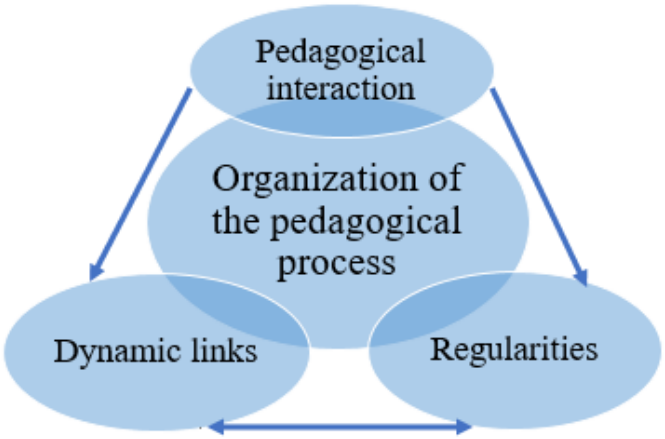

Figure 1.2.2.3.2. **Pedagogical interaction**

The study identified that *pedagogical interaction:*

1. *Is realized in pedagogical process* (based on educational and productive processes, see subchapter 1.) *between employers, teachers and students through external and internal factors, defining professional preparation, raising of self-education and qualification level, assessment of competence and implements activity-oriented organizational regularity* of the research.
2. *Exists between teachers and students in pedagogical process through approaches in training, didactic principles, types of competence based on regularities, normative, pedagogical, professional condition and through dynamic links.* That identified the need in further study of pedagogical interaction of employers with students and teachers in the achievement of sectoral /state order aims on the Formation of Professional competence of specialists in the process of professional preparation of students in HEI.
3. *Realizes the stages of the Formation of Professional competence of students – future teachers of Vocational training (professional preparation, raising of self-education and qualification level, assessment of competencies) through the organization of process of Formation of Professional competence of employers with students and teachers in pedagogical process in HEI.*

Therefore, the study identified:

1) the Criteria for the assessment of Professional competence of students – future teachers of Vocational training in Clothing design:
   - *motivational criterion,* with the descriptor – *motives;*
   - *contentive criterion,* with the descriptor – *content;*
   - *procedural criterion,* with the descriptor – *attainments.*
2) *The levels of Professional competence* of students – future teachers of Vocational training in Clothing design (reproductive, interpretive, creative) with description for seven indicators in each criterion.
3) Six *dynamic links*: sectoral innovations, education standard, education paradigm, mechanisms of process, direction of education, organization of training.
4) *Pedagogical interaction* realizes through dynamic links of international experience of the Formation of Professional competence on the basis of the identified regularities (content goal, activity-oriented organizational, resultative criterial) of the *organization of pedagogical process* in Kazakhstan.

Revealed scientific and theoretical foundations of the Formation of Professional competence of students of future – teachers of Vocational training are the basis for the organization of pedagogical process and designing a Model of Formation Professional competence.

2. Design of Model of Formation of Professional competence of students – future teachers of Vocational training (based on the training of teachers in Clothing design)

2.1. Organization of the pedagogical process and the Model of Formation of Professional competence

The study of regularities and dynamic links, pedagogical interaction (see subchapter 1.1, 1.2.1, 1.2.2) identified the need in scientifically-theoretical research of pedagogical process organization stages of the Formation of Professional competence, which is dependent on *internationalization of higher education* (Blūma, 2008; Curzon, 2008; Daniela, Lūka, Rutka & Žogla, 2014; Pahl – Wostl, 2015; Rauhvargers, 2003, 2009; Teaching…, 2010), based on the study of international and Kazakhstan's experience.

The study of internationalization processes in higher education systems of foreign HEIs *(USA, Great Britain, Germany, France, Denmark, Portugal, Switzerland, the Netherlands, Latvia, Spain, Finland, Belgium, Norway, Kazakhstan, Russia, Kyrgyzstan*) identified the following advantages: pooling of education systems' resources, avoidance of duplication and unnecessary copying of scientific research thematics; identification of educational projects, which made it opportunity to identify the goals of the internationalization of education for the higher education system in Kazakhstan.

The conducted study showed that implementation of goals may positively affect into the internationalization of higher education in organization of pedagogical process in HEI of Kazakhstan, as it promotes effective work in changing conditions of global market, namely:

- identifies the need to reconsider education paradigms, content of training programmes, modules, orienting towards global thinking and vision;
- forms Professional competence in organization of training for competitiveness at the global labour market, as it suggests international context and content of studied disciplines at all levels of higher education;
- stimulates acquisition of the best foreign standards and directions of education, mechanisms of process in training of specialists, integration of sectoral innovations.

The research (Epro, 2015; Innovations…, 2003; Zhanguzhinova, Magauova, et. al., 2014; Сутырин, 2003) served as a base for the comparison of international and Kazakhstan's experience in the Formation of Professional competence and identified three stages of Professional competence formation:

1) *professional preparation* – depends on: regularity of content goal, which define functional responsibilities of future specialists, on the basis of content and methods; existence of a uniform electronic base on ratings and data base; professional orientation; competitive examination; professional qualification level listing (Baumert & Kunter, 2013; Blank & Alas, 2008).
2) *raising of self-education and qualification level* – depends on: activity-oriented organizational regularity, which defined the aims of knowledge fulfilment; improvement of methodical skills or implementation of requirements, related to work position improvement; helps future specialists to purposefully gain experience and simultaneously study in a chosen specialty; develops abilities of adaptation to circumstances; acquired level of professional qualification provides opportunity for employability (Aizsila, 2009; Tatarinceva & Gode, 2016; Zeiberte, 2010).
3) *assessment of competencies* – depends on resultative criterial regularity, which is based on clear description of official functional responsibilities and positions, knowledge control procedures (Aizsila, 2009; Andersone, 2009; Kompetenzentwickluns, 2000; Ксендзова, 2001).

Therefore, three stages of the Formation of Professional competence are identified, which ensure pedagogical interaction of employers with students and teachers through realization the competence types, didactic principles, training approaches.

As a result of the study of international experience in the Formation of Professional competence of students – future teachers, two directions in professional education in specialists' trainings are identified: *methodic-based* and *system-based* (see Figure 2.1.1. and annex 2.1.1.):

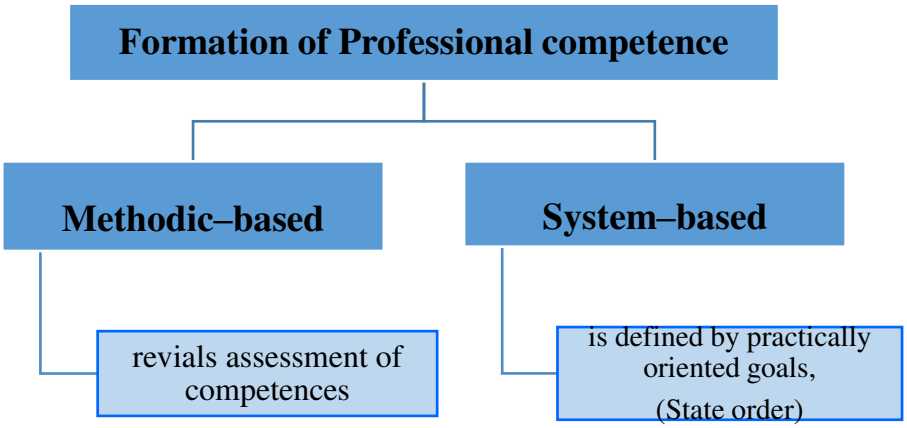

Figure 2.1.1. **Two directions of Formation of Professional competence**

Methodic-based Formation of Professional competence is dependent on variability of dynamic links and autonomy of pedagogical process: in analysis, proposal of authorial theories with implementation of innovative training methods. In the works of the European scientists (Bankauskienė & Masaitytė, 2016; Blank & Alas, 2008; Cohen, Manion & Morrison, 2007; Dzerviniks, 2016; Halbe, Adamowski, Pahl – Wostl, 2015; Innovations…, 2003; Raven, 1984; Russell, 1974; Rauhvargers, 2003, 2009), competence is perceived as a dependant unit for methodic implementation (see Annex 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6, 2.1.7).

Simultaneously, *system-based* Formation of Professional competence is characterized by the priority of normative education documents, uniform for all the country. A distinctive feature of Kazakhstan's direction in the organization process of the Formation of Professional competence is systematicity of holistic pedagogical process, dependant on external factors: organization of all activity types in pedagogical process on the basis of education policy in the country; common requirements, based on the aim of the state order implementation on the training of specialists for different branches of science and production on the basis of normative documents: The State Compulsory Educational Standard (SCES), Typical training programmes (TTP), Typical curricula for baccalaureate in specialties (TC); uniform training trajectory (Magauova, Zhanguzhinova, et. al., 2014; Абдулкеримов, 2011; Ахметова, 2007; Байденко, 2005; Гарафутдинова, 2011; Гуров, 2012; Мухаметкалиев, 2011; Омирбаев, 2013, 2014; Татур, 2004; Уматалиева, 2012; Хмель, 1998), (see Annex 2.1.8., 2.1.9., 2.1.10., 2.1.11., 2.1.12., 2.1.13.).

Therefore, according to the analysis of the theory (Baumert & Kunter, 2013; Bērtaitis, Briede & Pēks, 2011; Delamare Le Deist, 2005; Indrašienė & Sadauskas, 2016; Ахметова, 2007; Максимов, 2007) on the problems of Professional competence formation in modern education systems (Kennedy & Choi, 2008; Rauhvargers, 2003, 2009; Tauriľa, 2012; Strods, 2011; Zeiberte, 2010; Алексеева, 2005; Аминов, 2004), a topical problem for Kazakhstan appeared to be the change of education paradigm (Adubra, 2014; Ahrens, Purvinis, Zaščerinska & Andreeva, 2016; Zhanguzhinova, 2015) and directions in the professional preparation of specialists (Smékalová, 2015; Байденко, 2002, 2005; Боровских, Розов, 2010), as well as unification of higher educational institutions requirements (Epro, 2015; Zhanguzhinova, Magauova, Nauryzbaeva, 2016; Байденко, 2005; Галямина, 2005; Спицнадель, 2000; Хуторской, Краевский, 2003). This allowed us to identify the main characteristics of the two above-mentioned areas (see Annex 2.1.1.) and carry out a SWOT analysis of the two directions of Formation the Professional competence of students – future teachers to identify strengths, weaknesses, opportunities and threats (see Table 2.1.1.).

Table 2.1.1.

SWOT analysis of two direction of the Formation of Professional competence of students – future teachers

Strengths	**Weaknesses**
Methodic-based Formation of Professional competence: is based on behavioural approach in pedagogical process with an aim to diagnose students' individual problems, reveal the opportunities of free choice to select educational institution, programmes and training trajectories, for concentration on functional approach, as well as material stimulation by grant system, licensing and certification.	*Methodic-based Formation of Professional competence:* the process of Formation of Professional competence has a narrow-profile direction, which is compensated by continuous lifelong education, requiring time for training of specialists, but does not consider different aspects: psychological and age–preparedness, as well as the level of Professional competence of future specialists.
System-based Formation of Professional competence: has significant advantages: integrality of competence assessment structure, based on the state standard, national qualification framework, qualification requirements; professional preparation and qualification raising, as all the stages of Professional competence formation of future teachers are oriented towards the fulfilment of state order, which covers the expenses for the training of specialists and attracts more applicants.	*System-based Formation of Professional competence:* has complex requirement system based on pedagogical education Model, as well as low motivation of the client (state) for future specialists in further labour activity.
Opportunities	**Threats**
Methodic-based Formation of Professional competence: provides opportunities for methodical work, promotes identification and development of general, objective and methodical competences; stimulates development of modules, based on individual personal approach; forms conditions for more experts of competence assessment, on different levels of Professional competence; oriented towards practical activity, dependant on narrow–subject solution Professional competence tasks; stimulates self-development of future specialists in conditions of professional preparation variability.	*Methodic-based formation of Professional competence:* orientation towards professional preparation of specialists for narrow-subject field and the lack of national standards are not compensated by a wide scope of various systems on Professional competence improvement, but made narrow the scope of further professional activity of future specialists. Lack of coordination of professional preparation and competence assessment systems negatively affect integration processes in education.
System-based formation of Professional competence: obtained holistic structure, more characteristic of preferential majority of the studied countries, where knowledge, skills, attitude together with behavioural motivational aspects became constituent elements of general cluster structure of competence. Over time, systemic approach in interpretation and assessment of competencies becomes more common, as it ensures increase of opportunities for synchronization of educational process with social and labour market demands, interest of branches of science and economics.	*System-based formation of Professional competence:* organization of the process of Formation of Professional competence has no flexible system of requirements, principles and technologies, often without considering forms of work and realization of labour activity. Non-coordinated training programmes and modules, as well as different levels of international standards of Professional competence, negatively affect integration processes in education.

SWOT analysis showed that both direction of the Formation of Professional competence, methodic-based and system-based have cyclicity and integration of processes.

Therefore, according to SWOT analysis, the conclusions for Kazakhstan are the following:

1. Necessity of pedagogical interaction of best European experience of the Formation of Professional competence in implementation of innovative processes in education, determined by Bologna declaration, such as:
   – strengthening of international competitiveness in higher education and research;
   – active participation in the integration of European higher education;
   – raising the quality of education and research through the participation of students and teachers in the international process of knowledge sharing;
   – diversification of the directions of supply of educational services;
   – accessibility of higher education; universalization knowledge;
   – the expansion of curricula and training of students in foreign partner universities;
   – trans-boundary education.
2. Development of flexible system of requirements, training trajectory, forms of work for implementation of institutional reforms in higher educational institutions of the Republic of Kazakhstan on the basis of dynamic links.
3. Increased opportunities of Modular training with application of innovative methodic for professional realization of competent specialists in further labour activity on the basis of dynamic links.
4. Development of the assessment Criteria of the Formation of Professional competence.

Since the author of this dissertation is a grant-holder of Latvia, scientifically-theoretical bases of the experience of the Formation of Professional competence of teachers in Latvia are of interest for research and have strategic perspective importance in the study of the European education system for the education system in Kazakhstan. The conducted study allowed to form comparative analysis of the organization of pedagogical process of the Formation of Professional competence of Kazakhstan and Latvia (see Table 2.1.2.).

Table 2.1.2.

Comparative analysis of the organization of pedagogical process of the Formation of Professional competence of Kazakhstan and Latvia

Organization of pedagogical process	Difference in the organization of pedagogical process of the Formation of Professional competence	
	Kazakhstan	**Latvia**
Training trajectory	Systemic approach, within the framework of social humanitarian education, with scientifically-theoretical direction of training	Field preparation of specialists with differentiation for science (academic) and production (professional).
Higher education models	Higher and postgraduate education.	Academic and vocational education.
Notions of the system of higher education	Three-stage education system, including higher education – baccalaureate, post-graduate education, including scientifically-pedagogical directions of preparation – masters and doctoral degree.	Four-stage system, differentiated into scientific and professional preparation of specialists, including – first level of higher education (college), baccalaureate, masters and doctoral degree.
Content of educational programmes	Centralized nature and broad spectrum of normative regulatory documents.	Independent focus of HEIs and flexibility in planning of content and education.
Levels of Secondary and higher education	Differentiation of institution types, based on classification and distribution of education levels, in accordance with centralized normative regulatory documents.	Differentiation into two training trajectories – academic and professional, according to the levels of preparation.
Educational training programmes	Centralized systemic construction of training process throughout the republic, according to a uniform documentation of training programmes, broad spectrum of application of optional disciplines. Great number of disciplines of social humanitarian areas.	Variability of educational programmes for different training levels, flexibility of educational trajectory planning.
Analysis of differences in training duration	Due to a great amount of social humanitarian disciplines and mainly scientifically-theoretical direction of training, the duration of training is longer, up to 5 years in baccalaureate.	Due to differentiation into academic and vocational education, the content of scientifically-theoretical disciplines reduced the duration of training in vocational education.

Comparative analysis of the organization of pedagogical process of the Formation of Professional competence in Kazakhstan and Latvia identified that both structures are based on the requirements of Bologna system (Epro, 2015; European…, 2005; Rauhvargers, 2003, 2009; Байденко, 2002; Болонский…, 2009; Глоссарий…, 1999; Мухаметкалиев, 2011; Присоединение…, 2010). Exception is the terminology and specificity of education systems, and the main difference in the Models of higher education:

- Kazakhstan's model consists of "basic higher education (scientifically–pedagogical (baccalaureate) and special (specialist) and postgraduate education (masters and doctoral studies)" (see Annex 2.1.14.), (Государственная…, 2010, 2016; Государственный…, 2006, 2007, 2008, 2011, 2012, 2014; Закон…, 2007; Типовой…, 2014);
- Latvian Model consists of "academic" (baccalaureate, masters and doctoral degree) and "vocational education", where qualifications are awarded (see Figure 2.1.3.), (Izglitibas…, 2016; Key competences…, 2010; Latvijas vestnesis, 2010, 2015, 2016; Metodiskie…, 2015; Teaching…, 2010; Tuning…, 2000; Закон…, 1991, 1999; Система…, 2015), (see Annex 2.1.14.).

Thus, on the base of the study of international experience of the organization of the pedagogical process of the Formation of Professional competence, the conclusion for the Kazakhstani education system is the need to orient the specialists on profile self-sustained trajectories of training in the conditions of autonomy of HEI (see Annex 2.1.3.).

In the dissertation research, the training of specialists for educational and production processes was examined using the example of two specialties – Design and Education, which are implemented in Kazakhstan and Latvia.

During the analysis of the schemes of preparation of specialists in Kazakhstan and Latvia on the example of the specialties "Design" and "Education", dependant on different Models of education and the definition of specializations, which affects the trajectory of education:

1) Bachelors of Arts in Design specialty in both countries acquire specialization Clothing Design;
2) Bachelors of Education in Kazakhstan are trained in the specialty "Vocational Training" by specialization as a "teacher of design", in Latvia for specialization as a teacher of design for the qualification "Teacher of Economics with the Basics of Business and Economics".

The study identified both the significant differences regarding the organization of the pedagogical processes and the similarity of results of the Formation of Professional competence, therefore, SWOT analysis was conducted on the basis of the specialties Design and Education in Kazakhstan and Latvia (see Table 2.1.3.).

Table 2.1.3.

SWOT analysis of the organization of the pedagogical processes of Formation of Professional competence on the basis of bachelor students' preparation in specialties Design and Education in Kazakhstan and Latvia

Strengths	**Weaknesses**
Kazakhstan – the Formation of Professional competence, based on uniform requirements of normative documents (SCES, TTP, TS), criteria, training methodical support, assessment of training results. *Design* – systemic Formation of Professional competence is dependent on the prevalence of credit amount in curriculum in cycle B on Basic (129 ECTS) and Profiling (13 ECTS) disciplines, based on TTP, as well as optional disciplines (13 ECTS), which allow to apply methods, topics, modules, variably. *Education* – in cycle C, optional discipline (45 ECTS) allows a student to select training trajectory by himself.	*Kazakhstan* – social humanitarian training trajectory undermines subject-oriented practical side of the Formation of Professional competence, dependant on duration of training. *Design* – small amount of credits for practices (19 ECTS for 5 years of training) in the specialty Design prevents the Formation of Professional competence to establish subject-oriented practical knowledge, skills, attitude. *Education* – small amount of credits for practice (10 ECTS) prevents the Formation of Professional competence to establish subject-oriented practical knowledge, skills, attitude.
Latvia – profile orientation in the Formation of Professional competence, differentiation of training system into academic and vocational education. *Design* – the Formation of Professional competence is oriented towards great student's autonomy, based on a large amount of credits for extracurricular classes in practice (39 ECTS) and qualification work (18 ECTS). *Education* – in curriculum in cycle B, training courses by profile (54 ECTS) and courses on profession (90 ECTS) promote the Formation of Professional competence in all types of knowledge, skills, attitude; with the right to teach.	*Latvia* – the Formation of Professional competence in each HEI is carried out autonomously, with differences in training trajectory, training programmes, formulation of specialty on profiles. *Design* – the Formation of Professional competence creates a narrow framework for acquirement of subject–oriented knowledge, skills, attitude due to a small amount of credits in curriculum in the cycle B in training courses by profile (54 ECTS) and in cycle C in optional disciplines (9 ECTS) without pedagogical education. *Education* – optional disciplines in curriculum in cycle C (9 ECTS) provide less opportunity for students' independent choice of training trajectory.
Opportunities	**Threats**
Kazakhstan – enhancing diversification of the Formation of Professional competence on the basis of Bologna declaration. *Design* – in curriculum in cycle B, in basic disciplines (BD) (129 ECTS) promotes course design with interdisciplinarity of tasks, versatile Formation of Professional competence. *Education* – in curriculum in cycle B and C, major disciplines (MD) are systematizes by TTP (BD – basic and PD – profiling); optional discipline (OD) allows students to choose training direction by theyself.	*Kazakhstan* – insufficient integration activity due to incompleteness of educational programmes for international cooperation. *Design* – large amount of credits in curriculum in B cycle, but in general disciplines (53 ECTS) functions of subject–oriented knowledge, skills, attitude are not fulfilled. *Education* – large amount of credits in curriculum in B cycle, but in general educational disciplines (53 ECTS) functions of subject-oriented knowledge, skills, attitude are not fulfilled.
Latvia – variability of educational programmes, flexibility of training trajectory and content planning for the profile needs for the Formation of Professional competence. *Design* – large amount of credits in profession disciplines (90 ECTS) and smaller amount of credits in social humanitarian disciplines (39 ECTS) form professional direction of preparation and profile Formation of Professional competence of designers. *Education* – large amount of credits for practices (39 ECTS), as well as for qualification work (18 ECTS), allows self-sustained work of a student and profile Formation of Professional competence for work in educational system.	*Latvia* – lack of coordination of specialization specification and training programmes place barriers for international academic mobility. *Design* – small amount of credits in curriculum in cycle C for optional disciplines (9 ECTS) provides with less opportunity for students' self-sustained choice of preparation direction. *Education* – small amount of credits for the Formation of Professional competence in curriculum in cycle C for optional disciplines (9 ECTS) creates fewer opportunities for students' self-sustained choice of preparation direction.

The results of the SWOT analysis on the organization of the pedagogical process for bachelors on the example of the specialties Design and Education in Kazakhstan and Latvia revealed the difference in the distribution of credits by cycles, practices, qualification work, due to different training technologies based on different Models of education. Educational programmes and modules do not have sufficient conditions (normative, pedagogical, professional) for the opportunity of implementation in Kazakhstan in the framework of academic mobility. The discrepancies in the formulation of Professional competence, knowledge, skills, attitudes in the qualifications requirements of Kazakhstan are due to the discrepancy between the international framework of qualifications, which made it possible to draw a conclusion for the effectiveness of institutional education reforms in Kazakhstan on the basis of the Bologna Declaration:

1) Development of the Model of Formation the Professional competence of students – future teachers of Vocational Training.
2) Creation of the flexible conditions on the basis of modernization of regularity of content goal and dynamic links of the Formation of Professional competence in HEI for international academic mobility and education content planning for the profile needs for enhancing integration activity in international cooperation, which are the basis in the preparation of specialists in HEI.
3) Necessity of development of the Methodic for implementation the Model for expand the scope for subject–oriented knowledge, skills, attitude acquirement and subject-oriented practical and profiling direction of preparation of students' opportunity to choose training trajectory, what helps for formation of activity-oriented organizational regularity on the basis of modernization of dynamic links.
4) Implementation of developed Criteria for the assessment of Professional competence of students – future teachers of Vocational training in Clothing design, affecting resultative criterial regularity and dynamic links of Professional competence.

Therefore, the study of differences in the organization of the pedagogical process between two countries and specialties reaffirmed the conclusion on the main difference, dependant on the training trajectory of students – future teachers and the necessity to implement *the Model of Formation of Professional competence* in the system of higher education of Kazakhstan:

– based on the theories of: humanitarian pedagogy (Mardesic, 2014; Sang – Duck Seo, 2009), productivity (Baumert & Kunter, 2013) and social constructivism (Ahrens, Purvinis, Zaščerinska & Andreeva, 2016; Blank & Alas, 2008), includes knowledge, skills, attitude, which form Professional competence and characteristics of a specialist (Irbīte & Strode, 2016), identifies *regularity of content goal.*

– based on variability of individual development, personal competency and characteristics of a specialist (Bankauskienė & Masaitytė, 2016; Baumert & Kunter, 2013; Blank & Alas, 2008; Kennedy, Ahn & Choi, 2008). Forms theoretical and practical orientation and experience, which depend on the development of micro (internal factors) and macro environment (external factors), through cooperation between teachers and students, employers. Creation of personal project on the basis of training methods, technology and livelong of raising of self-education and qualification level, defines *activity-oriented organizational regularity* (Sass, Semykina & Harris, 2014; Truskovska, 2013; Thumser – Dauth, 2007).

– dependant on interdisciplinary links in key competences, formedness of notions and ability to solve professionally-oriented tasks in professional activity, according to common Professional competences (Izglitibas…, 2016; Loughran, Ключевые…, 2000; Концепция…, 2002; Шадриков, 2005). On the basis of cognitive and didactic approaches towards knowledge, defined by the content of curriculum, according to education standards (Berry & Mulhall, 2012; Введенский, 2004). Organization of the pedagogical process and activity through educational activities, based on the requirements and normative regulatory documents, depends on *resultative criterial regularity* (Bankauskienė & Masaitytė, 2016; Pedagogisko…, 2016; Ušča, Lubkina & Pigozne, 2012; Болотов & Сериков, 2003).

– dependant on *objects* of education depend on external factors (see subchapter 1.2.), which form Professional competence: Model, activity types (professionally-pedagogical and practical), pedagogical interaction, regularities, organization of pedagogical process, dynamic links. Design of Model defines the trajectory, content, structure of education processes.

– dependant on *subjects* of education depend on internal factors (see subchapter 1.2.): motives, content, attainments of Professional competence of students, on the basis of the Criteria for the assessment, which are formed in the process of pedagogical interaction with teachers and employers. Harmonization on the achievement of common aims of the FPC and learning outcomes, solution of the MEP tasks for the implementation of the Methodic on the basis of activity types (professionally-pedagogical and practical) is carried out through the pedagogical interaction of students, teachers and employers.

On the basis of the conducted theoretical analysis and the study of regularities and dynamic links (see subchapter 1.1., 1.2., 1.2.1, 1.2.2.), it is identified that the Structure of the regularities of Professional competence students – future teachers of Vocational training in Clothing design, must be the basis of pedagogical process in the system of higher education in Kazakhstan (see Figure 2.1.2.).

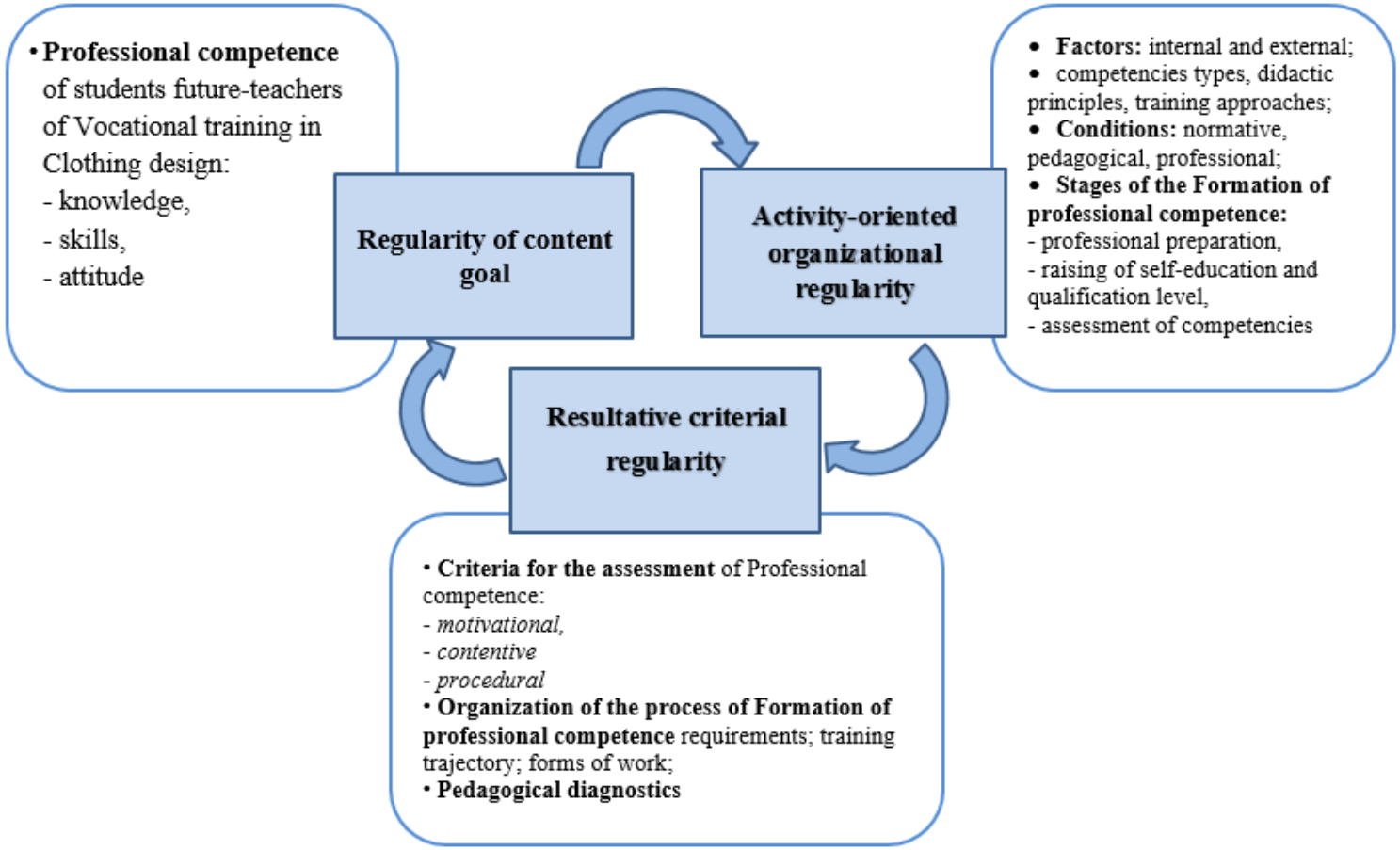

Figure 2.1.2. **Structure of the organization of pedagogical process of Formation of Professional competence students – future teachers of Vocational training in Clothing design for the higher education system of Kazakhstan**

As a result of the analysis of the theory, the developed structure of organization of pedagogical process of Formation of Professional competence students – future teachers of Vocational training in Clothing design for the higher education system Kazakhstan is based on three regularities:

1. *Regularity of content goal* includes:
   - Professional competence of students – future teachers of Vocational training in Clothing design: knowledge, skills, attitude.
2. *Activity-oriented organizational regularity* includes:
   - Factors (external; internal);
   - competence types;
   - didactic principles;
   - training approaches;
   - Conditions:
   – normative;
   – pedagogical;
   – professional;
   - Stages of the Formation of Professional competence:
   – professional preparation;
   – raising of self-education and qualification level;
   – assessment of competencies.
3. *Resultative criterial* includes:
   - Criteria for the assessment of Professional competence (motivational, contentive, procedural);
   - Organization of the process of Formation of Professional competence: requirements, training trajectory, forms of work;
   - Pedagogical diagnostics.

The implementation of the structure is directed to the realization of the Formation of Professional competence of students – future teachers of Vocational training in the specialization of Clothing Design for Institutions of Technical and Professional education of Kazakhstan.

The introduction of the proposed structure has created the need and the basis for designing the Model, which will ensure the modernization of the higher education system in Kazakhstan (see Figure 2.1.3.).

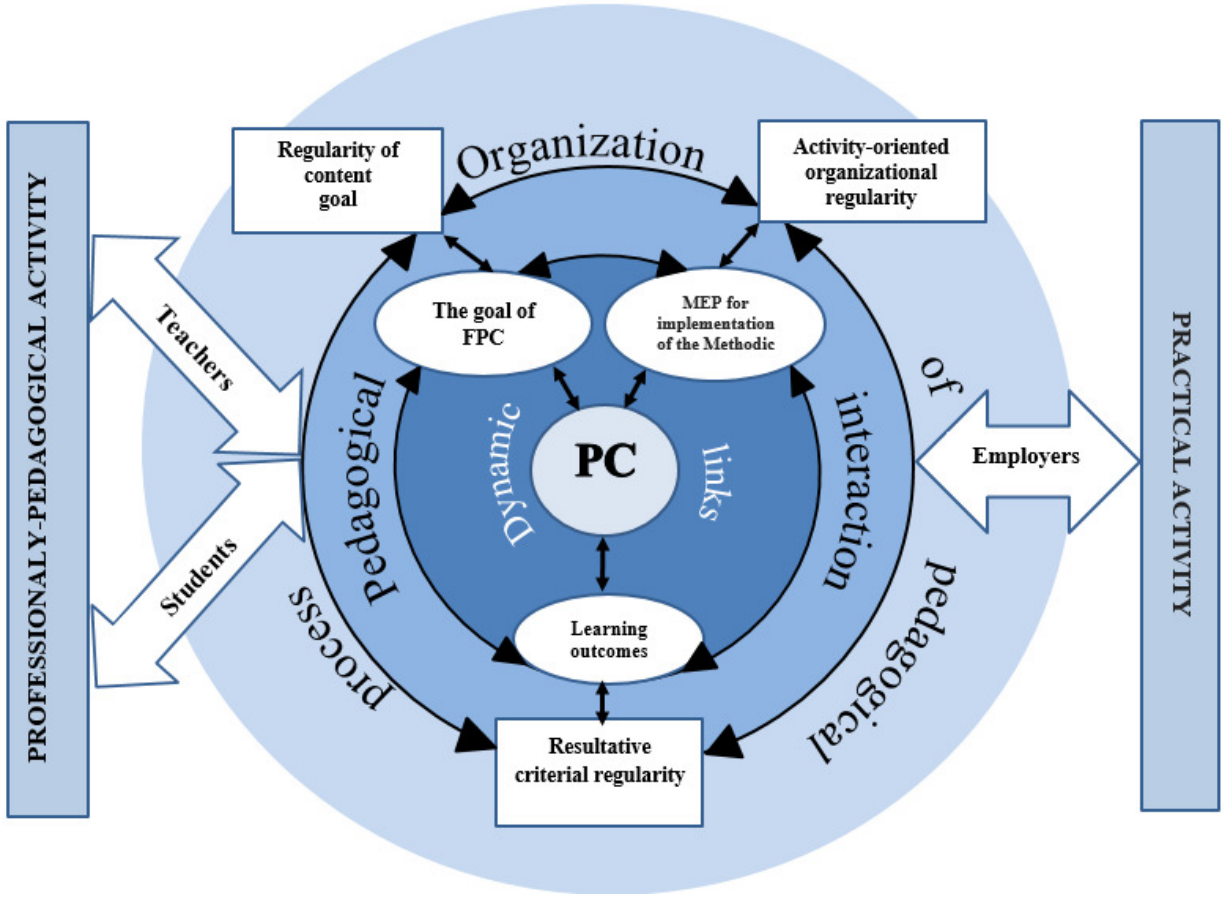

Figure 2.1.3. **Scheme of the Model of Formation Professional competence of students – future teachers of Vocational training**

Therefore, **Model of Formation of Professional competence of students – future teachers of Vocational training** *promotes disclosure scientifically-theoretical bases of Professional competence with a goal of Formation of Professional competence for implementation Methodic on Modular educational programmes with identifying Learning outcomes through dynamic links and pedagogical interaction between students, teachers and employers in activity types (professionally-pedagogical and practical) on the base of regularities of organization pedagogical process in HEI.*

As a result of the research, the structure of the organization of the pedagogical process is substantiated (see Figure 2.1.2.) and the Scheme of the Model is revealed (see Figure 2.1.3.), this reveals the need for the development of the Methodic on the basis of the Modular educational program.

2.2. Methodic of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design

2.2.1. Design of competence - oriented modular education programmes for the preparation of students – future teachers of Vocational training in Clothing design

The necessity in innovative transformations in the education system of Kazakhstan and the problem of non-compliance of Professional competencies of HEI graduates with the modern needs of production on the base of developed Model of Formation of Professional competence of students – future teachers of Vocational training (see subchapter 2.1.) has established the preconditions for the development of the Methodic *(hereinafter Methodic*) (see subchapter 2.1.).

On the base of study of the conditions (normative, pedagogical, professional, see subchapter 1.2.2.), the conditions for the creation of the Methodic were revealed:

1) *cognitively-investigative* – creates theoretically-methodological base for project–oriented pedagogical Formation of Professional competence (Freeman, 2002; Heck, Saunders & Smith, 2015);
2) *informationally-researching* – promotes the selection of trajectory and variability in training (Adubra, 2014; Atkinson, 2004);
3) *organizationally-planning* – creates structures of the processes of education (Coghlan & Brannick, 2005; Kokare, 2011);
4) *communicatively-training* – helps in socialization of future teachers for realization in further professional activity (Bechtel, 2008; Biggs, Tang, 2007).

Based on the theoretical analysis of the study (chapters 1 and 2), it is identified that *the implementation of the* **Methodic** *of the Formation of Professional competence includes: aims, objectives, stages of the Formation of Professional competence of future teachers, methods, forms of work.*

The aim of the development of the **Methodic** is the realization of theoretical and practical basis of the Formation of Professional competence of students – future teachers of Vocational training on an example of specialization Clothing design.

The objective of the Methodic is the implementation into the organization of the process of education in Kazakhstan of the Modular Educational programmes on the suggested example "Costume design", conditioned by theoretical and practical bases of the Formation of Professional competence of students – future teachers of Vocational training.

The Modular Education programme *is a document (set of documents), which reflects the content of professional education and consists of a set of modules and disciplines directed towards the possession of certain Professional competences, necessary to obtain the qualification* (ГОСО РК..., 2011, 2012) (see subchapter 2.2.1.)

The necessity of design and realization of competence-oriented modular education programmes depends on the implementation of credit-based modular technology of training and ECTS units (Присоединение…, 2010). Adaptation of standards and education programmes in accordance with the labour market demands and the establishment of quality assurance system is based on the implementation of Bologna declaration principles for the modernization of higher education system in the Republic of Kazakhstan.

For the development of Modular Educational Programmes were studed Goldshmid & Goldshmid (1972), Skiner (1989), Tanrısever & Erisen (2009), Navikienė (2014), which justified the need to introduce modular – competence technologies with the use of modular training programmes. This characterizes a high level of the achievements of planned learning outcomes and structural, contentive and technological flexibility of modular training programmes (Navikienė, 2014; The concept..., 2012).

The analysis of the theory provided above allowed to design a **modular education programme** for specialty Clothing design, structured by the algorithm:

1) identify the range of potential users of the modular education programme, to analyse existing education relatively close programmes, which are related and similar in purpose (O'Brien & Sarkis, 2014);
2) identify a set of competences, necessary for acquisition (Галямина, 2005);
3) develop a set of disciplines, which constitute the content of modular education programme (Navikienė, 2014);
4) construct Working curriculum in modular format (Gonzalez & Wagenaar, 2003).
5) establish an interdisciplinary interrelation of tasks with orientation towards project activity within the framework of "Course project" (Tanrısever & Erisen, 2009).

Pedagogical design – *is the purposeful formation of pedagogical process resources on the basis of the Model of education for assurance of effective achievement of planned outcomes (on the basis of state order)* (ГОСО..., 2011, 2012).

Pedagogical design in a study process during the approbation period is carried through the Modular Education programme. Therefore, the algorithm of pedagogical design is provided below.

At **the first stage**, *the analysis* is carried out on: *the labour market base for the demand of specialists and standards and education programmes for development of qualification requirements* and identification of spheres and organizations for the employment of graduates in specialty Clothing design.

At **the second stage***, the identification of a set of competences (for cycles A, B, C in TC)* facilitates the design of the Modular education programme on the basis of competence-based approach (see subchapter 1.2.), result-oriented training trajectory is formed, a set of competence types necessary for acquisition is identified. A list of general-professional and Professional competences (according to activity types and considering training profile), provided by SCES RK, is considered as a base (РУП, 2014–15), (ГОСО…, 2006), (see Annex 2.2.1.1.).

At **the third stage***, a set of Modules is identified and an algorithm of goal implementation and problem solving in professional activity is formed* on the basis of the methodology of competence-based approach. Consideration of the dynamic links, identified during the determination of professional activity types of specialists (see subchapter 1.2.) allowed to apply the methods for programme's realization (see Annex 2.2.1.1.).

At **the fourth stage***, a Working curriculum in specialty is drawn up (distribution of modules in cycles A, B, C) and specification of modules (aims, tasks, criteria for expected module results) is drawn up* (Правила…, 2011, 2014 – 15). The requirements, set towards structure and module content design, reflect the name of each module, its aim and objectives, requirements towards learning outcomes, including a number of credit points, expected module acquisition results (knowledge, skills, attitude), a mechanism for the assessment of an achievement of planned results (assessment criteria, forms and methods), resource support of the module.

At **the fifth stage***, a Working curriculum in specializations is drawn up (distribution of modules in cycles A, B, C). Consideration of logical dynamic links of the modules (interdisciplinarity, possibility of academic mobility)* for the assessment of possibility of their concentrated acquisition and organization of academic mobility (intramural, intra-Kazakhstan, international).

Development of the Modular education programme (requirements towards competences, knowledge, skills, attitude) (see Annex 2.2.1.1.) arises from the specificity of the structure of the Modular education programme:

1) students' acquisition of a discipline of each module during one year, but in different semesters;

2) the duration of a module depends on its content and specificity (general, supportive or specialized);
3) for the acquisition of a discipline on a professional level, it is necessary to study gradually at all education stages;
4) in order to ensure mobility, division of "comprehensive" modules into units based on a number of study years is recommended: 1 year – 1 modular unit.
5) a modular unit is an autonomous study material with a duration not more than one semester and it is finished with the formation of "portfolio" (ГОСО..., 2006).

The presented Modular Program implements the scientific and theoretical bases of Professional competence through activity-oriented and system-oriented approaches (see subchapter 1.2.2.1.) in the process of professional-pedagogical and practical activity types based on the pedagogical interaction of students, teachers, employers. The goals of the Modular educational program (see subchapter 1.2.2.) are implemented in a comprehensive manner on the basis of regularities and dynamic links of the Organization of the pedagogical process, complicating the thematic tasks from simple to complex. The tasks of the Module Education Program are focused on the formation of knowledge, skills, attitudes of students, which must be implemented in accordance with the universal Methodic on the basis of three disciplines: Color introduction, Project graphic, Costume design with the identification of learning outcomes, including unified system requirements, normative, pedagogical, professional conditions (WTP, SCES).

In the process of approbation the Modular Educational program "Costume design" was applied, which contains:

- the discipline "Color introduction" is oriented towards the formation of general competences in theoretical propaedeutic knowledge and the formation of practical skills in orientation in design regularities;
- the discipline "Project graphic" forms objective skills in design content and Costume design;
- the discipline "Costume design" forms methodical practical skills and professional attitude of a specialist in the module in general.

For approbation of the Modular Educational Programme "Costume design" it is necessary to justify its forms of work and methods.

2.2.2. Theoretical and practical bases of implementation of the Methodic

Knowledge, skills, attitudes form the Professional competence of students – future teachers of Vocational training in the specialization of Clothing design based on the content and goal regularity of the organization of the pedagogical process (Bankauskienė & Masaitytė, 2016; Кожуховская 2011).

In the process of the Course project, the Modular Educational Program "Costume design" was the basis for the introduction of the Methodic for Formation of Professional competence, which contributed for implementation of the activity-oriented organizational regularity of the Model (Halbe, Adamowski, Pahl – Wostl 2015) with the implementation of:

- *factors:* external factors (the organization of the process of educational – methodological activity, assesment judgments, the prestige of the profession, practice) and internal (personality traits of the student, value orientations and choice of profession by the student, internal activity of the individual, aspiration for self-realization in the future profession);
- *types of competences* (professional-pedagogical and production-technological), didactic principles (systematic, lifelong, intellectual-cognitive development, self-development, technological, variability, activity, development of creative potential, communicative), approaches in teaching (activity-oriented, personality-oriented, competence, modular);
- *conditions*: normative, pedagogical, professional;
- *stages* (professional preparation, raising of self-education and qualification level, assessment of competencies).

The resultative criterial regularity allowed revealing learning outcomes (Creswell, 2003; Cohen Manion & Morrison, 2007) on the base of:

- Criteria for the assessment of Professional competence (motivational, contentive, procedural);
- Organization of the process of Formation of Professional competence due to dynamic links, based on: requirements, training trajectory, forms of work;
- Pedagogical diagnostics, which was carried out with the pedagogical interaction of students, teachers, employers.

Creation of the Methodic for the Formation of Professional competence is based on the provisions identified in chapters 1 and 2:

– The scheme of Professional competence of students – future teachers of Vocational training (see Figure 1.1.2.);

– The structure of dynamic links of Formation of Professional competence of the students – future teachers of Vocational training, including the specialization Clothing design (see Figure 1.2.2.3.1.);

– The structure of the organization of the pedagogical process of the Formation of Professional competence of students – future teachers of Professional Training in the specialization of Clothing design for the Higher education system of Kazakhstan (see Figure 2.1.2.);

– Scheme of the Model for Formation the Professional competence of students – future teachers of Vocational training (see Figure 2.1.3.);

On the basis of the theoretical concepts presented above, it can be concluded that the **Methodic** *for the Formation of Professional competence of students – future teachers of Vocational training in the specialization of Clothing design realizes the functional, integrative, didactic, intersubject tasks of the Model of Formation of Professional competence.*

The Modular Educational Program "Costume design" was developed for introduction and approbation of the Methodic of Formation of Professional competence, which include:

– assignments of the discipline "Color introduction" on the formation of basic theoretical knowledge as a whole in design;

– assigning the discipline "Project graphics" for students to acquire practical skills in the Modular educational program;

– assigning the discipline "Costume design" to form students' competence attitude into the profession through the process of work on the Course project.

On the basis of the Modular educational program "Costume design" through methods and forms the theoretical knowledge of the Methodic realized three disciplines of the module (Color introduction, Project graphics, Costume design) for student's acquire practical skills of formation a professional attitude for professional-pedagogical and practical types of activities.

In the process of approbation of the modular program at the Eurasian Technological University in Kazakhstan, it was revealed that the complex realization of knowledge, skills, attitudes on the basis of the Modular educational program "Costume Design" contributed to the Formation of Professional competence *(hereinafter FPK),* at the stages (professional preparation, raising of self–education and qualification level, assessment of competencies) (see subchapter 2.1.) using the methods of the Modular educational program "Costume design" *(hereinafter MEP)* (see Table 2.2.2.1).

Table 2.2.2.1.

Stages of the FPC on the basis of the Modular educational program "Costume design"

Stages of the FPC	Description of implementation Methods at the stages of FPC	Formation of Professional competence in MEP
Professional preparation	Formation of Professional competence of specialists on the basis of the Modular educational program on the Methodic for implementation in professional-pedagogical and practical types of activities	The acquisition of theoretical knowledge on MEP by the students in the pedagogical process at the university
		Assimilation of practical skills in MEP in pedagogical interaction of students, teachers, employers
		Formation of a competent attitude of students in practice in the process of the Course project on the Modular educational program
Raising of self-education and qualification level	Perfection of levels of Professional competence on the Methodic	Formation of Professional competence in accordance with the Criteria of assessment on the Methodic on the basis of the MEP "Costume Design"
Assessment of competencies	Pedagogical diagnostics for revealing the levels of Professional competence of students – future teachers of Professional training on specialization Clothing design on basis of the implementation of the Methodic upon the Modular educational program in the pedagogical process	Identifying the dynamics of the Formation of Professional competence in the process of pedagogical diagnostics to determine the effectiveness of the implementation of the Methodic based on the Modular educational program

Thus, at the stages of the Formation of Professional competence (professional preparation, raising of self-education and qualification level, assessment of competencies), students of future teachers of Vocational training improved their knowledge, skills, attitudes.

The implementation of the goals and objectives of Professional competence was facilitated by the Methodic based on methods for realization the content of the Modular educational program for pedagogical interaction (students, teachers, employers). The discovery of learning outcomes based on the assesment Criteria helped to determine the levels of Professional competence in the organization of the pedagogical process.

The study of theories (Cohen, Manion & Morrison, 2007; Байденко, 2005) made it possible to reveal that **methods** *influence the pedagogical interaction of teachers, employers and students with the goal of Formation of Professional competence based on knowledge, skills, attitudes to achieve the results of implementation the Methodic according to tasks of organization of the pedagogical process.*

Based on the research of the first and second parts of the thesis and the study of methods (Bankauskienė & Masaitytė, 2016; Berglin, Cederwall, et al., 2006; Halbe, Adamowski, Pahl – Wostl, 2015), and the work forms (Creswell, 2003; Patton, 2002; Metodiskie…, 2015) the theoretical and practical foundations for the implementation of the Methodic, due to traditional methods, have been revealed, which will be considered below.

The theoretical part of the Modular Educational Program "Costume Design" is based on: a didactic principle of intellectual-cognitive development, a person-oriented approach (see subchapter 1.2.2.1.), autopsychological competence and reflection of professional pedagogical activity (see subchapter 1.2.1.). Based on the forms of work: lectures, special courses, information, discussion, conversation, *verbal* methods of teaching were implemented (Bankauskienė & Masaitytė, 2016; Loughran, Berry & Mulhall, 2012), which contributed to the formation of intellectual, analytical, gnoseological knowledge of students, interest to the specialty, awareness of the importance of the profession, social qualities of the individual.

The training process for the Modular educational program "Costume Design" is based on the activity and competence approaches (see subchapter 1.2.2.1.), on the didactic principle of technology, special, professional, design-epistemological competencies in cognitive, intellectual-analytical and design, practical activities (see subchapter 1.2.1.), which were the basis for conducting of the self-sustaned work of the student on the Modular educational program "Costume design".

Based on *project* teaching methods (Burleson, 2005; Gaveika, 2016; Rudzīte & Rutka, 2016) on indicators of: creativity, knowledge of the components of the project-pedagogical Formation of Professional competence and design-pedagogical conditions, possession of analytical prognostic skills, the following forms of work were developed:

– visual-informative schemes, methodical handouts on "Color introduction" (Абишева, 2007; Жангужинова, 2011);
– modeling of the real situation / role interpretation (designing creative solutions) for thematic tasks on developing collections of clothing models for the specified topics of the Course project (Жангужинова, 2011; Коблякова, Юсупова, 2000);
– brainstorming, a bank of ideas, a master class, a studio work forming heuristic, activity, instructive knowledge, skills, the attitude of students on developing creative ideas for the Course project on the Modular educational program (Жангужинова, 2011; Кожуховская, 2011).

Theoretical and practical training in the Modular educational program "Costume Design" is based on the didactic principle of intellectual-cognitive development of students for the formation of project-gnosiological competence (see subchapter 1.2.1.) in the process of design and analytical activities based on the competence approach in institution (see subchapter 1.2.2.1.).

Formation of ideological-value, conceptual, logical knowledge; subject-practical skills; cognitive, encouraging to self-development attitude of students contributed to *cognitive* methods of research (Baltišūte, 2006; Blūma, 2008), which implement an adequate assessment of students,

systemic orientation in all components of design, knowledge of constructing mechanisms and purposeful activity essence of project-oriented pedagogical process, possession of theoretical knowledge on module Costume design on the basis of individual / group sessions / trainings, self–education.

The practical part of the Modular educational program "Costume design" includes organizational and management teaching methods (Armstrong, 2009; Kokare, 2011; Ušča, Lubkina & Pigozne, 2012), which form the knowledge of the mechanisms and essence of design in the construction of the design and pedagogical process, the ability to organize all kinds of activities related to the Costume design for the provision of project activities on the basis of:

– organizational-commercial / entrepreneurial competence (see subchapter 1.2.1.), lifelong process in organizational-methodological activity, communication, through the competency approach in the university (see subchapter 1.2.2.1.) (Baumert & Kunter, 2013; Bechtel, 2008) on the basis of portfolio, wich include Modular educational program's tasks on creation reproduction or author's interpretation of the research problem for the development of know – how (O'Brien, W., Sarkis, 2014; Tanrısever & Erisen, 2009) and possession the construction and technology of providing design-pedagogical process;
– organizational-procedural competence (see subchapter 1.2.1.) in the process of intellectual-analytical activity, self-development of students on the basis of a modular approach (see subchapter 1.2.2.1.), using modules on new informative technologies for the formation of the systemic, statistical knowledge; rational abilities and prognostic attitude of students (Navikienė, 2014; Tanrısever & Erisen, 2009) and the ability to organize all types of activities related to Costume design.

The Modular educational program "Costume design" according to the Methodic is based on the *practical* methods of the training process and helped to students – future teachers of the Professional training in the specialization of Clothing design to form:

– analytical-research competence (see subchapter 1.2.1.); self-development based on the activity approach (see subchapter 1.2.2.1.) in analytical, prognostic, research activities; research attitude; practical, variational skills and interdisciplinary knowledge based on the forms of work, including practical exercises and independent work of the student (Cogill, 2010; Halbe, Adamowski & Pahl – Wostl, 2015) to identify knowledge on the criteria for an adequate assessment of work, possession of analytical prognostic skills to ensure project activity;
– professional-pedagogical and technical-economic competence (see subchapter 1.2.1.), variability in pedagogical and project activities through the activity approach (see subchapter

1.2.2.1.), which are based on the value attitude and interest of students in the profession, which contributed to the stimulation of communication skills based on the forms of work: profile training, productive training and practice (Katane, Katans & Īriste, 2016; Loughran, 2002) for formation knowledge about the mechanisms of building a design-pedagogical process, possession of practical knowledge on module Costume design.

The results of the students' training upon the Modular Educational Program "Costume design" were carried out on the basis of the *demonstration* method through:

– productive-technological competence (see subchapter 1.2.1.), the didactic principles of systemacy, the competence approach (see subchapter 1.2.2.1.) in the process of project activity through the forms of work: final examination of works (exibition), examination, attestation, monitoring, verification, control task, boundary control, questioning, testing, ascertaining facts and results of training for the formation of statistical knowledge, skills, competence attitude to the specialty (Epstein & Hundert, 2002; Halbe et al., 2015) and formation knowledge of criteria of adequate assessment of the work;

– design-epistemological competence (see subchapter 1.2.1.), which contributed to the development of creative potential on the basis of the activity approach (see subchapter 1.2.2.1.) in creative activity through forms of work: presentation, fashion show, defile for the formation research, conceptual knowledge; creative skills; competenive attitude through the author's style (Бундина, 2006; Кожуховская, 2011) and the ability to organize all kinds of activities related to the Costume design.

In the dissertational research the development of the Methodic with the introduction of the Module educational program "Costume design" revealed methods of Formation the Professional competence of students – future teachers of the Professional training are include:

1. *active* methods that contributed to the formation of:
   – pedagogical interaction (students, teachers, employers);
   – value attitude and interest to profession, stimulating, communicative, heuristic, cognitive knowledge, skills, attitude of students;
   – manifested in the forms of work: lectures, special courses, information, discussion, conversation, course project, master classes, studio work;
2. *problem* methods directeted for:
   – modeling of the real situation / role interpretation for the design of creative proposals / solutions, know – how, ideas bank, brainstorming on the theme of the Modular educational program;

– forming: author's style, research, conceptual, pedagogical, productive-technological, practical activity, variative, interdisciplinary, project knowledge, skills, attitude of students;

– manifested in the forms of work: individual / group lessons / trainings, self-education, project, portfolio, reproduction, interpretation, application of new information–interactive on line technologies, Internet resources, module, practical exercises, self–sustained work of the student, rofile training, productive training and practice;

3. *demonstration* methods were focused on:

– statistical, conceptual generalization, ascertaining the facts and results of the training of students on the basis of the Methodic;

– for the formation of: systematic, statistical, rational, prognostic knowledge, skills, attitudes of students;

– manifested in the forms of work: presentation, fashion show, defile, exhibition, demonstration, examination, control task, final / boundary control, verification, questioning, testing, certification, monitoring.

The revealed methods of organization the pedagogical process are reflected in figure 2.2.2.1:

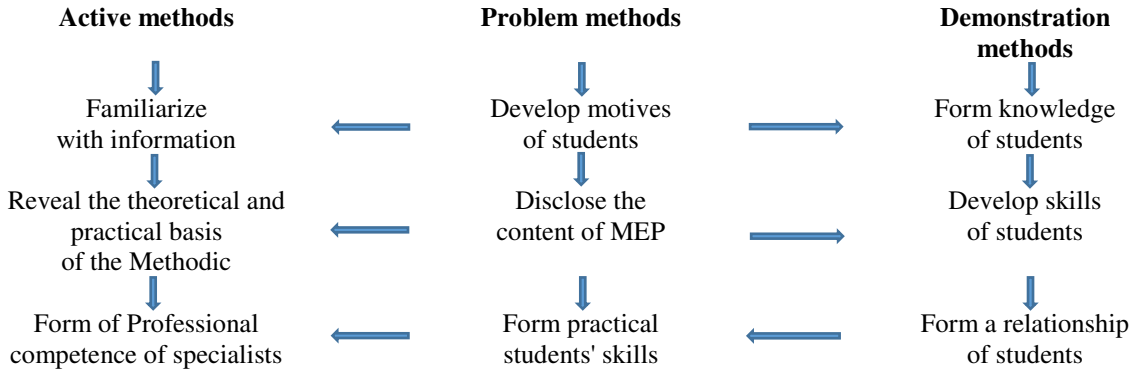

Figure 2.2.2.1. **Scheme of methods of Formation the Professional competence of students – future teachers of Vocational Training**

The study of the theoretical and practical bases for the implementation of the Methodic revealed in the dissertation reseach the forms of work for the Modular educational program "Costume Design":

- *lectures* - based on the exchange of information, discussion of the problem on the theme of the Modular educational program;

- *course project* within the framework of the *module* – on the basis of the Modular educational program "Costume Design", which includes three disciplines: Color introduction, Project graphic, Costume design;
- *practical classes* – focused on profile, productive training and practice, as well as self–education of students and the application of new information technologies;
- *portfolio* – systematizing all stages of the course project, visually demonstrating the results of the student's project on the research problem and its interpretation of the concept in the author's style on the basis of modeling the real situation;
- *presentation* – demonstrating the practical results of the acquired knowledge, skills, attitudes of students on the basis of the completed project (a collection of models) in the material in the framework of the defile, fashion show, exhibiting;
- *monitoring (boundary / final)* – aimed at identifying the results at different stages of training in order to determine the learning outcomes on the basis of assessment, as well as to reveal the levels of the Professional competence of students.

The study of theories (Bankauskienė & Masaitytė, 2016; Cohen, Manion & Morrison, 2007) made it possible to determine that the **forms of work** *contribute to the realization of all types of activities of the future teacher of Vocational training (professionaly-pedagogical and practical) in the organization of the pedagogical process*.

Methods and forms of the Methodic for Formation the Professional Competence of Students – future teachers of Professional training revealed in the dissertation research (see Table 2.2.2.2.).

Table 2.2.2.2.

Methods and forms for introduction into the Methodic of Formation of Professional competence of students – future teachers of Vocational training

Traditional methods	Methods of Formation of Professional competence	Forms of work
Verbal – form theoretical knowledge of students	*Active* – are the basis of cognitive activity of specialists	*Lectures* – based on verbal methods
Project – form project knowledge of students		*Course project* – is the basis of design and active methods
Cognitive – form the motivation of students	*Problem* – develop the professional skills of specialists	*Practical classes* – are based on cognitive, problematic, organizational-management, practical methods
Organizational and managerial – are the basis of practical activities of students		
Practical – form the skills of students		
Demonstration – form the attitude of students	*Demonstration* – form of the Professional competence of specialists	*Portfolio, presentation, control (boundary / final)* – are the basis of demonstration methods

In the dissertation research were revealed that the effectiveness of the Formation of Professional competence is realized by the theoretical and practical principles of the Methodic through:

1. Model of Formation of Professional competence (see subchapter 2.1.);
2. Modular educational program "Costume design" (see Annex 2.2.1.1.);
3. Regularities (regularity of content goal; activity–oriented organizational regularity; resultative criterial regularity) (see subchapter 1.2.);
4. Dynamic links of the pedagogical process (see subchapter 1.2.);
5. The organization of the pedagogical process (see subchapter 2.1.);
6. Pedagogical interaction of students, teachers, employers (see subchapter 2.1.);
7. Stages of Formation of Professional competence (vocational training, raising the level of self-education and qualification, assessment of competences) (see subchapter 2.1.).

Based on the research of methods and forms of work, it is revealed that the **Methodic** *promotes the realization of the Professional competence (knowledge, skills, attitudes) on the basis of the Modular educational program at the stages (vocational training, raising the level of self-education and qualification, assessment of competences) according to the scheme of the Model of Formation of Professional competence of students – future teachers of Vocational training in the specialization of Clothing design through the pedagogical interaction of dynamic links and regularities of Organization pedagogical process.*

Research of theoretical and practical bases of the implementation of the Methodic allowed to reveal the sequence of realization of the content of the Methodic (see Table 2.2.2.3.).

Table 2.2.2.3.

Sequence of realization of the content of the Methodic

Research	Research results	Design research
Ideological search for the creation of design solutions	Theoretical analysis, generalization	Nomination of research hypothesis
Theoretical study of approaches, didactic principles	Creation of the project concept	Development of creative pre-project solutions
Practical project development	Application of practical skills and attainments in the project	Creating a project based on the modeling of the real situation
Free synthesis	Interpretation of the project	Analysis of project results

The sequence of implementation of the content of the Methodic manifested in the indicators of the Criteria for assessing the Professional competence of students – future teachers of Vocational Training (see subchapter 1.2.2.2.).

The results of the implementation of the Methodic in the pedagogical process are revealed on the basis of pedagogical diagnostics (Epstein & Hundert, 2002; Halbe, Adamowski, Pahl – Wostl, 2015) on indicators of each three Criteria for assessing Professional Competence (see subchapter 1.2.2.2.):

- motivational criterion – revealed knowledge with the descriptor "motives";
- contentive criterion – revealed skills with the descriptor "content";
- procedural criterion – revealed the relation with the descriptor "skills";

Pedagogical diagnostics *allows to complex solving tasks of optimization the pedagogical process in the implementation of the Methodic for the Formation of Professional competence.*

To implement the pedagogical diagnosis of the Professional competence of students – future teachers in Clothing design were revealed functions, which are shown in the table 2.2.2.4.

Table 2.2.2.4.

Functions of pedagogical diagnostics of Professional competence

Nomination of functions	Connextions with regularities	Function Tasks
Control-corrective	content goal	To obtain the data (on the basis of questionnaire survey) and adjustment (on the outcomes of the implementation of the Methodic) of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design (Aizsila, 2009; Cogill, 2010).
Prognostic	activity-oriented organizational	To predict changes in the Formation of Professional competence of students – future teachers of Vocational training in Clothing design (Garleja & Kangro, 2004; Hlas & Hildebrandt, 2010).
Educative	resultative criterial	*To implement an educative effect on* students – future teachers of Vocational training in Clothing design in the process of diagnosis of the Formation of Professional competence (Indrašienė & Sadauskas 2016; Lāce, 2014).

Thus, pedagogical diagnostics made it possible to identify the results of the implementation of the Methodic on the basis of the levels of Professional competence of students – future teachers of Vocational training in the specialization of Clothing design (reproductive, interpretive, creative) (see subchapter 1.2.2.2.):

"Reproductive" level indicated the existence of basic theoretical knowledge on design and the bases of the Modular education programme "Costume design" upon the Methodic. Does not reflect systemic orientation in dynamic links, regularities, specificity, components and mechanisms of Costume design. It defines weak possession or lack of subject-oriented practical skills and personal attitude of a specialist in the fulfilment of practical activity types.

"Interpretive" level indicated possession of theoretical and practical knowledge, skills, attitude in the Modular education programme "Costume design" on the basis of the Methodic. The

lack of experience of professionally-pedagogical and practical activity reflects weak adequate assessment of all activity types and partial orientation in dynamic links, regularities, specificity, components and mechanisms of Costume design.

"Creative" level characterized the possession of theoretical and practical knowledge, skills, attitude towards the essence of design and all the components of the module Costume design on the basis of the Methodic. Experience of professionally-pedagogical and practical activity reflects motivated characteristics of a specialist, who orients in the content and processes of the Formation of Professional competence on the basis of dynamic links, regularities, specificity and mechanisms of Costume design.

Therefore, for the effectiveness of the Formation of Professional competence in the implementation of theoretical and practical principles of the introduction of the Methodic were identified:

1) *methods* (active, problem, demonstration), that contribute the effective implementation of the Modular educational program "Costume design" according to the Methodic of Formation the Professional competence of Students – future teachers of Vocational training in specialization Clothing design into the pedagogical process of university;
2) *forms of work* (lectures, special courses, information, discussion, conversation, course project, master class, studio work, individual / group lessons / trainings, self-education, project, competitions, seminars, portfolio, reproduction, interpretation, informational-interactive on line technologies, Internet resources, modules, summary viewing of works, demonstration, examination, certification, monitoring, verification, control task, boundary control, questioning, testing, demonstration, fashion show, defile, exhibition, practical classes, independent work of the student, profile training, training and production training, practice) for the realization of all activity types in the process of implementation of the Methodic of the Formation of Professional competence in the pedagogical process at the university;
3) *pedagogical diagnostics*, including functions (control-corrective, prognostic, educative) for the organization of pilot experimental research upon the Formation of Professional competence of students – future teachers of Vocational training in the specialization of Clothing design, which allows to trace the dynamics of the effectiveness of the implementation of the Methodic.

3. Organization and results of the pilot experimental research on the Formation of Professional competence of students – future teachers of Vocational training in Clothing design

3.1. Pilot experimental research methodology

Organization of the results of the pilot experimental research on the Formation of Professional competence of students – future teachers of Vocational training was carried out for the approbation of created Model, Methodic and Professional competence assessment Criteria for the implementation of Modular education programme "Costume design" in the higher education system in Kazakhstan.

Methodological part of the pilot experimental research is based on its application–oriented nature as well as on:

Quantitative research strategy (Hanson & Grimmer, 2007; Leitch, Ruth, Day & Christopher, *2000;* Mārtinsone, Pipere & Kamerāne, 2016; Suter, 2005; Waters – Adams, 2006), carried out during the ascertaining, formational, and controlling stage of the research, based on the measurements, which were conducted for the characterization of the pilot experimental research on the Formation of Professional competence, and based only on quantitative data:

- quantitative data resources;
- quantitative data analysis.

Empirical research (empeiría) – "experience" (Гольдберг, 2006), promoted theoretical study and summarization of experimental data on the Formation of Professional competence of students – future teachers of Vocational training in Kazakhstan, opening perspectives for a professional preparation of specialists, based on the identification of regularities, objects and processes, which constitute systemic structure of scientific knowledge (Bērtaitis, Briede & Pēks, 2011; Čehlova, 2002; Geske & Grīnfelds, 2006; Jurgena, 2002; Максимов, 2007).

Systemic approach is based on the National Compulsory Education Standard of the Republic of Kazakhstan that forms the teaching trajectory and covers the branches of activities, based on identified regularities, suggests constant consideration and effective application of all elements in a learning process and practical activity (Беляева, 2011; Гуров, 2012; Двуличанская, 2011; Ефремов, 2013).

The stages of the pilot experimental research are presented below (see Table 3.1.1.).

Table 3.1.1.

The stages of the pilot experimental research

<table>
<tr><td rowspan="2">2008
–
2009</td><td colspan="2">Preparatory stage</td></tr>
<tr><td>Empirical research</td><td>Systemic approach</td></tr>
<tr><td></td><td>is based on the results of observation and experiment; identifies scientific fact through the development of theoretical determination of the Formation of Professional competence, on identification of practical recommendations on the thesis.</td><td>characterizes pedagogical phenomena and processes of:
analysis, differentiations, identification and study of components of a whole; synthesis, integration, systematization of these components.</td></tr>
<tr><td rowspan="5">2010
–
2011</td><td colspan="2">Ascertaining stage</td></tr>
<tr><td>Questionnaires, systematization and initial data processing in Excel</td><td>Action research</td></tr>
<tr><td rowspan="3">• optimization of questionnaire procedure;
• statistical data gathering;
• representativity of charts;
• possibilities of managing of questionnaire process;</td><td>socially pedagogical, sociometric form of research</td></tr>
<tr><td>problem-solving in a certain context – in certain circumstances, practical development and analysis of elements</td></tr>
<tr><td>in-depth understanding of issues, identified in practice, assessment of situation and prompt regulation, further improvement of practice and application of innovations, bridging the gap between theory and practice.</td></tr>
<tr><td rowspan="3">2012
–
2014</td><td colspan="2">Formational stage</td></tr>
<tr><td>Approbation of the Methodic, analysis of questionnaire results</td><td>Analysis of secondary data in SPSS</td></tr>
<tr><td>• Methodic of the Formation of Professional competence;
• Criteria for the assessment of Professional competence;
• study method of collective phenomena;
• study method of group differentiation.</td><td>• data collection for statistical analysis and data processing based on comprehensive analysis;
• data management for the preparation of reports and dissemination of results.</td></tr>
<tr><td rowspan="3">2015
–
2017</td><td colspan="2">Controlling stage</td></tr>
<tr><td>Conclusions</td><td>Recommendations</td></tr>
<tr><td>Establishment of general conclusions of the dissertation with determination of significance of implementation the Methodic of the Formation of Professional competence at the level of Modular education programme.</td><td>Establishment of recommendations on the implementation of Modular education programme “Costume design” in the study process in Kazakhstan, applying the Methodic of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design.</td></tr>
</table>

Based on the structuring of the pilot experimental research stages, *research design* with objectives for each stage and the subject of research stage is developed (Johnson & Christensen, 2010, Pētniecība…, 2016) (see Table 3.1.2):

Table 3.1.2.

Pilot experimental research design

Stage name	Stage objective	Research stage subject
Questionnaire 1 (at the ascertaining stage)	Determination of formedness level of theoretical knowledge, skills, attitude, according to three questionnaire criteria	motivational, contentive, procedural questionnaire criteria
Work in experimental group	Implementation of the developed Methodic components	Methodic of the Formation of Professional competence
Course project	Implementation of the developed Methodic components based on Modular education programme "Costume design"	Modular education programme "Costume design"
Questionnaire 2 (at the controlling stage)	Determination of the formedness level of theoretical and practical knowledge, skills, attitude and Professional competence	motivational, contentive, procedural questionnaire criteria
Result analysis	Comparison of the formedness levels of control group and experimental group	Methods of data processing in SPSS
Analytic conclusions	Generalization, systematization, introduced additions	Methodic and Modular education programme "Costume design"
Result	Identification of the Methodic implementation effectiveness	Study process

The structure of the pilot experimental research is based on the study of action research theory Baum, MacDougall & Smith (2006), Coghlan & Brannick (2005), Elliot (1991), Ferrance (2000), Geske & Grīnfelds (2006).

Action research is a scientifically practical methodological basis for a pilot experimental research, which applies the methods of scientific knowledge: questionnaire, observation, pedagogical diagnostics and introduction of changes in educational process, based on the results of the Methodic of the Formation of Professional competence.

Methodic approbation – introduction of the Methodic of the Formation of Professional competence into the learning process of students – future teachers of Vocational training in Clothing design, based on Modular education programme "Costume design" (see. subchapter 2.2, 2.3.), based on the analysis of the results of questionnaire 1 (at the ascertaining stage).

Analysis of questionnaire results – based on the processing of obtained data in statistical analysis programme SPSS, with subsequent interpretation of obtained data in textual and graphical

form (Елисеева & Юзбашев, 2002; Гмурман, 2004; Наследов, 2005, 2006). Research result analysis on Professional competence includes:

- Descriptive statistics (mean);
- Wilcoxon test for the identification of statistical significance of differences between first and second measurements;
- Mann – Whitney U – test and Kruskal – Wallis test for the identification of statistical significance of differences in each of the Criteria for the assessment of Professional competence (motivational, contentive, procedural) between experimental group and control group;
- Kendall Tau b test for the measurement of rank correlation.

Kruskal – Wallis test – a one – sided dispersion analysis, rank-based non-parametric test, measuring position within a sample.

Introduction of variable causal factors and manipulation with them allows observing and measuring, how, under pedagogical influence, dependant variables are changing – in this case, Professional competence (Mārtinsone, Pipere & Kamerāne, 2016).

Creation of one – dimensional descriptive analysis of statistical data based on the established frequency (linear) distributions, identified analysis of multiple answers and interrelations of quantitative variables with mean value (Nelsen, 2001; Prokhorov, 2001; Наследов, 2005, 2006). Statistically significant differences in each of the Criteria for the assessment of Professional competence (motivational, contentive, procedural) were detected for the identification of statistically significant difference between assessments of Professional competencies in different countries (Kazakhstan, Latvia, Lithuania) and between three groups of respondents: students, teachers and employers (Kruskal, 1958). All research tests are reviewed below:

Wilcoxon test indicators were formed based on seven questions in each of three criteria: motivational, contentive, procedural. The number of independent samples depends on the integrity for each criteria, in each option, showings of each questionnaire question with identified significance “p” and indicators of first and second questionnaires are reflected.

At the formational stage of the pilot experimental research, *Wilcoxon test*, which consists of two adjacent test samples for the identification of statistical significance of differences, was applied between the measurement results of two dependant samples of first and second questionnaire.

Mann – Whitney U – test for testing the equality of sample medians is rank-oriented, therefore it is invariant under any monotone transformation of measurement scale.

Kendall Tau b test – a non-parametric test applied for measuring the relation between several sequential measurements of values, analysis of statistical dependence of dynamics of qualification requirement changes and Criteria for the assessment of Professional competence, based on Tay b coefficient, which is the rank correlation measure.

The questionnaires (see Annex 3.1.1., 3.1.2., 3.1.3.) were carried out at two stages:

1) *at the ascertaining stage,* at which the basic preparation on design of students was determined, identifying that approximately one third of applicants for Vocational training in Clothing design had secondary artistic education and two thirds – applicants without artistic training;
2) *at the controlling stage* for the detection of implementation efficiency of the Methodic of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design. The content of questionnaire stages is presented in table 3.1.3:

Table 3.1.3.

Questionnaire stages

Stages	Questionnaire stage content
Ascertaining stage	Carried out among 107 students of the 3rd study year (control and experimental group) from five higher education institutions of Kazakhstan, with the aim to detect levels of formedness of Professional competence at the ascertaining stage of the experiment.
Controlling stage	Carried out among 185 respondents divided in three groups: students, teachers, employers in countries: Kazakhstan, Latvia, Lithuania, Great Britain, with the aim to trace the dynamics of the Formation of Professional competence in different settings of phased implementation of Bologna education system's best practices.

Based on psychometric rating scale of the overall estimates (Likert, 1932), each response of the assessment criteria in the questionnaire was encoded as a value in figures (see Table 3.1.4.).

Table 3.1.4.

Encoding of responses

Response	Value
yes, always	1
almost always	2
sometimes	3
occasionally	4
no, never	5

Each group of respondents assessed the questionnaire questions with equal meaning of the content (see Annex 3.1.1., 3.1.2., 3.1.3.). The questionnaires included three criteria for the assessment of competence, seven questions per each. Codes–abbreviations were given to the Criteria (see Figure 3.1.1.).

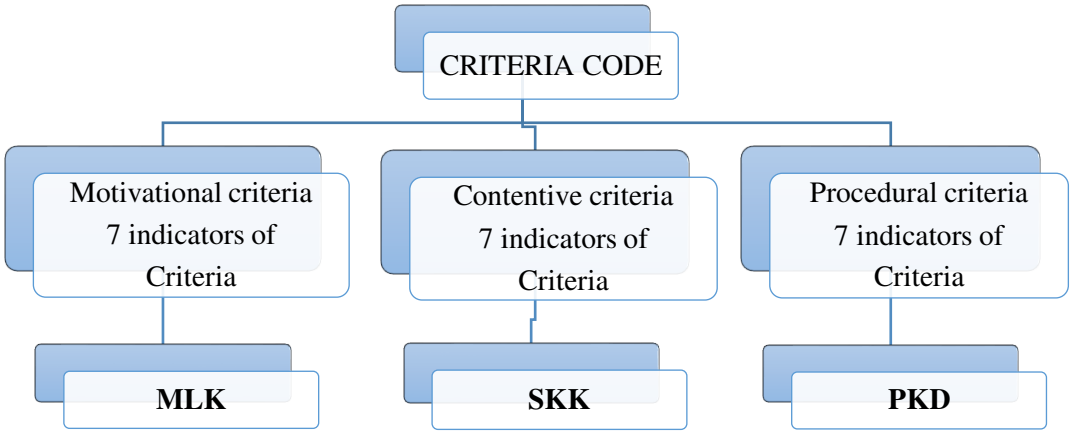

Figure 3.1.1. **Criteria codes**

The assessment of the questionnaire results at the ascertaining stage revealed conditions for conducting the pilot experimental research (see Table 3.1.5.).

Table 3.1.5.

Conditions for conducting the pilot experimental research

Condition name	Condition content
Representativeness	Students in a group must have approximately the same level of theoretical knowledge, practical skills and attitude of Professional competence in disciplines Color Introduction, Project graphics, Costume design;
Verification of experiment results	On the basis of the proposed Methodic of the Formation of Professional competence of future teachers of Vocational training in Clothing design

For the compliance with the conditions of the pilot experimental research organization, pedagogical design of the Formation of Professional competence was identified (see Table 3.1.6.), which depends on regularities and dynamic relations based on the Criteria for the assessment of Professional competence (see subchapter 1.2.2.2.).

Table 3.1.6.

Pedagogical design of the Formation of Professional competence

Pedagogical design basis	Competence Acquirement list	Research base name	Research results
Regularities	*Acquirement of basic theoretical concepts and definitions*	Design disciplines of the cycles B and C	Indicators of the formedness of theoretical, general, subject, methodical knowledge, skills and attitude.
Dynamic links	*Acquirement of theoretical knowledge, practical skills, attitude through interdisciplinary links of Professional competence, necessary in work with Module "Costume design".*	Disciplines of the Module "Costume design": (Color introduction, Project graphics, Costume design)	Compliance of Professional competence of students on Module "Costume design" to the requirements of professional preparation of Vocational training specialists in Clothing design with the possibility to apply forming means in accordance with the proposed Methodic.

Statistical data processing in the programme Excel was conducted on the basis of the questionnaire, allowing to process statistical data of the questionnaires, form electronic data base and create demonstration charts and diagrams.

At the controlling stage, questionnaire among 185 respondents was conducted, dividing respondents in three categories:

1) *students* from 9 higher education institutions from the following countries: Kazakhstan (107), Latvia (25), Lithuania (5) of 3rd study year;
2) *teachers* from Kazakhstan (14), Latvia (7), Lithuania (5);
3) *employers* from Kazakhstan (6), Latvia (8), Lithuania (5), Great Britain (3).

The largest number of participants constituted of 127 respondents from Kazakhstan (70.17%), 40 respondents from Latvia (22.1%), followed by 15 respondents from Lithuania (8.28%) and 3 respondents from Great Britain (1.66%). The percentage ratio of the questionnaire participants was formed from four countries: Kazakhstan, Latvia, Great Britain, Lithuania, with quantitative composition of questionnaire respondents.

1) Students – first questionnaire respondent group, which included 137 students of the 3rd study year from three countries: 9 HEIs from Kazakhstan, Latvia, Lithuania, based on the questionnaire results, the following percentage ratio of the students from different countries is presented below: Kazakhstan 59.12%, Latvia 18.25%, Lithuania 3.65% (see Annex 3.1.1.).

2) *Teachers* – second group of questionnaire respondents, which included 26 teachers from Kazakhstan, Latvia, Lithuania. The largest number of participants constituted of the respondents from Kazakhstan, 53.85%, from Latvia 26.92%, and Lithuania 19.23% (see Annex 3.1.2.).

3) Employers – the third group of questionnaire respondents, which included 22 employers from Kazakhstan, Latvia, Lithuania and Great Britain. The largest number of participants constituted of the respondents from Kazakhstan, 27%, Latvia 36%, followed by Lithuania 23% and Great Britain 14% (see Annex 3.1.3.).

At the ascertaining stage of the pilot experimental research, questionnaire, systematization and initial data processing in Excel allowed to process statistical data of the questionnaires and form electronic data base, based on universal programmes MS Excel and Access from Open Office package (Elliot, 1991; Kemmis & Wilkinson, 1998; Stringer, 1996; Winter, 1996) for the further analysis of dynamics of the Formation of Professional competence.

At the formational stage of the pilot experimental research with the aim to raise the levels (reproductive, interpretive, creative) of Professional competence, Modular education programme "Costume design" was introduced, which allowed to determine the effectiveness of the Methodic

with application of theoretical and practical basis, as well as for the introduction of indicators of the developed Criteria for the assessment of Professional competence of students – future teachers of Vocational training in Clothing design.

At the formational stage of the pilot experimental research, differentiation of groups into *control* and *experimental* group was conducted. The number of students with basic artistic preparation, as well as students without basic artistic preparation, was distributed into two groups, in order to achieve approximately the same level of Professional competence of both groups at the beginning of the formational stage of the pilot experimental research.

In the experimental group, the Methodic of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design was approbated based on the course project on the study of Module "Costume design" (see subchapter 2.2.), dependant on the approbation means with descriptions (see Table 3.1.7):

Table 3.1.7

Approbation of the Methodic of the Formation of Professional competence

Approbation means	Description of approbation means
Methodic of the Formation of Professional competence	Based on the application of traditional didactic methods and forms of work in training (see subchapter 2.2.).
Modular education programme "Costume design"	1. Study of disciplines Color Introduction, Project graphics, Costume design with theoretical and practical interdisciplinary tasks in cycles B and C in Clothing Design (on Working curriculum). 2. Acquisition of practical tasks of the course project Module "Costume design" from simple to complex, which form Professional competence for a further activity.

The results of two questionnaire stages were processed in the programme SPSS, based on which, the results of the pilot experimental research were further formulated, the existence of theoretically determined regularities and dynamic links on the Formation of Professional competence of students – future teachers of Vocational training in Clothing design was proven.

3.2. Experiment results and the dynamics of the Formation of Professional competence of students – future teachers in Clothing design

Based on the survey results, the dynamics of the Formation of Professional competence of students – future teachers in Clothing design is identified, according to the indicators of the first (ascertaining) and the second (controlling) stage of the experiment among the respondents: students, teachers, employers from: Kazakhstan, Latvia, Lithuania, Great Britain.

The percentage ratio of three criteria (motivational, contentive, procedural) of the experiment ascertaining stage is reflected in five response options of the questionnaire *(yes, always; almost always; sometimes; rarely; no, never),* allowed to create a diagram (see Figure 3.2.1).

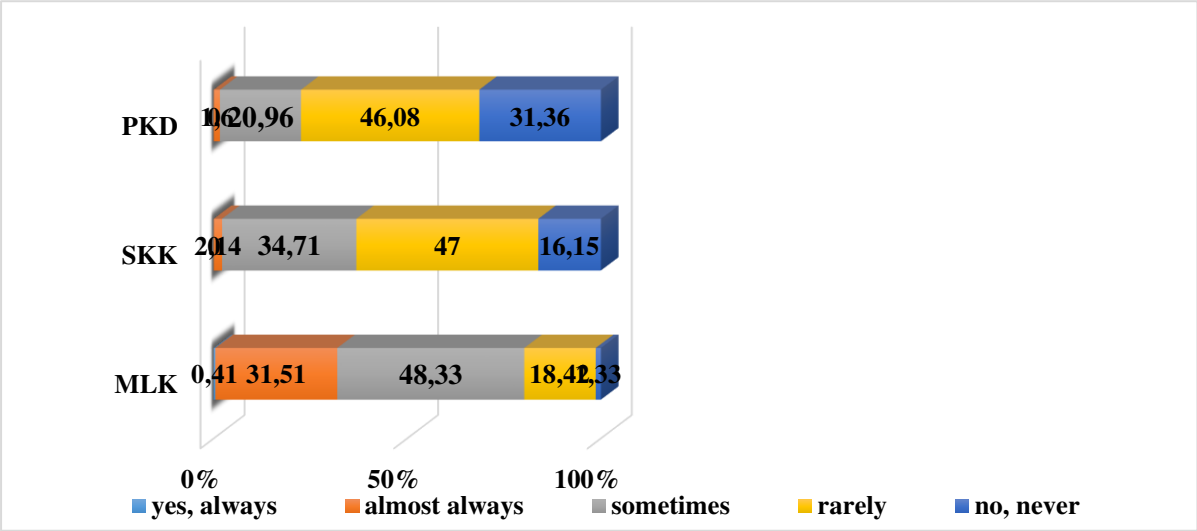

Figure 3.2.1. **Frequency table of the percentage ratio of the three questionnaire Criteria of the experiment ascertaining stage**

The results of the first questionnaire of the experiment ascertaining stage, according to the levels of Professional competence of students – future teachers of Vocational training (based on the training of teachers in Clothing design) (see subchapter 1.4.) identified:

- *Reproductive* level of Professional competence of students at ascertaining stage of the experiment, in which 50% of the students have the same level of knowledge, skills, attitude;
- *Interpretive* level, in which 35% surveyed students have the same level of knowledge, skills, attitude;

- *Creative* level in which 15% of the surveyed students demonstrated the same level of knowledge, skills, attitude.

The results of the first questionnaire identified deficiencies in acquisition of basic concepts and definitions:

- students' low level of basic preparation in design;
- students' narrow view on propaedeutic preparation in Clothing design spheres;
- inability towards systematicity, analysis and synthesis;
- weak project-oriented thinking due to insufficient level of Professional competence;
- incomprehension of interdisciplinary links of the Module;
- weak understanding of realization of knowledge, skills, attitude in activity process.

In general, student's overall level of preparation is assessed as satisfactory, which is approximately 50% of the assessment scale. The obtained results allow to conclude that there are deficiencies in acquisition of concepts and definitions, provided in SWOT analysis of Professional competence, based on the questionnaire of the experiment ascertaining stage (see Table 3.2.1, 3.2.2, 3.2.3).

Table 3.2.1.

SWOT analysis of Professional competence, based on the questionnaire results of the experiment ascertaining stage

Criterion	Strengths	Weaknesses
Motivational	Professional preparation and training trajectory form the need in conscious specialty profiling choice, self-development, acquirement of knowledge, skills, attitude to professional activity types, raising of self-education and qualification level, dependant on regularity of content goal.	Low motivation; incomprehension of the importance of profession; creative potential is not reached due to poorly expressed social characteristics of a personality, communicativeness, and, as a result, students' poor adequate assessment system of his activity results.
	Possibilities	**Threats**
	Organization of the Formation process of Professional competence on the basis of dynamic links of the Model and implementation of the Methodic on the Formation of Professional competence, based on Modular education programme "Costume design", which promotes the interest towards the specialty through motivation; development of social characteristics of a personality: intellectually cognitive, communicative, creative potential through involvement in project–oriented pedagogical activity.	Low motivation do not promote intellectually-cognitive development, understanding of regularities of knowledge, skills, attitude and Professional competence, content and processes of the Formation of Professional competence, and, as a result, lack of adequate assessment of Professional competence, social characteristics of a specialist.

The results of SWOT analysis allowed to identify the levels of Professional competence of students – future teachers of Vocational training (reproductive, interpretive, creative) (see subchapter 1.4.) on motivational criterion.

The results of SWOT analysis of contentive criterion are provided below (see Table 3.2.2.).

Table 3.2.2.

SWOT analysis of Professional competence, based on the questionnaire results of the experiment ascertaining stage

Criterion	Strengths	Weaknesses
Contentive	Basic propaedeutic preparation of enrollees on Clothing design basics realizes activity-oriented organizational regularity on knowledge, skills, attitude, Professional competence and understanding of the processes of all professional activity types.	The lack of systematicity, technological effectiveness, orientation in regularities and all design components; ignorance of the aims, mechanisms, components of the Formation of Professional competence, design content in pedagogical process; incomprehension of normative, pedagogical, professional conditions and, as a result, student's weak adequate assessment system of his activity results.
	Possibilities	**Threats**
	Implementation of the Methodic on the Formation of Professional competence based on dynamic links of Modular education programme promotes: complex systemic formation of knowledge, skills, attitude contents and Professional competence, knowledge of design content, knowledge of the essence of Module "Costume design", understanding the regularities of all professional activity type processes. Pedagogical diagnostics, on the basis of the Criteria for the assessment of the Formation of Professional competence, stimulates professional preparation processes.	Setting of common and individual tasks, aims, regularities on the basis of knowledge, skills, attitude of design basis, dependant on contentive criterion, normative, pedagogical, professional conditions, technologies, principles, requirements, forms of work; incomprehension of internal and external factors, affecting the Formation of Professional competence.

The results of SWOT analysis allowed to identify the levels of Professional competence of students – future teachers of Vocational training (based on the preparation of teachers in Clothing design) (creative, interpretive, reproductive) (see subchapter 1.2.2.2.) on contentive criterion.

The results of SWOT analysis of procedural criterion are provided below.

Table 3.2.3.

SWOT analysis of Professional competence, based on the questionnaire results of the experiment ascertaining stage

Criterion	Strengths	Weaknesses
Procedural	Professional activity process promotes the formation of knowledge, skills, attitude, Professional competence, through the fulfilment of practical tasks of resultative criterial regularity, development of social characteristics of a personality: intellectually–cognitive, communicativeness, creative potential of a specialist.	Low level of preparation in theoretical and practical knowledge do not promote the organization of all activity types of the Module "Costume design"; lack of analytical and prognostic skills, low level of preparation in technology and construction of project–oriented pedagogical process do not ensure project–oriented activity of students.
	Possibilities	**Threats**
	Course design in the Module "Costume design", based on subject–oriented practical knowledge, skills, attitude, as well as organization of practical trainings in productive conditions, with involvement of teachers with productive experience, promotes acquisition of Professional competence in activity process and understanding dynamic links of all the organization processes of the Formation of Professional competence.	Fulfilment of theoretical and practical knowledge, skills, attitude, Professional competence promote systemic orientation in the components of the Module, processes, content, pedagogical process, promotes ensurance of professional activity.

SWOT analysis of Professional competence, based on the questionnaire results of the experiment ascertaining stage, allowed to identify deficiencies and a set of objectives for the improvement of Professional competence for further research development.

In general, the questionnaire of ascertaining stage identified very low unsatisfactory indicators (see Table 3.2.1.), which constitute about 1/3 of the necessary Professional competence level, statistical results of which will be discussed in dynamics and analysis of the Formation of Professional competence of students – future teachers in Clothing design.

Therefore, the analysis of ascertaining stage of the Formation of Professional competence (ascertaining experiment), allowed to conclude that 50% of the students:

- lack motivation in specialty, in raising of self–education and qualification level, profession, creativity, development of social characteristics of a personality, communicativeness, adequate assessment system;
- do not possess systematicity components, mechanisms, aims of design content knowledge; do not distinguish the difference between assessment criteria indicators, conditions of the content knowledge on the Module "Costume design";
- lack Professional competence in fulfilment of subject–oriented practical tasks of the Module "Costume design".

Carried out ascertaining stage allowed to identify initial preparation of enrollees. Integration of the proposed Module into the research, based on the Methodic on the Formation of Professional competence, will allow to identify the effectiveness of professional preparation process of students – future teachers of Vocational training in Clothing design, according to the results of two conducted survey stages.

For a better representation of dynamics and contentive description by the basic statistical indicators, descriptive statistics (mean) were applied. The results of two questionnaire stages are systematized in Excel programme and processed in SPSS programme. The analysis is conducted on three criteria (motivational, contentive, procedural).

Using the results of statistical analysis with all seven motivational criterion indicators, consequent positive dynamics (see Figure 3.2.2), (see Annex 3.2.1) and dependence on dynamic links is identified:

1. interest in the specialty; dynamic link No.5 – direction of education;
2. gnoseological need in raising the level of self-education, qualification; dynamic link No.2 – education standard;
3. awareness of the importance of profession; dynamic link No.1 – sectoral innovations;
4. creativity; dynamic link No.1 – sectoral innovations;
5. social characteristics of a personality; dynamic link No.3 – education paradigm;
6. communicativeness; dynamic link No.3 – education paradigm;
7. adequate assessment system; dynamic link No.6 – organization of training.

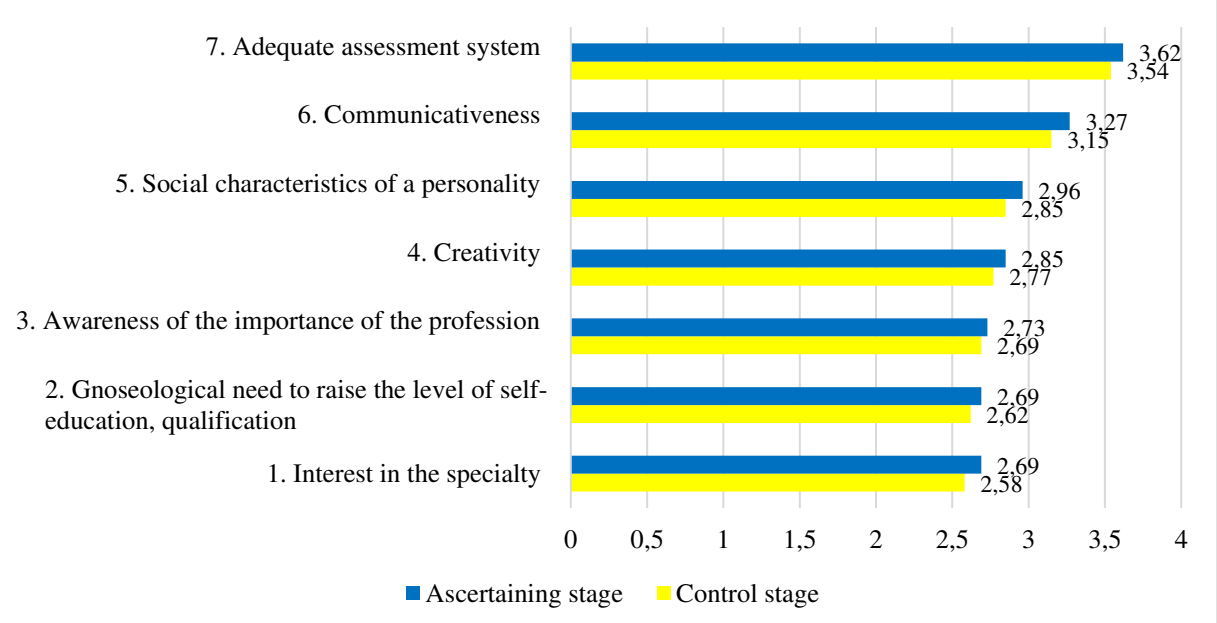

Figure 3.2.2. **Dynamics of the indicator of motivational criteria**

Positive dynamics is identified in indicator of contentive criterion (see Figure 3.2.3. and Annex 3.2.2):

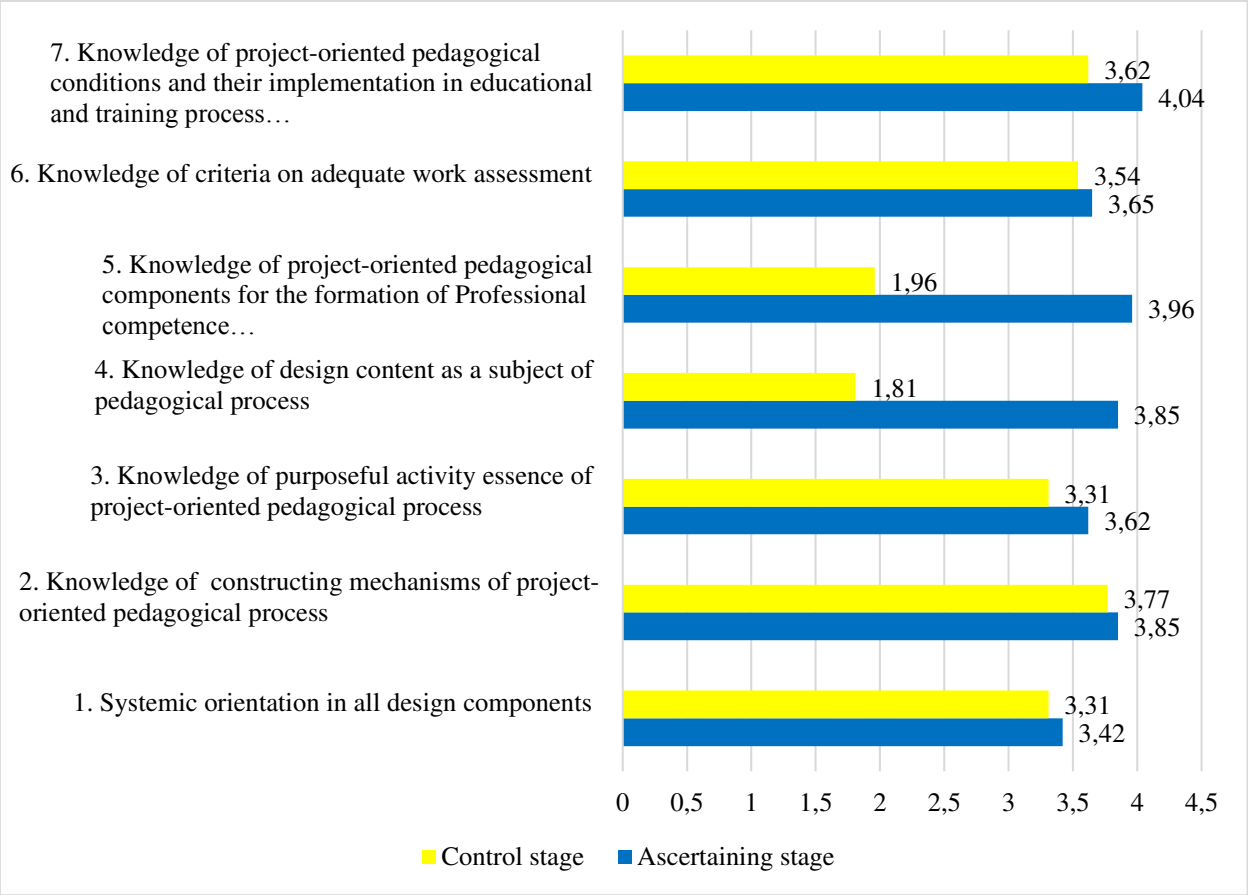

Figure 3.2.3. **Dynamics of the indicator of contentive criteria**

The analysis of indicators of contentive criterion dynamics was identified based on the indicators (see Annex 3.2.2) and dynamic links:

1. systemic orientation in all design components; dynamic link No.2 “education standard”;
2. knowledge of constructing mechanisms of project-oriented pedagogical process; dynamic link No.4 “mechanisms of process”;
3. knowledge of purposeful activity essence of project-oriented pedagogical process; dynamic link No.5 “direction of education”;
4. knowledge of design content as a subject of pedagogical process; dynamic link No.2 “education standard”;
5. knowledge of project-oriented pedagogical components for the formation of Professional competence; dynamic link No.4 “mechanisms of process”;

6. knowledge of criteria on adequate work assessment; dynamic link No.3 “education paradigm”;
7. knowledge of project-oriented pedagogical conditions and their use in educational and training process; dynamic link No.1 “sectoral innovations”.

The results of Wilcoxon test among the above mentioned contentive criterion indicators reflect statistical significance between the results of the first and the second measurement, based on the results of two questionnaires, where the majority of Wilcoxon test results (four out of seven) identified scores $p \leq 0.05$ that define the differences between selections as statistically significant, allowing to make conclusions and characterize the indicator of response results of each contentive criterion question of the questionnaire on the basis of one-sampled difference regularities.

For identification of significant differences of Wilcoxon test results of the indicators, the terms “maximum significance” and “minimum significance” were determined. Based on the obtained results of statistical significance of contentive criterion indicators in Wilcoxon test, table 3.2.4. is formed.

Based on the results of the identified statistical significance of contentive criterion indicators in Wilcoxon test, which show the improvements in result indicators of Professional competence of students – future teachers of Vocational training on the basis of implementation of the Methoic, four indicators are provided below:

Table 3.2.4.

Statistical significance of differences between the first and the second measurement of the contentive criterion indicators

Code	Indicator	p	1st measurement (mean)	2nd measurement (mean)
SKK3	Knowledge of purposeful activity essence of project-oriented pedagogical process	0.038	3.62	3.31
SKK4	Knowledge of design content as a subject of pedagogical process	0.000	3.85	1.81
SKK5	Knowledge of project-oriented pedagogical components for the Formation of Professional competence	0.000	3.96	1.96
SKK7	Knowledge of project-oriented pedagogical conditions and their use in educational and training process	0.015	4.04	3.62

The results of Wilcoxon test for identification of statistical significance of differences between the first and the second measurements of the contentive criterion indicators *(see Annex 3.2.3.)* identified:

maximum significance of differences: *knowledge of design content as a subject of pedagogical process* (p=0.000)*; Knowledge of project-oriented pedagogical components for the formation of Professional competence (p=0.000);*

- minimum significance of differences: *knowledge of purposeful activity essence of project-oriented pedagogical process* (p=0.038) *and knowledge of project-oriented pedagogical conditions and their use in educational and training process* (p=0.015), which will be further characterized.

Knowledge of design content as a subject of pedagogical process identified students' orientation in pedagogical conditions of pedagogical process construction by application of opportunities of interdisciplinary links and versatility of harmonization of regularity of content goal and activity-oriented organizational regularity in design, as the work on projects require systematicity.

Growth dynamics of the results of the Formation of Professional competence levels on the questionnaire indicators indicate that *knowledge of design content as a subject of pedagogical process* identified dynamic link No.2 – education standard.

The result of the second questionnaire (controlling stage) indicators was reflected in interdisciplinary links, on the basis of the application of versatile knowledge on activity–oriented organizational regularities of harmonization in design, which effectively affected result indicators in Wilcoxon test in general on design.

Students' holistic perception and understanding of design content depends on internal factors, didactic principles, the Criteria for the assessment of Professional competence based on systematicity of uniform theoretical regularities for all design disciplines and modules; shaped preconditions for livelong of the Formation of Professional competence on the basis of interdisciplinary knowledge for multi-profile specialization that effectively affected the increase of the level of self-education and qualification of future teachers of Vocational training. It identified interdependence of all the stages of pedagogical process and all activity types.

Knowledge of project-oriented pedagogical components for the formation of Professional competence confirmed the existence of regularity of content goal and activity-oriented organizational regularity of three Module disciplines (Colour introduction, Project graphic, Costume design) and identified didactic principles and specific objectives: Colour introduction identifies strengthening of knowledge on harmonization of colour proportions; Project graphic forms artistic

taste, analysis, compositionally-graphical knowledge; Costume design ensures practical realization of knowledge on design, modelling, construction of clothing. Dynamic link No.4 – mechanisms of process is identified.

Radical increase in the results of Wilcoxon test in the level of the contentive criterion indicators indicates the effectiveness of the developed Methodic on the basis of Modular education programme "Costume design".

Statistical significance on four contentive criterion indicators and on seven procedural criterion indicators demonstrates effectiveness of the developed Model, on the basis of Wilcoxon test results, which do not contradict the results of Mann – Whitney U – test, but match them (see Annex 3.2.4).

The results of Mann – Whitney U – test, where the statistical significance of the results of ascertaining and experimental group were compared, confirm the results of Wilcoxon test – maximum significance of differences is identified in all four indicators of contentive criterion, which means that the results in experimental group were significantly higher than in control group in all the indicators (p=0.000).

Based on the results of Mann – Whitney U – test, statistical significance of differences in contentive criterion on the same criteria was identified: *(knowledge of purposeful activity essence of project-oriented pedagogical process* (p=0.005*;* mean rank of experimental group 40.65, control group 58.28); *knowledge of design content as a subject of pedagogical process* (p=0.000; mean rank of experimental group 19.73, control group 65.00), *knowledge of project-oriented pedagogical components for the formation of Professional competence* (p=0.000; mean rank of experimental group 18.25, control group 65.48), *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (p=0.050; mean rank of experimental group 45.17, control group 56.83).

Knowledge of purposeful activity essence of project-oriented pedagogical process confirmed topicality of the application of theoretical knowledge, skills, attitude in understanding of theoretical aims and solutions of subject-oriented practical tasks, which are strengthened in practice, in work on projects, course works, in individual work of a student. Therefore, regularity of content goal was confirmed and dynamic link No.5 – direction of education was identified.

The improvement of the results of Professional competence levels (reproductive, interpretive, creative) in Wilcoxon test and Mann – Whitney U – test indicators reflect students' understanding and acquisition of activity-oriented organizational regularity, which form the essence of

project-oriented pedagogical process, on the basis of which, students fulfil subject-oriented practical tasks in professionally – pedagogical activity process that confirms the theories discussed above (see subchapter 1.2.) on:

– systematicity that promotes holistic synergy of the content of the Methodic on the Formation of Professional competence;
– activity, which has the key role in a unified process of professional preparation; technological effectiveness, which is interdependent with theory and practice.
– direction of education and training trajectory, forming project-oriented pedagogical process.

Therefore, the organization of the Formation of Professional competence based on the Criteria for the assessment of Professional competence and training trajectory is identified, which defined Professional competence of students – future teachers of Vocational training in Clothing design and confirmed dynamic link No.5 – direction of education.

Knowledge of project-oriented pedagogical conditions and their use in educational and training process confirmed the existence of dynamic link No.1 – sectoral innovations.

The dynamics of the indicator results of the assessment criteria for the Formation of Professional competence, according to Wilcoxon test and Mann – Whitney U – test, shows the development of heuristic, gnoseological personal characteristics of a future specialist, demonstrates interested attitude towards specialty and the formedness of analytical thinking of students. It characterizes the formedness of professional characteristics of students – future teachers of Vocational training, which depends on professional conditions, competence types and external factors, which define:

– systematicity;
– technological effectiveness, reflecting specificity of competence types;
– livelong, defining the Formation of Professional competence on the basis of the Criteria for the assessment and assessment of competencies.

It demonstrates interrelation of the improvement of the indicator results in three criteria for the assessment of Professional competence: motivational, contentive, procedural.

The dynamics of the results of all three Criteria, according to indicators of Wilcoxon test and Mann – Whitney U – test, demonstrates the formedness of students' competence types in each of three Module disciplines: Colour introduction, Project graphic, Costume design, and understanding of professional conditions in competence assessment. Students' orientation in each of Module disciplines with certain aims, objectives, specificity demonstrated preservation of interdisciplinary objectives of the Module. Formation of students' inductively-deductive judgemental thinking allows to define, assess and predict individual and joint specificities of project-oriented

pedagogical formation components of Professional competence. Obtained knowledge are dependent on external factors and the Criteria for the assessment of Professional competence, based on livelong and technological effectiveness of all training stages, intellectually-cognitive development, applying variability opportunities, reaching creative potential.

Knowledge of project-oriented pedagogical components for the Formation of Professional competence indicates the existence of dynamic link No.4 – mechanisms of process that demonstrated realization effectiveness of the Methodic on the Formation of Professional competence based on the Module "Costume design", revealing theoretically-methodological base and specificity of each Module discipline. Requirements and approaches in education and didactic principles of the organization of the process of Formation of Professional competence define knowledge and the Formation of Professional competence of teachers of Vocational training in different qualifications.

Based on the results of the procedural criterion analysis, the most prominent dynamics is identified and provided in figure 3.2.4.:

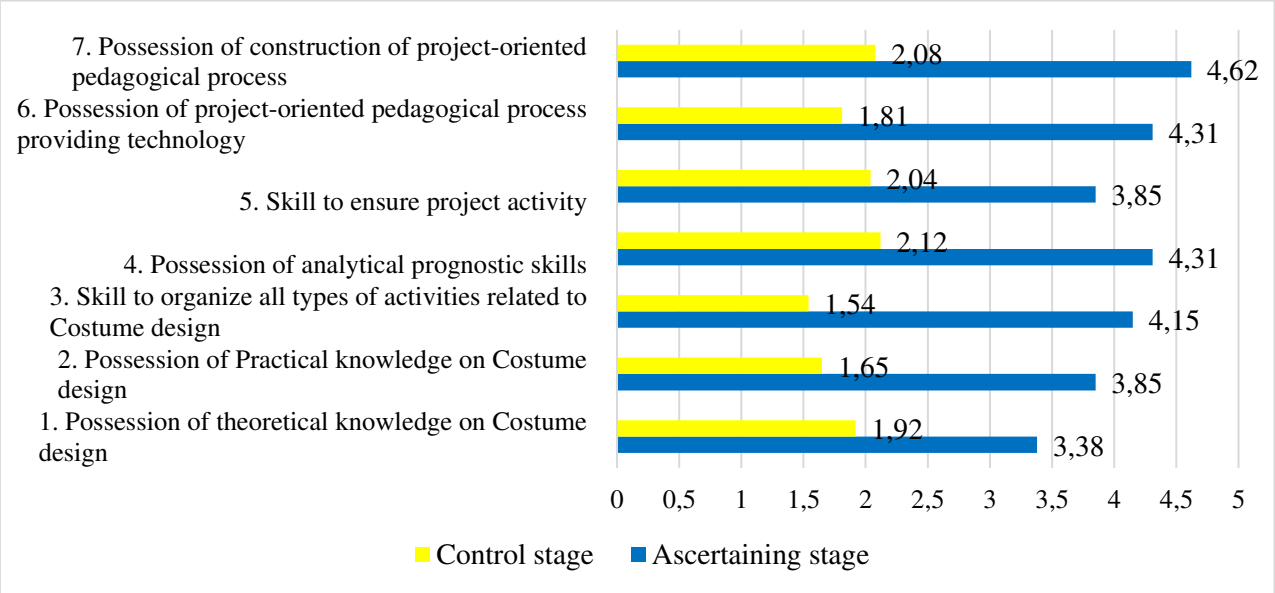

Figure 3.2.4. **Dynamics of the indicator of procedural criteria**

The analysis of dynamics of indicators of procedural criterion was identified on the criteria indicators (see Annex 3.2.5) and identified the dependence on dynamic links:

1. possession of theoretical knowledge on Costume design; dynamic link No.3 – education paradigm;

2. possession of practical knowledge on Costume design; dynamic link No.4 – mechanisms of process;
3. skill to organize all activity types, related to Costume design; dynamic link No.5 – direction of education;
4. possession of analytical prognostic skills; dynamic link No.6 – organization of training;
5. skill to ensure project activity; dynamic link No.6 – organization of training;
6. possession of project-oriented pedagogical process providing technology; dynamic link No.4 – mechanisms of process;
7. possession of construction of project-oriented pedagogical process; dynamic link No.4 – mechanisms of process.

The results of Wilcoxon test in the procedural criterion indicators show that between the first and the second measurements $p \leq 0.05$ is identified, which defines the differences between statistically significant selections, and allows to conclude and characterize the response indicators of each procedural criterion question in the questionnaire based on one-sampled difference regularities, which indicate maximum significance in all the indicators (p=0.000) *(see Annex 3.2.6.).* Based on the obtained indicator results of the statistical significance of procedural criterion indicators in test, table 3.2.5. is formed.

Table 3.2.5.

Statistical significance of differences between the first and the second measurements of the procedural criterion indicators

Code	Indicator	p	1st measurement (mean)	2nd measurement (mean)
PKD1	Possession of theoretical knowledge on Costume design	0.000	3.38	1.92
PKD2	Possession of practical knowledge on Costume design	0.000	3.85	1.65
PKD3	Skill to organize all activity types, related to Costume design	0.000	4.15	1.54
PKD4	Possession of analytical prognostic skills	0.000	4.31	2.12
PKD5	Skill to ensure project activity	0.000	3.85	2.04
PKD6	Possession of project-oriented pedagogical process providing technology	0.000	4.31	1.81
PKD7	Possession of construction of project-oriented pedagogical process	0.000	4.62	2.08

The results of Mann – Whitney U – test, where statistical significance of results of ascertaining and experimental group were compared, confirm the results of Wilcoxon test – maximum

statistical significance of differences is identified in all the procedural criterion indicators, which means that the results in experimental group were significantly higher than in control group in all the indicators (p=0.000) (see Annex 3.2.6.).

Possession of theoretical knowledge on Costume design confirmed dynamic link No.3 – education paradigm, which indicates the improvement of the results of the Formation of Professional competence levels, according to Wilcoxon test and Mann – Whitney U – test, which indicate theoretical training of students in general knowledge on the Module "Costume design" and orientation in each of its discipline. Considering the specificity of each discipline, where Colour introduction is characterized as propaedeutic design base, Project graphic – founds methodical knowledge on design, Costume design – forms special profile knowledge. Sequential, complex strengthening of knowledge and the Formation of Professional competence is identified in professional preparation on the basis of the Criteria for the assessment of Professional competence: motivational, contentive and procedural. Students' understanding of general and individual aims, objectives, interdisciplinary links on the Module promoted the effectiveness of the formation of Professional competence. Systematicity, technological effectiveness identified intellectually-cognitive development, revelation of social characteristics of a person, communicativeness, dependant on normative conditions and approaches in training, which demonstrated the effectiveness of the Module implementation Methodic.

Possession of practical knowledge on Costume design identified application of knowledge, skills, attitude in work on subject-oriented practical tasks on the module Costume design that confirmed dynamic link No.4 – mechanisms of process.

The dynamics of the results of *possession of practical knowledge on Costume design* indicate positive showings the indicators of Wilcoxon test and Mann – Whitney U – test, which define the organization of the process of Formation of Professional competence through acquirement of theoretical knowledge, their application and use in practical activity. Unified understanding of each separate discipline of the Module "Costume design" is identified, based on the requirements, approaches in training, didactic principles (activity, technological effectiveness, development of creative potential, variability), that confirmed the proposed theory on the key role of activity approach *(see subchapter 1.2.2.1.),* by which three types of competence: general, objective, methodical *(see subchapter 1.1.)* were identified and adapted on the basis of three Module disciplines: Colour introduction, Project graphic, Costume design. The indicators of the Formation of Professional competence of a teacher of Vocational training identified the compliance in three assessment criteria: motivational, contentive and procedural (see subchapter 1.2.2.2.).

Possession of practical knowledge on Costume design identified dependence of the organization of the process of Formation of Professional competence on didactic principles of the Formation of Professional competence: technological effectiveness in project-oriented pedagogical process approaches; activity realization in work on Course project promoted reaching of creative potential of students, provided with the opportunity for self-development of specialists through the Model components: based on the module "Costume design" requirements, dependant on dynamic link No.4 – mechanisms of process.

The effectiveness of the Methodic depends of the Formation of Professional competence on the basis of subject-oriented practical task solutions of the Module "Costume design", applying activity-oriented approach and improvement of theoretical and practical knowledge, skills, attitude by a student. It forms the attitude towards specialty, orientation in project-oriented pedagogical process content, application of theoretical and practical knowledge, skills in professionally-pedagogical activity.

Skill to organize all activity types, related to Costume design identified Professional competence of students – future teachers of Vocational training in Clothing design in: ideological conceptual justification of project concept, selection of coloristic solutions, artistic graphical perfomance, project-oriented compositional solutions, constructively-technological application in material, presentation and further project development, that defined dynamic link No.5 – direction of education.

The dynamics of the results is reflected in positive indicators of Wilcoxon test and Mann – Whitney U – test, demonstrating acquirement of theoretical and practical knowledge, skills, attitude by students in all three Module disciplines: Colour introduction, Project graphic, Costume design. Consequence in acquisition of project-oriented practical competencies by the students characterizes the specificity of the topics and tasks of each Module discipline, complicating through interdisciplinary links of all activity types. Training trajectory defined Professional competence of students – future teachers of Vocational training in Clothing design based on the Criteria for the assessment. Organization of the process of Formation of Professional competence promoted the development of creative potential and socialization of personal characteristics of a specialist through communicativeness, formation of variability in work on project. Dependence on three types – motives, skills, attitude – indicates the Formation of Professional competence that complies with the three assessment criteria: motivational, contentive and procedural, characterizing the proposed Methodology effectiveness.

Possession of analytical prognostic skills defined the Formation of Professional competence based on prognoses and formulation of stylistic directions, colour trends, project-oriented constructive solutions for further realization of ideas in practice. Dynamic link No.6 – organization of training is reflected.

The dynamics of the result in positive showings of Wilcoxon test and Mann – Whitney U – test reflects theoretical and practical knowledge, skills, attitude in all three interdependent Module disciplines, in tasks, formed from simple to complicated. It allowed the students to analyse project–oriented pedagogical process and make prognoses. Orientation in interdisciplinary links of the Module indicates students' criterial judgemental thinking, which defined interrelation of the Formation of Professional competence in three criteria: motivational, contentive and procedural that confirms the proposed Methodic. Dependence on didactic principles of the Formation of Professional competence, on the basis of the theory proposed during the research on the key role of activity in the realization process of the Methodic on the Formation of Professional competence, identified students' creative potential and intellectually-cognitive development. Organization of the process of Formation of Professional competence defined the forms of work in the professional preparation, raising of self-education and qualification level, assessment of competence.

The effectiveness of the proposed Methodic is characterized by the Formation of Professional competence of future teachers of Vocational training in Clothing design on prognosis and development of the latest fashion trends on this basis; generalization of conceptual designer projects for further professionally-pedagogical activity in clothing design; and also proposition of strategies for professional pedagogical self-development in further activity.

Skill to ensure project activity promoted the organization of the process of Formation of Professional competence in forms of work on the justification of project concept, application of all project system formation mechanisms: creation of sketches, selection of coloristic harmonies, materials, accessories, conduction of construction technological works, modelling, fittings, forming of a final garment, project presentation and its further development. It indicates the existence of dynamic link No.6 – organization of training.

Positive showings of Wilcoxon test and Mann – Whitney U – test, reflecting the Formation of Professional competence at all design stages: theoretical justification of concept and practical realization through the organization of the process of Formation of Professional competence. The Module "Costume design" implementation results demonstrate the acquirement of subject-oriented practical attainments by the students that defines the formedness of theoretical knowledge, understanding of organization of all activity types, acquirement of experience on independent provision of project activity. It indicates students' orientation in interdisciplinary links of the Module

in three criteria: motivational, contentive and procedural, that confirms the proposed Methodic on the Formation of Professional competence. It confirmed the theory proposed in the research on the key role of activity in the realization process of the regularity of the Methodic on the Formation of Professional competence, as it indicates the systematicity, which promotes the development of creative potential in livelong and technological effectiveness in project-oriented pedagogical process; and also intellectually-cognitive development, forming specificity of all design stages on the basis of variability, which promote students' self-development. Dependence was reflected in the formation of personal characteristics of a specialist (responsibility) and experience in practical activity that is confirmed by the indicators of procedural criterion in the professional preparation, raising of self-education and qualification level, assessment of competencies. It confirms the effectiveness of the Methodic on the basis of the Module "Costume design".

Possession of project-oriented pedagogical process providing technology is based on the requirements that determined dynamic link No.4 – mechanisms of process.

The improvements of results are reflected by students' orientation in "Costume design", which characterize subject-oriented practical knowledge, skills, attitude and demonstrated personal characteristics of a specialist in the organization of process of the Formation of Professional competence in the implementation of the Methodic on the Formation of Professional competence. The results depend on didactic principles of the Formation of Professional competence: systematicity, technological effectiveness, activity in design process, technology on the basis of procedural criterion.

It is the evidence of the Methodic effectiveness, which indicates the Formation of Professional competence of students – future teachers of Vocational training in Clothing design, in which subject-oriented practical activity plays the key role in training approaches, while the result is a completed practical project, formed on the basis of technology.

Possession of construction of project-oriented pedagogical process determined the application of theoretical training in special terminology, knowledge of technical, compositionally-graphical requirements of design model, possession of constructive competencies in the process of project conduction. Dynamic link No.4 – mechanisms of process is reflected.

Positive dynamics of result improvements is reflected by the showings of indicators Wilcoxon test and Mann — Whitney U – test, which characterize the highest result of understanding and orientation in all project–oriented pedagogical processes, as it defines theoretical and practical formedness of knowledge, skills, attitude in all the disciplines of the Module "Costume design". Training approaches and the organization of process of the Formation of Pprofessional competence

identified: ideological search for the creation and justification of concept, development and visualization of project versions of sketches. Improvement of Professional competence on project-oriented pedagogical process construction indicates the preparedness of specialists for professionally-pedagogical activity, while it reflects compliance with the Criteria for the assessment of "creative" competence level.

Dependence on didactic principles of the Formation of Professional competence shows the key role of activity on the basis of systematicity of all the components of the Methodic on the Formation of Professional competence and livelong of all Module "Costume design" study stages, as well as the use of task variability opportunities in interdisciplinary links. The Model of the Formation of Professional competence in all the Module disciplines is confirmed by positive results on the basis of procedural criterion.

The effectiveness of the Methodic reflects the aims and objectives of the Formation of Professional competence on the basis of the Model and the preparedness of students – future teachers of Vocational training in Clothing design for professionally-pedagogical activity.

Seven procedural criterion indicators confirm the effectiveness of the developed Methodic on the basis of Modular Education programme "Costume design", regarding its radical impact on the increase of the level. The results of all three criteria identified clearly expressed positive dynamics of the indicators of practical part of the Methodic on the Formation of Professional competence of students – future teachers of Vocational training.

Therefore, based on the results analysis of the research on Professional competence, positive dynamics of the indicators is identified and reflected by:

- the results of descriptive statistics (mean) on the basis of seven questions from each criteria: motivational, contentive, procedural.

As a result of the identified results of the motivational criteria indicators between the first and the second measurements, differences between the selections were identified as statistical insignificant, but sequential positive dynamics is identified in all the motivational criterion indicators, according to the results of descriptive statistics (mean). The improvement of the indicators between experimental group and control group at ascertaining and controlling stages of experiment demonstrates the Formation of Professional competence in motivational criterion in: interest in the specialty; gnoseological need in raising the level of self-education, qualification; awareness of the importance of profession; creativity; social characteristics of a personality; communicativeness; adequate assessment system.

Therefore, the study of the dynamics of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design in motivational criterion confirmed regularity of content goal, which realize specialists' professional preparation process through dynamic links.

As a result of the identified contentive criterion indicator results between the first and the second measurements, differences between the selections were identified as statistically significant with maximum significance (p=0.000) and minimum significance (p=0.038 and p=0.015). The improvement of the indicators between experimental group and control group at ascertaining and controlling stages of the experiment demonstrate the Formation of Professional competence in contentive criterion in:

- *Knowledge of purposeful activity essence of project-oriented pedagogical process* identified the application of Professional competence of students in the aims of pedagogical process in work on project and its implementation in activity. Dynamic link No.5 – direction of education.
- *Knowledge of design content as a subject of pedagogical process* identified the realization of Professional competence of students on knowledge of design content in frameworks of pedagogical process, within the framework of pedagogical process. Dynamic link No.2 – education standard.
- *Knowledge of project-oriented pedagogical components for the Formation of Professional competence* identified the realization of Professional competence of students in three disciplines of the Module "Costume design" (Colour introduction, Project graphic, Costume design, with aims, tasks and content), and on the basis of the Model of the Formation of Professional competence and significance of each of them in the Formation of Professional competence of future teachers of Vocational training in Clothing design. Dynamic link No.4 – mechanisms of process.
- *Knowledge of project-oriented pedagogical conditions and their use in educational and training process* identified students' knowledge of professional conditions on the basis of competence types, dependant on external factors, assessment of competence in work on project in educational training process. Dynamic link No.1 – sectoral innovations.

Therefore, the study of the dynamics of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design in contentive criterion confirmed activity-oriented organizational regularity, which realizes the process of Formation of Professional competence through dynamic links.

Identified procedural criterion indicator results between the first and the second measurements determined the differences between the selection as statistical significant with maximum

significance (p=0,000) in all seven indicators of the questionnaire questions. Improvement of the indicators between experimental group and control group at ascertaining and controlling stage of the experiment demonstrates the Formation of Professional competence in procedural criterion in:

- *Possession of theoretical knowledge on Costume design* identified the realization of students' Professional competence in theoretical knowledge, regularities, approaches in training, normative conditions on the Module Costume design, including three disciplines (Colour introduction, Project graphic, Costume design). Dynamic link No.3 – education paradigm.
- *Possession of practical knowledge on Costume design* identified the realization of students' Professional competence in practical knowledge, skills, attitude on the Module Costume design, consisting of three disciplines (Colour introduction, Project graphic, Costume design), including the requirements, training approaches, didactic principles. Dynamic link No.4 – mechanisms of process.
- *Skill to organize all activity types, related to Costume design* identified the realization of Professional competence of students in subject-oriented practical knowledge, skills, attitude on the Module Costume design, consisting of three disciplines (Colour introduction, Project graphic, Costume design) in the organization of the process of Formation of Professional competence, based on education trajectory, the Criteria for the assessment of Professional competence of students – future teachers of Vocational training in Clothing design. Dynamic link No.5 – direction of education.
- *Possession of analytical prognostic skills* identified the realization of Professional competence of students in analysis, prognosis of concept and design and fashion direction for application in further professional activity on the basis of the organization of process of the Formation of Professional competence through forms of work, based on professional preparation, raising the level of self-education and qualification, assessment of competencies. Dynamic link No.6 – organization of training.
- *Skill to ensure project activity* identified the subject–oriented practical realization of Professional competence of students in project activity, including all design stages: projects' theoretical conceptualization, application of knowledge, skills, attitude in practical realization of project activity. Organization of the process of Formation of Professional competence identified forms of work on the basis of professional preparation, raising of self-education and qualification level, competence assessment. Dynamic link No.6 – organization of training.
- *Possession of project-oriented pedagogical process providing technology* identified the realization of Professional competence of students in technology, with application of theoretical and

practical knowledge, skills, attitude in providing of project-oriented pedagogical process. Organization of the process of Formation of Professional competence identified the requirements, training approaches, didactic principles. Dynamic link No.4 – mechanisms of process.

- *Possession of construction of project-oriented pedagogical process* identified the realization of Professional competence of students in construction, applying theoretical and practical knowledge, skills, attitude in providing of project-oriented pedagogical process. Organization of the process of Formation of Professional competence identified the requirements, training approaches, didactic principles. Dynamic link No.4 – mechanisms of process.

Therefore, the study of the dynamics of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design in procedural criterion confirmed resultative criterial regularity, which organizes the Formation of Professional competence of specialists through dynamic links.

Introduction of the Model into the system of higher education in Kazakhstan on the basis of the proposed Methodic of Formation Professional competence has made it possible to identify the effectiveness of the process of professional preparation of students – future teachers of Professional Education in the specialization of Clothing design.

Based on the results of the first (ascertaining) and the second (controlling) stages of the experiment the dynamics of the Formation of the Professional competence of students – future teachers in Clothing design is revealed all three criteria (motivational, contentive, procedural) among respondents (students, teachers, employers) of different countries Kazakhstan, Latvia, Lithuania, Great Britain).

The statistical significance of the differences between the first and second measurements of indicators and the dynamic links revealed:

– in indicators of the motivational criterion: direction of education, sectoral innovations, education paradigm;

– in indicators of the contentive criterion: education standard, education paradigm, mechanisms of process, direction of education, sectoral innovations;

– in indicators of the procedural criterion: direction of education, organization of training, mechanisms of process.

The effectiveness of the developed Methodic on the basis of the Modular Educational Programme “Costume Design” is confirmed by raising the levels (reproducing, interpreting, creative) of Formation of Professional competence of students – future teachers of Vocational Training in specialization Clothing design.

3.3. Comparative analysis of the research results on the Formation of Professional competence of students – future teachers in Clothing design

This subchapter provides the comparative analysis of the research results on the Formation of Professional competence, based on Kruskal – Wallis test applied on the questionnaires of students from different countries on three criteria: motivational, contentive, procedural, among three groups of respondents: students, teachers, employers.

Three indicators of motivational criteria of the survey of students from Kazakhstan, Latvia, Lithuania, where the statistical significance is revealed, is provided in table 3.3.1.

Table 3.3.1.

Statistical significance of differences of motivational criterion indicators among the students of different countries

Code	Indicators of criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
MLK1	Interest in the specialty	0.001	16.50	Lithuania	36.81	Kazakhstan
MLK3	Awareness of the importance of profession	0.000	16.80	Lithuania	37.38	Kazakhstan
MLK7	Adequate assessment system	0.001	20.82	Latvia	35.52	Kazakhstan

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.1.) showed that statistically maximum significant differences were observed among the students of different countries (Kazakhstan, Latvia, Lithuania) on the following variables of motivational criterion: *awareness of the importance of profession* (p=0.000); *interest in the specialty* (p=0.001); very significant differences identified regarding: *adequate assessment system* (p=0.001) (see Annex 3.3.1.).

Students *awareness of the importance of profession* has the highest score in Lithuania (Mean Rank 16.80), while the lowest score was identified in Kazakhstan (Mean Rank 37.38). It shows the students conscious awareness of the necessity to realize acquired knowledge, skills, attitude, well-formedness of experience and personal characteristics, promoting Professional competence, motivated attitude towards all the processes in further professionally-pedagogical activity. In Kazakhstan, it identifies weak motivated attitude towards the specialty, which does not form students' awareness of the importance of profession.

Students' *interest in the specialty* has the highest score in Lithuania (Mean Rank 16.50), while the lowest score is observed in Kazakhstan (Mean Rank 36.81). It shows that interested,

motivated attitude towards the specialty is important for Lithuanian students, promoting expression of professional lifelong intellectually cognitive self-development, variability, activity, development of creative potential. For Kazakhstan, it identifies weak motivated attitude towards the specialty, which does not form students' interest, dependant on the factors (external and internal), conditions (normative, pedagogical, professional), criteria (motivational, contentive, procedural).

Students' *adequate assessment system* has the highest score in Latvia (Mean Rank 20.82), while the lowest score is identified in Kazakhstan (Mean Rank 35.52). It defines the well-formedness of students' knowledge, skills, attitude that promotes the Formation of Professional competence for adequate subjective and objective assessment of professional achievement in professionally-pedagogical activity. For Kazakhstan, it indicates the need to improve the pedagogical diagnostics, on the basis of the Criteria (motivational, contentive, procedural).

Therefore, according to the results of the second questionnaire, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the students from Kazakhstan on the following indicators of motivational criterion: *gnoseological need in raising the level of self-education, qualification; creativity; social characteristics of a personality; communicativeness.* It identified the dependence on contentive reasonable regularity and dynamic links: sectoral innovations, direction of education, organization of training.

However, the comparative analysis of the indicators of motivational criterion of students of Kazakhstan, based on Kruskal – Wallis test, identified the lowest scores in: *interest in the specialty; awareness of the importance of profession; adequate assessment system.*

It identified vulnerability in dynamic links: direction of education, sectoral innovations, organization of training.

The comparative analysis of the questionnaires of the teachers from Kazakhstan, Latvia, Lithuania, based on Kruskal – Wallis test, is provided further on three criteria: motivational, contentive, procedural.

The results on motivational criterion is provided below (see Table 3.3.2.).

Table 3.3.2.

Statistical significance of differences of motivational criterion indicators among the teachers of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
MLK1	Interest in the specialty	0.007	10.79	Latvia	20.50	Kazakhstan
MLK3	Awareness of the importance of profession	0.009	10.79	Latvia	20.50	Kazakhstan

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.2) showed that, according to the teachers, statistically very significant differences were observed among the teachers from Kazakhstan and Latvia on the indicators of motivational criterion:

- *interests in the specialty* (0.007), *awareness of the importance of profession* (0.009);
- significant differences on the indicator: *communicativeness* (0.023) (see Annex 3.3.2.).

Interest in the specialty, according to the teachers, has the highest score in Latvia (Mean Rank 10.79), while the lowest score is identified in Kazakhstan (Mean Rank 20.50). It shows that an interested, motivated attitude towards the specialty is important for Latvia students, promoting professional continuous intellectually cognitive self-development, variability, activity, development of creative potential. In Kazakhstan, it identified a weak motivated attitude towards the specialty due to low interest of students, based on the factors (internal and external), conditions (normative, pedagogical, professional).

Awareness of the importance of profession, according to the teachers, has the highest score in Latvia (Mean Rank 10.79), while the lowest score is identified in Kazakhstan (Mean Rank 20.45). Latvian teachers characterize students' conscious awareness of the realization of acquired knowledge, skills, attitude and well-formedness of experience and personal characteristics, which promote professionally-pedagogical activity. The teachers from Kazakhstan identified a weak motivated attitude of students towards the profession.

Therefore, according to the results of the second questionnaire, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the teachers from Kazakhstan on the following indicators of motivational criterion: *gnoseological need in raising the level of self-education, qualification; creativity; social characteristics of a personality; communicativeness, adequate assessment system.* It identified the dependence on contentive reasonable regularity and dynamic links: education standard, sectoral innovations, education paradigm, organization of training.

Nevertheless, the comparative analysis of the indicators of motivational criterion of teachers of Kazakhstan, based on Kruskal – Wallis test, identified the lowest scores in: *interest in the specialty; awareness of the importance of profession.* It identified vulnerability in dynamic links: direction of education, sectoral innovations.

Based of Kruskal – Wallis test, the comparative analysis, of the questionnaires of all the respondents (students, teachers, employers) from all survey countries on three criteria: motivational, contentive, procedural.

The analysis of motivational criterion is provided below (see Table 3.3.3.).

Table 3.3.3.

Statistical significance of differences of motivational criterion indicators among the respondents (students, teachers, employers) of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	Respondents	Lowest score (Mean Rank)	Respondents
MLK1	Interest in the specialty	0.009	46.79	students	67.91	employers
MLK3	Awareness of the importance of profession	0.025	46.75	students	66.07	employers
MLK4	Creativity	0.000	43.22	students	75.80	employers
MLK 5	Social characteristics of a personality	0.001	44.48	students	72.32	employers
MLK 6	Communicativeness	0.000	38.28	students	69.42	teachers

The comparative analysis, based on Kruskal – Wallis test (see Table 3.3.3.), showed that, according to the respondents (students, teachers, employers),

- statistically maximum significant differences are identified in the following indicators of motivational criterion: creativity (p=0.000); *social characteristics of a personality* (p=0.001); *communicativeness* (p=0.000);
- statistically very significant differences in the criterion indicator: *interest in the specialty* (0.009);
- statistically significant differences in the criterion indicator: awareness of the importance of profession (0.025) (see Annex 3.3.3).

Creativity, according to the students, has the highest score (Mean Rank 43.22), while the employers identified the lowest score (Mean Rank 75.80). It shows that the students highly value their Professional competence and are independent in the expression of their creative potential, use variable methods, approaches, principles, professional conditions in the types professionally-pedagogical activity for lifelong professional self-development. The employers assessed creative potential of students sceptically.

Students have the highest score (Mean Rank 38.28) of *communicativeness*, while with the lowest score is identified among the teachers (Mean Rank 69.42), which shows that a search for new professional contacts, people with similar interests, exchange of opinions, creative ideas, acquiring of new circle of like-minded fellows, potential environment for further professional development and employment is important for the students. It is related to the professional need in competence development, based on the exchange of knowledge, skills, attitude. The teachers assessed the communicativeness of students lower.

Social characteristics of a personality have the highest score among the students (Mean Rank 44.48), while the employers identified the lowest score (Mean Rank 72.32). It indicates that the expression of personal attitude and responsibility during the application of Personal competence at all design stages and in all types of professionally-pedagogical activity is important for the students. According to the employers' opinion, it characterizes students' weak expression of social characteristics of a personality in Professional competence during the conduction of professionally-pedagogical activity.

Interest in the specialty has the highest score among the students (Mean Rank 46.79), while the employers identified the lowest score (Mean Rank 67.91). It shows that interested, motivated attitude towards the specialty is important for the students, promoting professional lifelong intellectually cognitive self-development, variability, activity, development of creative potential. The employers defined weak motivated attitude of students towards the specialty, which does not form the interest.

Awareness of the importance of profession has the highest score among the students (Mean Rank =46.75), while the employers identified the lowest score (Mean Rank 66.07). It characterizes students' conscious awareness of the realization of acquired knowledge, skills, attitude, which promote all processes in the further professionally-pedagogical activity. According the employers, it defines a weak motivated attitude of students towards the specialty.

According to the results of the second questionnaire, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the respondents (students, teachers, employers) on the following indicators of motivational criterion: *gnoseological need in raising of the level of self-education, qualification; adequate assessment system.* It identified the dependence on regularity of content goal and dynamic links: education standard, organization of training.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of motivational criterion among the respondents (students, teachers, employers) identified the lowest score in: *interest in the specialty; awareness of the importance of profession; creativity; social characteristics of a personality; communicativeness.* It identified vulnerability in dynamic links: sectoral innovations, sectoral innovations, education paradigm, education paradigm.

In the pilot experimental research, a correlational analysis based on Kendall Tau b test was carried out on the indicators of the Criteria for the assessment of the Formation of Professional competence (see Annex 3.3.4.).

Correlation, which indicates an average interrelation, is identified between:

- *interest in the specialty and design content knowledge as a subject of pedagogical process (r=0.512);*
- *gnoseological need in raising the level of self-education, qualification and design content knowledge as a subject of pedagogical process* (r=0.518);
- *social characteristics of a personality and communicativeness* (r=0.505).

Therefore, the correlation identified the dependence on dynamic link: direction of education, education standard, education paradigm.

Further, the comparative analysis of the indicators of contentive criterion is provided, based on Kruskal – Wallis test of the questionnaires of the students from difference countries (Kazakhstan, Latvia, Lithuania) (see Table 3.3.4.).

Table 3.3.4.

Statistical significance of the differences of contentive criterion indicators among the students of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
SKK2	Knowledge of constructing mechanisms of project-oriented pedagogical process	0.000	16.54	Latvia	41.31	Kazakhstan
SKK4	Design content knowledge as a subject of pedagogical process	0.026	22.88	Kazakhstan	38.60	Lithuania
SKK6	Knowledge of criteria on adequate work assessment	0.000	16.28	Kazakhstan	40.88	Latvia
SKK7	Knowledge of project-oriented pedagogical conditions and their application in educational and training process	0.000	13.50	Lithuania	39.12	Kazakhstan

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.4.), (see Annex 3.3.5.) showed that, according to the students, regarding contentive criteria,

- statistically maximum significant differences are observed on the following variables: *systemic orientation in all design components; knowledge of constructing mechanisms of project-oriented pedagogical process* (p=0.000); *knowledge of constructing mechanisms of project-oriented pedagogical process* (p=0.000); *knowledge of purposeful activity essence of project-oriented pedagogical process* (p=0.000); *knowledge of criteria on adequate work assessment* (p=0.000); *knowledge of project-oriented pedagogical conditions and their use in educational training process* (p=0.000).
- significant differences were observed on the indicators: *design content knowledge as a subject of pedagogical process* (p=0.026) (see Annex 3.3.2., 3.3.3.).

Knowledge of constructing mechanisms of project–oriented pedagogical process has the highest score among Latvian students (Mean Rank 16.54), while the lowest score (Mean Rank 41.31) is identified in Kazakhstan, which confirms the necessity in the modernization of conditions (normative, pedagogical, professional), criteria (motivational, contentive, procedural), dependant on the Model of the Formation of Professional competence in the processes of professional preparation in HEIs of Kazakhstan.

Knowledge of criteria on adequate work assessment of the students has the highest score in Kazakhstan (Mean Rank 16.28), while the lowest score is identified in Latvia (Mean Rank 40.88). It indicates the well-formedness of Pedagogical diagnostics based on the criteria (motivational, contentive, procedural), dependent on the Model and the Methodic of the Formation of Professional competence in the processes of professional preparation in HEIs in Kazakhstan and in the organization of the Formation of Professional competence.

Knowledge of project-oriented pedagogical conditions and their use in educational and training process has the highest score in Lithuania (Mean Rank 13.50), while the lowest score is identified in Kazakhstan (Mean Rank 39.12). It indicates that there is a necessity in the creation of conditions (normative, pedagogical, professional), dependent on dynamic links on the basis of the Model and the Methodic in the organization of the process of the Formation of Professional competence in Kazakhstan.

Design content knowledge as a subject of pedagogical process has the highest score in Kazakhstan (Mean Rank 22.88), while the lowest score is identified in Lithuania (Mean Rank 38.60). It indicates the well-formedness of theoretical knowledge and practical knowledge, skills and attitude in the process of professional preparation in HEIs of Kazakhstan.

According to the results of the second questionnaire, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the students of Kazakhstan on the following indicators of contentive criterion: *systemic orientation in all design components; knowledge of purposeful activity essence of project-oriented pedagogical process; design content knowledge as a subject of pedagogical process; knowledge of project-oriented pedagogical components for the formation of Professional competence; knowledge of criteria on adequate work assessment.*

It identified the dependence on activity-oriented organizational regularity and dynamic links: education standard, direction of education, mechanisms of process, education paradigm.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of contentive criterion among the students from Kazakhstan identified the lowest scores in: *knowledge of constructing mechanisms of project-oriented pedagogical process; knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

It identified vulnerability in dynamic links: mechanisms of process, sectoral innovations.

Further, based on Kruskal – Wallis test, the comparative analysis of the indicators of contentive criterion of the questionnaires of the teachers from different countries (Kazakhstan, Latvia, Lithuania) is provided (see Table 3.3.5.).

Table 3.3.5.

Statistical significance of the differences of contentive criterion indicators among the teachers of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
SKK5	Knowledge of project-oriented pedagogical components for the formation of Professional competence	0.037	10.79	Kazakhstan	19.07	Latvia

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.5. and Annex 3.3.6.) showed that statistically significant differences, according to the teachers, are identified in contentive criterion:

- *knowledge of project-oriented pedagogical components for the Formation of Professional competence* (p=0.037).

Knowledge of project-oriented pedagogical components for the Formation of Professional competence is defined by the teachers from Kazakhstan with the highest score (Mean Rank 10.79), while the lowest score is identified in Latvia (Mean Rank 19.07). It indicates the well-formedness of theoretical knowledge, skills, attitude of students in the solution of subject-oriented practical tasks.

According to the result of the second questionnaire, the highest score of contentive criterion is identified among the teachers from Kazakhstan: *knowledge of project-oriented pedagogical components for the formation of Professional competence.*

It is dependant on activity-oriented organizational regularity and dynamic links: mechanisms of process.

Further, based on Kruskal – Wallis test, the comparative analysis of the indicators of contentive criterion of the questionnaires of the employers from different countries (Kazakhstan, Latvia, Lithuania) is provided (see Table 3.3.6.).

Table 3.3.6.

Statistical significance of differences of contentive criterion indicators among the employers of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
SKK7	Knowledge of project-oriented pedagogical conditions and their application in educational and training process	0.011	6.50	Lithuania	14.75	Kazakhstan

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.6), (see Annex 3.3.7.) showed that statistically significant differences, according to employers, are identified in contentive criterion:

- *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (p=0.011).

Knowledge of project-oriented pedagogical conditions and their use in educational and training process, according to the employers, has the highest score in Lithuania (Mean Rank 6.50), while the lowest score is identified in Kazakhstan (Mean Rank 14.75). It defines the non-formedness of the organization of process of the Formation of Professional competence in professional preparation in HEIs of Kazakhstan, which is expressed in conditions (normative, pedagogical, professional).

According to the result of the second questionnaire, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the employers of Kazakhstan on the indicators of contentive criterion:
systemic orientation in all design components; knowledge of constructing mechanisms of project-oriented pedagogical process; knowledge of purposeful activity essence of project-oriented pedagogical process; knowledge of design content as a subject of pedagogical process; knowledge of project-oriented pedagogical components for the Formation of Professional competence; knowledge of criteria on adequate work assessment.

It is dependent on activity-oriented organizational regularity and dynamic links: education standard, mechanisms of process, direction of education, education paradigm.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of contentive criterion of employers from Kazakhstan identified the lowest scores in: *knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

It identified vulnerability in dynamic links: sectoral innovations.

On the basis of the questionnaire, the comparative analysis of the indicators of contentive criterion of the Formation of Professional competence of all the respondents (students, teachers, employers), based on Kruskal – Wallis test, was conducted (see Table 3.3.7).

Table 3.3.7.

Statistical significance of the differences of contentive criterion indicators among the respondents (students, teachers, employers) of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	Respondents	Lowest score (Mean Rank)	Respondents
SKK2	Knowledge of constructing mechanisms of project-oriented pedagogical process	0.000	45.90	students	73.68	employers
SKK3	Knowledge of purposeful activity essence of project-oriented pedagogical process	0.000	46.56	students	73.52	employers
SKK4	Design content knowledge as a subject of pedagogical process	0.004	46.15	students	69.98	employers
SKK5	Knowledge of project-oriented pedagogical components for the formation of Professional competence	0.009	47.62	teachers	68.77	employers
SKK6	Knowledge of criteria on adequate work assessment	0.000	41.64	students	75.14	employers
SKK7	Knowledge of project-oriented pedagogical conditions and their application in educational and training process	0.026	46.96	teachers	66.91	employers

Based on Kruskal – Wallis test, the comparative analysis of the indicators of contentive criterion of the Formation of Professional competence of all the respondents (students, teachers, employers) (see Table 3.3.7.) showed that:

- statistically maximum significant differences were observed on the following variables: *knowledge of constructing mechanisms of project-oriented pedagogical process* (p=0.000); *knowledge of purposeful activity essence of project-oriented pedagogical process* (p=0.000); *knowledge of criteria on adequate work assessment* (p=0.000);
- statistically very significant differences were observed on the following variables: *knowledge of design content as a subject of pedagogical process* (p=0,004); *knowledge of project-oriented pedagogical components for the formation of Professional competence* (0.009);

- statistically significant differences were observed on the following variable: *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (0.026) *(see Annex 3.3.8).*

Knowledge of constructing mechanisms of project-oriented pedagogical process among the students has the highest score (Mean Rank 45.90), while the employers were identified with the lowest score (Mean Rank 73.68). The responses of the students characterize the well-formedness of the conditions (normative, pedagogical, professional). The employers express dissatisfaction with professional preparation of students in HEI, highlighting the weak organization of the Formation of Professional competence.

Knowledge of purposeful activity essence of project-oriented pedagogical process, according to the students, has the highest score (Mean Rank 46.56), while the employers identify the lowest score (Mean Rank 73.52). It indicates the well-formedness of theoretical knowledge, skills, attitude of students in design and application of them in project-oriented pedagogical process. The employers pointed at the weaknesses of the organization of the process of Formation of Professional competence due to a low level or lack of interdisciplinary relations, requirements, technologies, which structure theoretical knowledge, skills, attitude of students.

Knowledge of criteria on adequate work assessment of the students has the highest score (Mean Rank 41.64), while the employers identify the lowest score (Mean Rank 75.14). According to the students, they possess knowledge of criteria on adequate work assessment (motivational, contentive, procedural). However, the employers identify imperfection of the process of professional preparation in HEI and the organization of the Formation of Professional competence, dependant of the Model and the Methodic.

Knowledge of design content as a subject of pedagogical process has the highest score among the students (Mean Rank 46.15), while the employers identified the lowest score (Mean Rank 69.98). The students characterize the well-formedness of their theoretical knowledge, skills, attitude and the organization of the process of Formation of Professional competence in the professional preparation in HEI. According to the employers, students show a low level of theoretical preparedness on knowledge, skills, attitude, as their orientation in design content as a subject of pedagogical process is poor.

Knowledge of project-oriented pedagogical components for the formation of Professional competence is defined by the teachers with the highest score (Mean Rank 47.62), while the employers identified the lowest score (Mean Rank 68.77). The teachers characterize the well-formedness of theoretical knowledge, skills, attitude of students in the solution of subject-oriented practical tasks, their application in design in professionally-pedagogical activity and in the organization

of processes of professional preparation in HEI, dependant on the Model and the Methodic. However, the employers assessed students' knowledge of project-oriented pedagogical components for the Formation of Professional competence less positively, as they identified their inability to apply it in the process of professional activity.

Knowledge of project-oriented pedagogical conditions and their use in educational and training process is identified by the teachers with the highest score (Mean Rank 46.96), while the employers assess it less positively (Mean Rank 66.91). The teachers characterize the well-formedness of the characteristics (normative, pedagogical, professional), dependant on the Model and the Methodic in the organization of the process of Formation of Professional competence. The employers summarize the imperfection of the organization of the process of Formation of Professional competence during the professional preparation in HEI.

According to the result of the second questionnaire, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the respondents (students, teachers, employers) on the indicators of contentive criterion: *systemic orientation in all design components.* It identified the dependence on activity-oriented organizational regularity and dynamic links: education standard.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of contentive criterion among the respondents (students, teachers, employers), identified the lowest scores in: *knowledge of constructing mechanisms of project-oriented pedagogical process; knowledge of purposeful activity essence of project-oriented pedagogical process; knowledge of design content as a subject of pedagogical process; knowledge of project-oriented pedagogical components for the Formation of Professional competence; knowledge of criteria on adequate work assessment; knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

It identified vulnerability in dynamic links: mechanisms of process, direction of education, education standard, education paradigm, sectoral innovations.

Correlation, which indicates average interrelation, is identified between *systemic orientation in all design components* and:

- *possession of theoretical knowledge on Costume design* (r=0.580);
- *knowledge of constructing mechanisms of project-oriented pedagogical process* (r=0.557);
- *possession of project-oriented pedagogical process providing technology* (r=0.498).

Therefore, correlation identified the dependence on dynamic links: education standard, education paradigm, mechanisms of process.

It characterizes the interdependence of the indicators, which correlate with systemic orientation in all design components, on the basis of regularities, dynamic links and pedagogical interactions.

Correlation, which indicates high interrelation, is identified between *knowledge of constructing mechanisms of project-oriented pedagogical process* and:

- *knowledge of purposeful activity essence of project-oriented pedagogical process* (r=0.738).

Correlation identified the dependence on dynamic links: mechanisms of process, direction of education.

Correlation, which indicates average interrelation, is identified between *knowledge of constructing mechanisms of project-oriented pedagogical process* and:

- *knowledge of project-oriented pedagogical components for the Formation of Professional competence* (r=0.632);
- *possession of construction of project-oriented pedagogical process* (r=0.613);
- *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (r=0.611);
- *possession of practical knowledge on Costume design* (r=0.606);
- *possession of project-oriented pedagogical process providing technology* (r=0.556);
- *knowledge of criteria on adequate work assessment* (r=0.562);
- *possession of theoretical knowledge on Costume design* (r=0.571);
- *knowledge of design content as a subject of pedagogical process* (r=0.589).

Correlation identified the dependence on dynamic links: mechanisms of process, sectoral innovations, education paradigm, education standard.

Correlation, which indicates high interrelation, is identified between *knowledge of purposeful activity essence of project-oriented pedagogical process* and:

- *knowledge of design content as a subject of pedagogical process* (r=0.728).

Correlation identified the dependence on dynamic links: direction of education, education standard.

Correlation, which indicates average interrelation, is identified between *knowledge of purposeful activity essence of project-oriented pedagogical process* and:

- *knowledge of project-oriented pedagogical components for the Formation of Professional competence* (r=0.678);
- *knowledge of criteria on adequate work assessment* (r=0.610).

- *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (r=0.579).
- *possession of construction of project-oriented pedagogical process* (r=0.576).

Correlation identified the dependence on dynamic links: direction of education, mechanisms of process, education paradigm, sectoral innovations.

Correlation, which indicates average interrelation, is identified between *knowledge of design content as a subject of pedagogical process* and

- *skill to organize all activity types, related to Costume design* (r=0.505);
- *possession of project-oriented pedagogical process providing technology* (r=0.503).

Correlation identified the dependence on dynamic links: education standard, direction of education, mechanisms of process.

Correlation, which indicates average interrelation, is identified between *knowledge of project-oriented pedagogical components for the formation of Professional competence* and:

- *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (r=0.616);
- *knowledge of criteria on adequate work assessment* (r=0.612);
- *possession of theoretical knowledge on Costume design* (r=0.517).

Correlation identified the dependence on dynamic links: sectoral innovations, education paradigm.

Correlation, which indicates average interrelation, is identified between *knowledge of criteria on adequate work assessment* and:

- *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (r = 0.491);
- *possession of theoretical knowledge on Costume design* (r = 0.520).

Correlation identified the dependence on dynamic links: sectoral innovations, education paradigm.

Correlation, which indicates average interrelation, is identified between *knowledge of project–oriented pedagogical conditions and their use in educational and training process* and:

- *possession of project-oriented pedagogical process providing technology* (r=0.623);
- *possession of theoretical knowledge on Costume design* (r=0.525).

Correlation identified the dependence on dynamic links: mechanisms of process, education paradigm:

Further, based on Kruskal – Wallis test, the comparative analysis of the indicators of procedural criterion of the Formation of Professional competence of the questionnaires of the students from different countries (Kazakhstan, Latvia, Lithuania) (see Table 3.3.8. and annex 3.3.9.).

Table 3.3.8.

Statistical significance of differences of procedural criterion indicators among the students of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
PKD3	Skill to organize all activity types, related to Costume design	0.000	18.73	Kazakhstan	38.88	Latvia
PKD5	Skill to ensure project activity	0.004	22.15	Kazakhstan	36.26	Latvia

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.8. и приложение 3.3.9.) showed that, according to the students, in procedural criterion on the following variables are identified:

- statistically maximum significant differences in *skill to organize all activity types, related to Costume design* (p=0.000);
- statistically very significant differences in *skill to ensure project activity* (p=0.004).

Students' *skill to organize all activity types, related to Costume design* is vividly expressed in Kazakhstan (Mean Rank 18.73), while in Latvia it is expressed the least (Mean Rank 38.88). It indicates the organization of the process of Formation s of Professional competence in Kazakhstan through motivated personal characteristics of specialists. The use of knowledge, skills, attitude, formed on the basis of the Methodic and the implementation of Modular education programme "Costume design" in subject-oriented practical activity.

Students *skill to ensure project activity* is vividly expressed in Kazakhstan (Mean Rank 22.15), while in Latvia it is expressed less (Mean Rank 36.26). It also positively defines the application of knowledge, skills, attitude in subject-oriented practical activity in work on the project in Kazakhstan. It characterizes the reasonability of the implementation of the Methodic of the Formation of Professional competence, based on the implementation of Modular education programme "Costume design".

According to the result of the second questionnaire the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the students in Kazakhstan on the indicators of procedural criterion: *possession of theoretical knowledge on Cos-*

tume design; possession of practical knowledge on Costume design; possession of analytical prognostic skills; possession of project-oriented pedagogical process providing technology; possession of construction of project-oriented pedagogical process.

It identified the dependence on resultative criterial regularity and dynamic links: education paradigm, mechanisms of process, organization of training.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of procedural criterion among the students of Kazakhstan identified the lowest scores in: *skill to organize all activity types, related to Costume design; skill to ensure project activity.*

It identified vulnerability in dynamic links: direction of education, organization of training.

Further, based on Kruskal – Wallis test, the comparative analysis of the indicators of procedural criterion of the Formation of Professional competence of the questionnaires of the employers from Lithuania and Kazakhstan is provided (see Table 3.3.9. and Annex 3.3.10.).

Table 3.3.9.

Statistical significance of differences of procedural criteria indicators among the employers of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	HEIs of the country	Lowest score (Mean Rank)	HEIs of the country
PKD2	Possession of practical knowledge on Costume design	0.019	6.80	Lithuania	15.00	Kazakhstan

The comparative analysis, based on Kruskal – Wallis test, (see Table 3.3.9) showed that, according to the employers, in procedural criterion statistically significant differences are identified in *possession of practical knowledge on Costume design* (p=0,019).

In procedural criterion, *possession of practical knowledge on Costume design*, according to the employers, is vividly expresses in Lithuania (Mean Rank 6.80), while in Kazakhstan it is expresses less (Mean Rank 15.00). It characterizes the necessity of the organization of process of Formation of Professional competence in Kazakhstan and improvement of knowledge, skills, attitude in professionally-pedagogical activity, based on the proposed Methodic and Model.

According to the result of the second questionnaire, the effectiveness of the implementation of the Methodicy on the basis of Modular education programme is identified among the employers from Kazakhstan on the indicators of procedural criterion: *possession of theoretical knowledge on Costume design; skill to organize all activity types, related to Costume design; possession of analytical prognostic skills; skill to ensure project activity; possession of project-oriented pedagogical process providing technology; possession of construction of project-oriented pedagogical process.*

It identified the dependence of resultative criterial regularity and dynamic links: education paradigm, direction of education, organization of training.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of procedural criterion of the employers from Kazakhstan identified the lowest scores in: *possession of practical knowledge on Costume design.*

It identified vulnerability in dynamic links: mechanisms of process.

Further, on the basis of Kruskal – Wallis test, the comparative analysis of the indicators of procedural criterion of the questionnaires of all respondents (students, teachers, employers) is provided, identifying statistically significant differences (see Table 3.3.10 and annex 3.3.11.).

Table 3.3.10.

Statistical significance of differences of procedural criterion indicators among the respondents (students, teachers, employers) of different countries

Code	Indicators of the assessment criteria	p	Highest score (Mean Rank)	Respondents	Lowest score (Mean Rank)	Respondents
PKD7	Possession of construction of project-oriented pedagogical process	0.029	46.68	students	65.70	employers

Possession of construction of project-oriented pedagogical process, according to the students, has positive assessment (Mean Rank 46.68), while the employers assess it less positively (Mean Rank 65.70). According to the students, they possess theoretical and practical construction knowledge; skills, acquirable in project-oriented pedagogical process; attainments of application of professional experience acquired in professionally-pedagogical activity. However, the employers assess Professional competence of students more realistically, as they face the lack of students' knowledge, skills, experience (qualification) in real subject-oriented practical, productive–technological task solutions, which require adequate reaction.

According to the result of the second questionnaire the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the respondents (students, teachers, employers) from Kazakhstan on the indicators of procedural criterion: *possession of theoretical knowledge on Costume design; possession of practical knowledge on Costume design; skill to organize all activity types, related to Costume design; possession of analytical prognostic skills; skill to ensure project activity; possession of project-oriented pedagogical process providing technology;*

It identified the dependence of resultative criterial regularity and dynamic links: education paradigm, direction of education, organization of training.

Correlation between the indicators of the Criteria for the assessment of the Formation of Professional competence is provided below, showing the interrelation on several indicators.

Correlation, which indicates average interrelation, is identified between *possession of theoretical knowledge on Costume design* and:

- *possession of practical knowledge on Costume design* (r=0.576);
- *possession of construction of project-oriented pedagogical process, which shows average interrelation* (r=0.557);
- *possession of project-oriented pedagogical process providing technology, which shows strong interrelation* (r=0.603).

Correlation identified the dependence on dynamic links: education paradigm, mechanisms of process.

Based on Kruskal – Wallis test, the comparative analysis of the indicators of procedural criterion of the employers identified the lowest scores in: *possession of construction of project-oriented pedagogical process.*

It identified vulnerability in dynamic links: mechanisms of process.

Correlation, which indicates high interrelation, is identified between *possession of practical knowledge on Costume design* and:

- *possession of project-oriented pedagogical process providing technology* (r=0.715).

Correlation identified the dependence on dynamic links: mechanisms of process, organization of training.

Correlation, which indicates average interrelation, is identified between *possession of practical knowledge on Costume design* and:

- *possession of analytical prognostic skills, which shows weak interrelation* (r=0.499);
- *skill to ensure project activity, which shows average interrelation* (r=0.505);
- *possession of practical knowledge on Costume design, which shows average interrelation* (r=0.528).

Correlation identified dependence on dynamic links: mechanisms of process, organization of training.

Correlation, which indicates average interrelation, is identified between *possession of analytical prognostic skills* and:

- *skill to organize all activity types, related to Costume design* (r=0.534);
- *skill to ensure project activity* (r=0.529).

Correlation identified the dependence on dynamic links: organization of training, direction of education.

Correlation, which indicates average interrelation, is identified between *possession of analytical prognostic skills* and:

- *skill to ensure project activity* (r=0.518);
- *possession of project-oriented pedagogical process providing technology, which shows strong interrelation* (r=0.656).

Correlation identified the dependence on dynamic links: organization of training.

Correlation, which indicates average interrelation, is identified between *skill to ensure project activity* and:

- *possession of project-oriented pedagogical process providing technology* (r=0.569).

Correlation identified the dependence on dynamic links: organization of training.

Correlation, which indicates high interrelation, is identified between *possession of project–oriented pedagogical process providing technology* and:

- *possession of construction of project-oriented pedagogical process* (r=0.716).

Correlation identified the dependence on dynamic links: organization of training.

Correlation, which indicates average interrelation, is identified between *construction of project-oriented pedagogical process* and:

- *possession of analytical prognostic skills* (r=0.508).
- *possession of practical knowledge on Costume design* (r=0.612).
- *knowledge of project-oriented pedagogical conditions and their use in educational and training process* (r=0.671).

Correlation identified the dependence on dynamic links: organization of training, mechanisms of process, sectoral innovations.

On the basis of the research and the comparative results analysis of the students questionnaire indicators, based on Kruskal – Wallis test, statistical significance of differences is identified:

– in motivational criterion – *awareness of the importance of profession, interest in the specialty, adequate assessment system.* The effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the students from Kazakhstan on the indicators of motivational criterion: *gnoseological need in raising the level of self-education, qualification; creativity; social characteristics of a personality; communicativeness.*

– In contentive criterion, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the students of Kazakhstan on the indicators

of contentive criterion – *systemic orientation in all design components; knowledge of purposeful activity essence of project-oriented pedagogical process; knowledge of design content as a subject of pedagogical process; knowledge of project-oriented pedagogical components for the Formation of Professional competence; knowledge of Criteria on adequate work assessment.* As well as the lowest scores among the students from Kazakhstan in: *knowledge of constructing mechanisms of project-oriented pedagogical process; knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

– In procedural criterion, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the students from Kazakhstan on the indicators of procedural criterion: *possession of theoretical knowledge on Costume design; possession of practical knowledge on Costume design; possession of analytical prognostic skills; possession of project-oriented pedagogical process providing technology; possession of construction of project-oriented pedagogical process.* As well as the lowest scores among the students from Kazakhstan in: *skill to organize all activity types, related to Costume design; skill to ensure project activity.*

Based on the comparative analysis of the indicators of the Criteria of the formation of Professional competence within the questionnaire of the teachers, based on Kruskal – Wallis test, statistical significance of differences is identifies:

– in motivational criterion – the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the teachers from Kazakhstan on the indicators: *gnoseological need in raising the level of self-education, qualification; creativity; social characteristics of a personality; communicativeness, adequate assessment system.* As well as the lowest scores identified by the teachers from Kazakhstan in: *interest in the specialty; awareness of the importance of profession.*

– In contentive criterion, the effectiveness of the implementation of the Methodology on the basis of Modular education programme is identified among the teachers from Kazakhstan on the indicators: *systemic orientation in all design components; knowledge of constructing mechanisms of project-oriented pedagogical process; knowledge of purposeful activity essence of project-oriented pedagogical process; knowledge of criteria on adequate work assessment; knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

As well as the highest score identifies among the teachers from Kazakhstan – *knowledge of project–oriented pedagogical components for the formation of Professional competence.*

Data procession of the questionnaires of the employers, based on Kruskal – Wallis test comparative analysis of the indicators of the Criteria for the formation of Professional competence identified statistically significant differences:

– in contentive criterion, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified on the indicators of the employers: *systemic orientation in all design components; knowledge of constructing mechanisms of project-oriented pedagogical process; knowledge of purposeful activity essence of project-oriented pedagogical process; knowledge of design content as a subject of pedagogical process; knowledge of project-oriented pedagogical components for the formation of Professional competence; knowledge of criteria on adequate work assessment.* The highest score is identified among the teachers from Kazakhstan: *knowledge of project-oriented pedagogical components for the Formation of Professional competence.* The lowest score is identified among the employers from Kazakhstan as well in: *knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

– In procedural criterion, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the employers from Kazakhstan on all the indicators: *possession of theoretical knowledge on Costume design; skill to organize all activity types, related to Costume design; possession of analytical prognostic skills; skill to ensure project activity; possession of project-oriented pedagogical process providing technology; possession of construction of project-oriented pedagogical process.* The lowest score is identified among the employers from Kazakhstan as well in: *possession of practical knowledge on Costume design.*

Based on the results of the questionnaire of students, teachers, employers and Kruskal – Wallis test comparative analysis of the indicators of the Criteria for the formation of Professional competence, statistical significance of differences is identified:

– In motivational criterion, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified on the indicators of the questionnaires of students, teachers, employers: *gnoseological need in raising the level of self-education, qualification; adequate assessment system.*

– The lowest scores were identified in the questionnaires of employers in: *interest in the specialty; awareness of the importance of profession; creativity; social characteristics of a personality; communicativeness.*

– In contentive criterion, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the employers on the indicators of contentive criterion: *systemic orientation in all design components.*

However, the employers identified the lowest scores of contentive criterion in: *knowledge of constructing mechanisms of project-oriented pedagogical process, knowledge of purposeful activity essence of project-oriented pedagogical process, knowledge of design content as a subject of pedagogical process, knowledge of project-oriented pedagogical components for the Formation of Professional competence, knowledge of Criteria on adequate work assessment, knowledge of project-oriented pedagogical conditions and their use in educational and training process.*

– Procedural criterion the students identified the highest score in – *possession of construction of project-oriented pedagogical process.* Also, the effectiveness of the implementation of the Methodic on the basis of Modular education programme is identified among the respondents (students, teachers, employers) on the indicators: *possession of theoretical knowledge on Costume design; possession of practical knowledge on Costume design; skill to organize all activity types, related to Costume design; possession of analytical prognostic skills; skill to ensure project activity; possession of project-oriented pedagogical process providing technology.*

The application of correlational analysis based on Kendall Tau b test facilitated the identification of the interrelation between two rank variables. Interpretation of the results of calculations of Kendall rank correlation coefficient is identified as a difference of match probabilities and inversion in ranks τ (Kendall, 1938; Kruskal, 1958; Nelsen, 2001; Prokhorov, 2001; Agresti, 2010; Гмурман, 2004; Елисеева, Юзбашев, 2002; Суслов, Ибрагимов, Талышева, Цыплаков, 2005).

Data analysis with application of statistical methods of correlational analysis during the procession of data of pedagogical studies allows to reveal the level of dependence between two or more random values (Agresti, 2010; Maslo & Tiļļa, 2005; Mardesic, 2014; Джонс, 1976; Зимняя, 2006; Клиланд & Кинг, 1977; Наследов, 2005, 2006). The dependence is expressed by correlation coefficient, where changes of one value leads to changes of other values.

Conducted correlational analysis on the results of the indicators of the respondents (students, teachers, employers) responses allowed to conclude that:

– *the students* assess their Professional competence positively in all three criteria. They had especial opinion on the well-formedness of contentive criterion, which characterize their confidence in the level of acquired theoretical and practical knowledge, skills, attitude on design and module “Costume design” content. It depends on *activity-oriented organizational regularity* and

dynamic links: education standard, direction of education, mechanisms of process, education paradigm.

However, vulnerability in identified in dynamic link: education standard.

– *The teachers* also assess the Professional competence of students on knowledge, skills, attitude on *design and module "Costume design" content*. The highest score of contentive criterion is identified regaring: *knowledge of project-oriented pedagogical components for the Formation of Professional competence.* It is dependent on the *activity-oriented organizational regularity* and dynamic links: education standard, mechanisms of process.

However, they assessed students' *interest in the specialty and awareness of the importance of profession, communicativeness* as low. The lowest scores of motivational criterion is identified in: *interest in the specialty; awareness of the importance of profession*, dependent on vulnerability of dynamic link: direction of education, sectoral innovations, education paradigm. It characterizes low motivation of students in development of *communicativeness*, which allow to broaden the search for new professional contacts, people with similar interests, exchange of opinions, creative ideas, acquiring of new circle of like-minded fellow, potential environment for further professional development and employment. It is related to low professional need in the development of competencies, based on the exchange of knowledge, skills, attitude.

– *The employers* assessed Professional competence of students rather sceptically on all criteria, based on *resultative criterial regularity*, which organizes the Formation of Professional competence of specialists. Particular attention was paid to contentive criterion, which identified students' low level in acquired theoretical and practical knowledge, skills, attitude on design and module "Costume design" content.

The lowest scores of contentive criterion are identified in: *knowledge of project-oriented pedagogical conditions and their use in educational and training process*, identified vulnerability in dynamic link: sectoral innovations. It indicates insufficient professional preparation of students in HEIs of Kazakhstan, which depends on the interaction of sectors and employers on the basis of productive process with educational process, based on education programmes and Modules.

The employers paid particular attention to the assessment in procedural criterion. The lowest scores were identified in: *possession of practical knowledge on Costume design*, dependant on vulnerability of dynamic links: mechanisms of process. It identifies objective competences of the teachers of Vocational training in Clothing design, which, largely, identify qualification and professional aptitude for practical activity.

Therefore, comparative analysis of the results of the research on the Formation of Professional competence of students – future teachers of Clothing design revealed the statistical significance of differences in the indicators of motivational, contentive, procedural criterions among students, teachers and employers of different countries.

– *The students* assess their Professional competence positively in all three criteria. They had dissenting opinion on the well-formedness of contentive criterion, which characterize their confidence in the level of acquired theoretical and practical knowledge, skills, attitude on design and module "Costume design" content. It depends on *activity-oriented organizational regularity* and dynamic links: education standard, direction of education, mechanisms of process, education paradigm.

  However, vulnerability in identified in dynamic link: education standard.

– *The teachers* also assess the Professional competence of students on knowledge, skills, attitude on *design and module "Costume design" content*. The highest score of contentive criterion is identified regaring: *knowledge of project-oriented pedagogical components for the formation of Professional competence.* It is dependent on the *activity-oriented organizational regularity* and dynamic links: education standard, mechanisms of process.

  However, they assessed students' *interest in the specialty and awareness of the importance of profession, communicativeness* as low. The lowest scores of motivational criterion is identified in: *interest in the specialty; awareness of the importance of profession*, dependent on vulnerability of dynamic link: direction of education, sectoral innovations, education paradigm. It characterizes low motivation of students in development of *communicativeness*, which allow to broaden the search for new professional contacts, people with similar interests, exchange of opinions, creative ideas, acquiring of new circle of like-minded fellow, potential environment for further professional development and employment. It is related to low professional need in the development of competencies, based on the exchange of knowledge, skills, attitude.

– *The employers* assessed Professional competence of students rather sceptically on all criteria, based on *resultative criterial regularity*, which organizes the Formation of Professional competence of specialists. Particular attention was paid to contentive criterion, which identified students' low level in acquired theoretical and practical knowledge, skills, attitude on design and module "Costume design" content.

  The lowest scores of contentive criterion are identified in: *knowledge of project-oriented pedagogical conditions and their use in educational and training process*, identified vulnerability in dynamic link: sectoral innovations. It indicates insufficient professional preparation of students in

HEIs of Kazakhstan, which depends on the interaction of sectors and employers on the basis of productive process with educational process, based on education programmes and Modules.

The employers paid particular attention to the assessment in procedural criterion. The lowest scores were identified in: *possession of practical knowledge on Costume design*, dependant on vulnerability of dynamic links: mechanisms of process. It identifies objective competences of the teachers of Vocational training in Clothing design, which, largely, identify qualification and professional aptitude for practical activity.

The effectiveness of the Model, Methodic and Modular educational programme in the process of professional preparation of students – future teachers of Vocational training in the higher education system of Kazakhstan on the basis of regularities and dynamic links: the systematic of the *education paradigm,* that forms contentive reasonable basis for the *education standard* and orientates organizational activity direction of education through resultative criterial mechanisms of process of educational and productive processes.

For improvement of the Professional competence of students – future teachers of Vocational training in the higher education system of Kazakhstan, based on regularities and dynamic links, it is necessary: to introduce changes of content goal and additions to the *educational paradigm* for the modernization of the *education standard* in accordance with modern trends in educational and productive processes; formation of the organization and activity of *direction of education* for the professional implementation for practical activities; the *organization of training* on the basis of resultative criterial conditionality with *sectoral innovations*.

GENERAL CONCLUSIONS OF THE DOCTORAL DISSERTATION

In accordance with the objectives of the doctoral dissertation, scientifically-theoretical bases of international and Kazakhstan's experience regarding the situation of the problem of the Formation of Professional competence were studied and analysed: documents of professional education and raising of qualification in the system of methodic work of Technical and Professional education (Strods, 2011; Zogla, 2005); conceptualization of professional development of teachers (Blūma, 2008; Līce & Reihmane, 2016), bases and principles of modern system of lifelong professional education (Andersone, 2009; Rauhvargers, 2003, 2009), pedagogical regularities of the organization of educational training process.

The definition of *Professional competence* of students – future teachers of Vocational training was developed, which is a complex characteristic of knowledge, skills, attitude of specialists, reflecting their readiness and ability to carry out effective professionally-pedagogical and practical activity in the conditions of constantly changing modern educational and productive processes.

1. The theoretical study has led to the conclusion that:
   - *Professionally-pedagogical competence* depends on professionally-pedagogical activity on the basis of educational process, but it can be realized only with *productive-technological competence,* based on professional-pedagogical activity in productive process.

     On the basis of the conducted analysis of the Formation of Professional competence of students – future teachers, the following regularities are identified:

   – **Regularity of content goal**, *dependant on the identification of the aims and the content of professional preparation of specialists for educational and productive processes.*

   – **Activity-oriented organizational regularity,** *dependant on the organization of the types of professionally-pedagogical and practical activity of the process of the Formation of Professional competence.*

   – **Resultative criterial regularity,** *dependant on the results of the types of professionally-pedagogical and productive-technological competence, which facilitate the identification of the Criteria for the assessment of Formation of Professional competence of specialists.*

2. Based on the study of the regularities, factors (internal, external), competence types, didactic principles, approaches in training, conditions (normative, pedagogical, professional), stages of Professional competence (professional preparation, raising the level of self-education and qualification, assessment of competencies) the **dynamic links** were identified and the structure **for the implementation in the system of higher education of Kazakhstan** has been developed:

- "sectoral innovations" in education;
- "education standard" of professional preparation in HEI;
- "education paradigm" in preparation of specialists;
- "mechanisms of process" of pedagogical process;
- "direction of education" in HEI;
- "organization of training" in pedagogical process.

3. Based on the study of contentive reasonable, organizational activity, resultative criterial regularities, as a result of the study of the approaches *and didactic principles,* **the Criteria for the assessment of Professional competence** of students – future teachers of Vocational training are developed:

– *motivational* with the descriptor *motives* and seven indicators;

– *contentive* with the descriptor *content* and seven indicators;

– *procedural* with the descriptor *attainments* an seven indicators.

The levels of Professional competence of students – future teachers of Vocational training in Clothing design *(reproductive, interpretive, creative)* are developed.

Based on the study of the organization of pedagogical process, **two directions** of **the Formation of Professional competence** are identified: according to the "methodic" (assessment of competencies) and the "system" (practically oriented aims, state order). Implementation of the European best practices will allow Kazakhstan to implement the principles of Bologna declaration on the basis of *competences – modules – credits* through:

- Establishment of flexible system of requirements, training trajectory, forms of work for the implementation of institutional reforms in HEIs based on the dynamic links.
- Increase in the opportunities of the Modular training with application of innovative methodics.
- Implementation of the Criteria for the assessment of Professional competence of future – teachers of Vocational training.

4. On the basis of the studies, the pedagogical scheme of the **Model** is developed, which includes scientifically-theoretical bases of Professional competence, regularities, dynamic links, pedagogical interaction between the students, teachers and practical activity types in the organization of pedagogical process in HEI.

For the implementation of the Model, the **Methodic** of the Formation of Professional competence is developed, which includes Modular education programme, aims, objectives, stages, methods, forms of work, pedagogical diagnostics.

5. Approbation of the Model on the basis of the developed Methodic and the Criteria for the assessment of Professional competence with the implementation of the Modular education programme "Costume design", is conducted **at the stages of pilot experimental research**: *preparatory, ascertaining, formational, control.*

Comparative analysis is conducted on the indicators of the first (ascertaining) and the second (control) stages of the research among the students, teachers, employers in the following countries: Kazakhstan, Latvia, Lithuania, Great Britain identified:

- statistical significance of the differences of motivational, contentive, procedural criteria indicators among the students, teachers, employers of different countries on the basis of **Wilcoxon test**. Based upon the results of statistical analysis in all seven indicators, sequential positive dynamic is identified, which proves the effectiveness of the implementation Methodic of the Model.
- The effectiveness of the implementation Methodic on the basis of the Modular education programme in Kazakhstan is identified on the basis of **Kruskal – Wallis test** among the questionnaires of the respondents of different countries (students, teachers, employers).
- Correlation analysis on the basis of **Kendall Tau b test** defined interrelations between two rank variables of the statistical dependence analysis (among all the indicators of motivational, contentive, procedural criteria) and the dynamics of their changes, which indicates the change of one value and effect on other values. It allowed to identify the effectiveness and vulnerability of dynamic links.

The students assess their Professional competence at all three criteria positively. The highest indicators of contentive criterion, which characterize their acquired theoretical and practical knowledge, skills, attitude is *knowledge of the essence of design as an object of pedagogical process* (Mean Rank 22.88). It depends on *activity-oriented organizational regularity* and the dynamic links: "education standard" of professional preparation in HEI, "direction of education" in HEI, "mechanisms of process" of pedagogical process, "education paradigm" in training of specialists. The vulnerability in the dynamic links is identified: "education standard" of professional preparation in HEI. It requires introduction of changes and additions to the education standard at the levels: of the Ministry of Education and Science of the Republic of Kazakhstan; in HEIs in the structure of the organization of process of the Formation of Professional competence and the organization of pedagogical process.

The teachers assess Professional competence of students in knowledge, skills, attitude in *the essence of design and essence of the module "Costume design"* positively. The highest indicator of contentive criterion is identified: *Knowledge of project-oriented pedagogical components for*

the Formation of Professional competence (Mean Rank 10.79). It is dependant on *activity-oriented organizational regularity* and the dynamic links: "education standard" of professional preparation in HEI, "mechanisms of process" of pedagogical process. Students' *interest in specialty*, *awareness of the importance of profession, communicativeness* has low assessment. The lowest indicators of motivational criterion are identified: *interest in specialty* (Mean Rank 20.50); *awareness of the importance of profession* (Mean Rank 20.45), which are dependant on the vulnerability of the dynamic links: "direction of education" in HEI, "sectoral innovations" in education, "education paradigm" in preparation of specialists. It characterizes low motivation of students in the development of *communicativeness*.

The employers provided low assessment of Professional competence of students at all criteria, based on *resultative criterial regularity*, which organizes the Formation of Professional competence of specialists. In contentive criterion, students' weak possession of theoretical and practical knowledge, skills, attitude in the essence of design and the essence of module "Clothing design" is identified. The lowest indicators of contentive criterion are identified: *knowledge of project-oriented pedagogical conditions and their use in educational – training process* (Mean Rank 14.75), defined the vulnerability in the dynamic link: "sectoral innovations" in education. The lowest indicators are identified: *possession of practical knowledge on Costume design,* dependant on the vulnerability in the dynamic link: "mechanisms of process" of pedagogical process.

Therefore, the study conducted within the framework of the doctoral dissertation substantiated the achievement of the set aim and the effectiveness of the Model on the basis of the implementation of the proposed Methodic and the developed Criteria for the assessment, as well as allowed to identify the dynamic on the example of training of students – future teachers of Vocational training in Clothing design.

The answers to the research questions are obtained and justified.

Conduction of scientifically-theoretical and pilot experimental research allowed to develop the recommendations for the Ministry of Education and Science, as well as for the HEIs of the Republic of Kazakhstan on the Formation of Professional competence of students – future teachers of Vocational training.

PRACTICAL RECOMMENDATIONS

For the Formation of Professional competence of students – future teachers of Vocational training based on the example of the specialty Clothing design, the following recommendations for the Ministry of Education and Science of the Republic of Kazakhstan and HEIs of Kazakhstan were developed:

1. **Recommended adjustments for the Ministry of Education and Science of the Republic of Kazakhstan:**

- to make additions to the normative framework (SCES, WC, WTP) on the modernization of the approaches in training in HEI into the dynamic link **"education paradigm"** in preparation of specialists:

– the update of *activity-oriented approach* on the basis of the development of Course projects in interaction with employers for the resolution of the objectives of state order for the sector and further employment of graduates is required;

– realization of *personal-oriented approach* in professional preparation on the basis of the proposed Methodic for unlocking creative potential and self-development of future specialists is required;

– implementation of the Criteria for the assessment of Professional competence (motivational, contentive, procedural) for the construction of training trajectory in the organization of the Formation of Professional competence on the basis of *competence-based approach* in pedagogical process of HEI. It will allow to planning the direction and the content of education, as well as to formulate the definition of specialty in profiles;

– implementation of modular approach on the basis of pedagogical interaction of students, teachers and employers in professionally-pedagogical and practical activity for the Formation of Professional competence is required;

– **s**trengthening of academic mobility on the basis of international cooperation of HEIs is required.

- to make changes and additions into the dynamic link **"education standard":**

– to the pedagogical conditions of SCES RK on modernization of the aims and the content of professional preparation of specialists, wich including:

– organization of scientific research activity in interdisciplinary studies on the basis of Course projects upon the sectoral orders for the realization of pedagogical interaction of educational and productive processes;

– implementation of the developed Model of Professional competence for modernization of pedagogical process based on Methodic and Modular education programmes.

2. **Recommended amendments in for HEIs of Kazakhstan:**

- to make changes dynamic link **"direction of education"** in the organization of the process of the Formation of Professional competence through i self-sustained students' choice of training trajectory in HEI (according to the principles of Bologna declaration, students have the right to plan their training individually);
- to make changes and additions into the dynamic link **"organization of training"** on implementation of the forms of work, professional preparation, raising of self-education and qualification level, which depend on the assessment of competencies for the adjustment of the organization of the process of the Formation of Professional competence;
- to make changes and additions into the dynamic link **"sectoral innovations"** in education:

– in the aims and the content of theoretical preparation and practice on the basis of sectoral innovations in education for the realization of all competence types;

– in the assessment of competencies on the basis of proposed Criteria for the assessment and levels of Professional competence for formation of the prestige of profession;

– in content of the Modular education programmes, which increase the scope for the acquisition of subject-oriented knowledge, skills, attitude and subject-oriented practical and profile orientation of preparation;

- to organize the pedagogical interaction of students, teachers, employers for the effectiveness of institutional education reforms in Kazakhstan on the basis of Bologna declaration;
- to create of flexible conditions for international academic mobility and planning of the content of education for sectoral needs in realization the Formation of Professional competence in educational and productive processes.

Theses for the defense:

1. The theoretical analysis and empirical research of the Formation of Professional competence of students – future teachers of Vocational training in Kazakhstan justifies the following regularities for organization of the pedagogical process in specialization of Clothing design:

– **of content and goal** for educational and productive processes on defining aims and the content of professional preparation of specialists;

– **activity-oriented organizational,** which defines types of professionally-pedagogical and practical activity of students and the Organization of the process of Formation of Professional competence;

– **resultative-criterial,** which reveals direction of functioning and improvement of professionally-pedagogical and production-technological competences with accordance with the Criteria for the assessment of student's achievements;

2. The implementation of regularities is conditioned by the six dynamic links which have been revealed by the research between students, teachers, employers and the content of training and which is put into practice by the organization of future teachers Vocational training towards Formation of the students' Professional competence.

3. The worked out Criteria for the assessment (motivational, contentive, procedural) are sufficient to identify the effectiveness of implementation of the Model and Methods of the Formation of Professional competence of students – future teachers of Vocational training in Clothing design in the system of higher education of Kazakhstan, based on Modular Educational programme "Costume design", that, accordingly modified, is applicable by other professional HEI of Kazakhstan.

Structure of the doctoral thesis:

The work comprises 169 pages, includes 15 figures and 37 tables. The doctoral thesis consists of introduction, three parts, recommendations, bibliography and 51 annexes. Conclusions include summary of theses of theoretical interpretation and practical application of data results.

GRATITUDE

I express my sincere gratitude to the head of the doctoral dissertation, Dr.ped., Professor Velta Lubkina for support, constructive wise advice and exchange of professional experience in creating the thesis.

I express my gratitude to the Latvian scholarships from Valsts izglītības attīstības aģentūra for the opportunity to be a scholarship holder of this programme on the basis of an agreement between the Ministry of Education and Science of the Republic of Latvia and the Ministry of Education and Science of the Republic of Kazakhstan on cooperation in the field of education, science and youth.

I express special gratitude to the entire faculty and pedagogical staff of the Rezekne Academy of Technologies for the warm welcome and the opportunity to learn the European experience in the research work of creating a doctoral dissertation.

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List of annexes

Annexes

Annex 1.2.1.1.

The structure of professionally-pedagogical competence of students – future teachers of Vocational training

Types of professionally-pedagogical competence	**Professionally-pedagogical competence**				
	Characteristics of competences	**Types of activity**	**Formation of indicators of Professional competence**	**List of professional conditions**	**External factors**
Methodical	Possession of various teaching methods, didactic principles, psychological forms of work for mastering knowledge, skills, attitudes and applications in the training process (Dzerviniks, 2016)	*Educationally-methodical*	*Skill to organize all activity types, related to Costume design*	Socio-cultural, moral, humanistic education (Bankauskienė & Masaitytė, 2016; Meyer – Stamer, 2006; Koķe, 2004; Pedagogisko…, 2016)	*Organization of educationally - methodical process of activity*
Psychologically-pedagogical	Knowledge of psychology of interpersonal and pedagogical communication and age psychology; ability to carry out individual work based on the results of pedagogical diagnosis (Indriksons, 2017).	*Pedagogical*	*Social characteristics of a personality*	Personality-oriented position, critical thinking, author's style and professional experience of the teacher (Kokare, 2011; Saks & Leijen, 2014; Кузьмина, 2001).	*Assessment judgments*
Differentially-psychological	Ability to identify personal characteristics, attitudes and orientation of students' learning, to determine and take into account the emotional state of people; (Indriksons, 2017; Strods, 2011).	*Educational*	*Communicativeness; Adequate assessment system.*	The students possesstion of knowledge of the specifics, dynamics and variability of the directions of the profession (Creswell, 2003; Dlouh & Burandt, 2015).	
Reflection of pedagogical activity or autopsychological	Knowledge of the ways of professional self-improvement; the ability to know the level of their own activity, their abilities (Ušča, Lubkina & Pigozne, 2012).	*Cognitive, self-sustained*	*Gnoseological need in raising the level of self-education, qualification; creativity.*	Formation of heuristic, prognostic professional knowledge, skills, attitudes (Friedman Ben – David, 2000; Harris, & Sass, 2014).	*Prestige of profession*
Special or professional	Attitudes, skills, qualifications, responsibility and experience in the field of the taught subject; knowledge of ways to solve technical, creative tasks *(Зимняя, 2006)*	*Practical*	*Awareness of the importance of profession; interest in specialty.*	The student posesstion of professional abilities, creative potential, awareness of the prestige of his profession (Indrašienė & Sadauskas, 2016).	*Practice*

Annex 1.2.1.2.

The structure of productive-technological competence of students – future teachers of Vocational training

Types of organizationally-technological competence	**1. Organizationally-technological competence**				
	Characteristics of competences	**Types of activity**	**Formation of the indicators of Professional competence**	**List of professional conditions**	**External factors**
Process - organizational	General professional and special knowledge, skills, attitude, ability and readiness to perform managerial functions, organizational tasks, making sound management decisions, managing the activities of other people is characterized by the gradual socialization of the specialist in the process of acquiring the organizational and production experience (Kokare, 2011).	*Practical*	*Possession of practical knowledge on module Costume design*	Development of a professional need for self-improvement, raising the level of skills; development of gnoseological needs (Līce, Reihmane, 2016; Stoof, Martens & Merrienboer, 2002).	*Organization of the process of practical activity*
Technological	Knowledge of technologies and methods, means, forms of activity and conditions of their application, organization; the ability to creatively apply this knowledge, to design educational activities, to analyze the effectiveness and results of their activities (Cogill, 2010; The concept..., 2012).	*Practical*	*Possession of project-oriented pedagogical process providing technology*	The student's possessyion of knowledge of the specifics, dynamics and variability of the directions of the profession; development of professional mobility capabilities (Сапугольцева, 2012; Сафина, Тахбатуллина & Хамматова, 2006).	*Practice*
Constructive	Knowledge in the design, covering a full cycle of possesstion of special design and engineering knowledge, skills, the relationship in the use of modern technologies and design tools, informed choice and optimization in the case of a variety of solutions; accounting for rapid technology changes (Journal…, 2004; Lubkina, 2000; Saks & Leijen, 2014).	*Practical, projective, intellectually – analytical*	*Possession of construction of project-oriented pedagogical process*	Competence in the regularities of the profession and an adequate response, reflected by professional actions in professional culture, expressed by the author's vision (Розенсон, 2006; Ткаченко, 2004).	

Annex 1.2.1.3.

The structure of productive-technological competence of students – future teachers of Vocational training

Types of technically – economical competence	**2. Technically-economical competence**				
	Characteristics of competences	**Types of activity**	**Formation of the indicators of Professional competence**	**List of professional conditions**	**External factors**
Technical	Professional knowledge, skills and attitudes in technical disciplines that ensure responsibility in solving technical production problems caused by scientific and technological progress, innovations in production processes that are the essential characteristic of the personal qualities of the teacher of Vocational training, which is an integrative personal quality, formed in the process of gaining experience (Tanrısever & Erisen, 2009).	*Practical*	*Knowledge of constructing mechanisms of project-oriented pedagogical process*	Development of a professional need for self-improvement, raising the level of skills; development of epistemological needs (Katane, Katans & Īriste, 2016; Mardesic, 2014)	*Practice*
Organizationally-commercial (entrepreneurial)	Knowledge and attitude, integrated into personal and business qualities, forming a model of behavior, experience, responsibility, the possession of which helps successfully solve various organizational, commercial and entrepreneurial tasks, achieve results in professional activity and develop the personal qualities of the teacher of Vocational training (Kokare, 2011).	*Organizationally-methodical*	*Knowledge of purposeful activity essence of project-oriented pedagogical process;* *Skill to ensure project activity.*		*Organization of educationally-methodical process of activity*
Economical	Knowledge of analytical, economic, prognostic, knowledge, skills and attitudes, the ability to make decisions and act appropriately in changing socio–economic conditions, are formed on the basis of experience (Harris & Sass, 2014; Turusheva, 2010; Гуров, 2012).	*Intellectually-analytical*	*Knowledge of project-oriented pedagogical conditions and their use in educational training process*	Formation of heuristic, prognostic professional activity (Smékalová, 2015).	

Annex 1.2.1.4.

The structure of productive-technological competence of students – future teachers of Vocational training

Types of project-based gnoseological competence	3. Project-based gnoseological competence				
	Characteristics of competences	**Types of activity**	**Formation of the indicators of Professional competence**	**List of professional conditions**	**External factors**
Analytically-research	Skills, attainments analysis, attitude, cognition, motivation, professional orientation, research, experience and responsibility, integral characteristic of personal qualities of the teacher of Vocational Training (Loughran, Berry & Mulhall, 2012).	*Analytical, prognostic, researching*	*Possession of analytical prognostic skills;* *Knowledge of criteria on adequate work assessment.*	Formation of heuristic, prognostic professional knowledge, skills, attitudes (Baltišūte, 2006).	*Assessment judgments*
Projective	Theoretical knowledge and practical skills, the attitude of the teacher of Vocational training for the successful fulfillment by the student of project activity and self-realization in the professional sphere in dynamically changing social and economic conditions (Creswell, 2003; The concept..., 2012).	*Projective, creative*	*Systemic orientation in all design components;* *Possession of theoretical knowledge on Costume design.*	The student's possesstion of professional skills, creative potencial (Harris & Sass, 2014; Байденко & Оскарссон, 2002).	*Prestige of profession*
Engineering graphic	Graphic knowledge, skills, attitude, applied to the functional and design features of technical objects; experience of project-technological activities, developing personal qualities of the teacher of the Vocational Training (Sang – Duck Seo, 2009).	*Project-technological*	*Knowledge of design content as a subject of pedagogical process.*	Landmark in the regularities of design and adequate response, reflected by professional actions in professional culture, expressed author's vision (Балл, 2003).	*Assessment judgments*
Informational computer-based	Knowledge and ability to solve problems in educational and professional activities with the help of computer technology, possession of computer thinking techniques, form the attitude of the teacher of Vocational training in computer designing clothes (Rudzīte, & Rutka, 2016; Dlouh & Burandt, 2015).	*Projective, analytical*	*Knowledge of project-oriented pedagogical components for the formation of Professional competence*	The students have knowledge of the specifics, dynamics and variability of the directions of the profession; the development of the capabilities of professional mobility;	*Assessment judgments*

Annex 1.2.2.1.1.

Activity-oriented approach

Principles of activity-oriented approach	Characteristics of principles	Application of didactic principles	Requirements (by SCES RK)	Formation of descriptors and Criteria for assessing of Professional competence	Normative conditions
Activity	It is characterized by purposefulness, motivation and social conditioning, mastering of theoretical knowledge by students through formation of subject-practical skills, attitudes and experience on the basis of material, emotional and intellectual factors and criteria for assessing achievements (Леонтьев, 1982).	*The logical sequence of activities* is connected with practical-oriented training and professionally-pedagogical activity	**Requirements for the educational environment:** Into the material-technical and educational-laboratory base	Forms skills and attitudes in the process of activity, which determines the procedural criterion	Working training programme for the bachelor degree for specialties: "Vocational training", "Costume design", on the on basic, profile disciplines, and optional disciplines, 2015
Lifelong	Continuity between all stages of training at the level of the system, technology, content and methods, taking into account age-related psychological features of student development and the target orientation of the institution (Pipere, 2011).	*Lifelong* consistent mastering of practical knowledge, attainments, skills, attitudes necessary in the activity		Defines skills through the content of professional training of students, forms a contentive crite-rion	
Integrity	Formation by students of generalized systemic idea of the interdisciplinary nature of the content of knowledge, skills, attitudes, the holistic pedagogical process (Хмель, 1998; Магауова, 2008).	*Systematicity* forms the integrity of the learning process and the Formation of Professional competence for further activities			
Creativity	It means the maximum orientation to the creativity in the educational process, the acquisition by students of the experience of creative activity (Strode, 2010; Абишева, 2007).	*The development of creative potential* motivates students in professional and pedagogical activity			
Methods and forms	Innovative system methods for planning, applying and evaluating the pedagogical process, taking into account human and technical resources to achieve an effective form of education (Bankauskienė & Masaitytė, 2016; Rudzīte & Rutka, (2016).	*Intellectual cognitive* develop-ment realizes knowledge, skills, attitude in the future activity, in the conditions of innovative in-dustries			

Annex 1.2.2.1.2.

Personal-oriented approache

Principles of personal-oriented approache	Characteristics of principles	Application of didactic principles	Requirements (by SCES RK)	Formation of descriptors and Criteria for assessing of Professional competence	Normative conditions
Personalization and choice	Creation of conditions for constant choice, formation of subject authority in the choice of purpose, content, forms and ways of organizing the educational process in the HEI (Kelly, 2000).	*Personalization and choice* – makes stimulating effect on the development of social, personal, professional qualities of students	1. For the planning of the content of education 2. For the educational environment 3. For the results of training and the level of training of graduates	Actualizes motives in professional preparation, assessment of competencies, raising the level of self - education and qualification of students for further activities, forms of motivational criterion	Typical curricula of baccalaureate for specialties: "Vocational traning", 2012; "Clothing design", 2012;
Creativity	Identification of individual characteristics, abilities, forming a positive personal concept of personality for self-improvement (Гуров, 2012).	*Creativity* – stimulate the personal qualities of a specialist through the development of motivation in professional activity			
Self-development, creative potential	Creative potential actualizes properties and resources, self-development, essential features, the semantic basis of the life strategy of the individual (Saks & Leijen, 2014).	*Self-development, creative potential* – promotes personal development and self–realization of specialists in chosen profession			
Communicativeness	Moral and ethical quality of personality, manifested in a person in communication, establishing contacts, relationships for socialization and self-realization in the profession (Indriksons, 2017).	*Communicativeness* – forms personal qualities of specialists and orientates in professional activities and in the Formation of Professional competence			
Intellectually-cognitive development	Conditionality cognitive litters, including the processes of perception, erudition, thinking, knowledge, general culture, professionalism, explanation and understanding, competence (Baltušīte, 2012).	*Intellectually-cognitive* includes storage, processing, interpretation and production of new knowledge in the process of forming professional competence.			

Annex 1.2.2.1.3.

Competence-oriented approach in HEI

Principles of competence-oriented approach in HEI	**Characteristics of principles**	**Application of didactic principles**	**Requirements (by SCES RK)**	**Formation of descriptors and Criteria for assessing of Professional competence**	**Normative Conditions (by SCES RK TTP)**
Conceptually-contentive knowledge systems	Mastering of general, subject, methodological competencies on the basis of knowledge, skills, attitudes with the goals and tasks of professional preparation of specialists, in a specific specialty with the requirements of the education system (Navikienė, 2014; Татур, 2004)	*Systematicity* forming the process of professional preparation of specialists	**For the structure and content of higher education educational programs:** For the level of training of students and the creation of a system of control over the effectiveness of the work of higher educational institutions; **For planning the content of education:** For education in the main cycles of academic disciplines. **For the educational environment:** For informational and educational–methodical support. **For the results of training and the level of training of graduates:** For the norms (criteria) of evaluation. For general education. For economic and organizational–management competencies. For Professional competence. **For key competencies of the bachelor:** For knowledge, skills, skills.	It determines the content of professional preparation, assessment of competencies and raising of self-education qualification students, forms a *contentive* criterion	**1. The State Compulsory Educational Standard of the Republic of Kazakhstan by specialties:** – 05B012000 Vocational traning. SCES RK 22.06.779– 2007; – 05B042100 Design. (2006). SCES RK 3.08.303–2006. **2. Typical training programme Bachelor's Degree for specialties**:– "Vocational traning"; – "Clothing Design", based on sycels B, C, 2012;
Livelong of vocational education	A constant process, including profile and additional vocational education, self-education, professional development (Epro, 2015; Гончаренко, Балл, 2013; Гуров, 2012)	*Lifelong* – consistent formation of the process of professional competence at all stages of training and activities			
Knowledge of the essence and components of vocational education	Systemic mastering by students of the content and components of vocational education, application, analysis and implementation of subject teaching and interdisciplinary – on a competence basis of modul (Heck, Saunders & Smith, 2015; Zogla, 2005, 2008; Вербицкий, 2004).	*Intellectually-cognitive development* promotes the systematic formation of knowledge, skills, attitudes for application in professional activities			

Annex 1.2.2.1.4.

Modular approach

Principles of Modular approach	**Characteristics of principles**	**Application of didactic principles**	**Requirements (by SCES RK)**	**Formation of descriptors and Criteria for assessing of Professional competence**	**Normative conditions (by SCES RK, WTP)**
Know – how	Provides the variability of teaching, the adaptation of the learning process to the individual capabilities and requirements of students and ensures the compulsory study of each component of the didactic system (Owens, 1970; Russel, 1974; Ксендзова, 2001).	*Intellectually-cognitive development* forms the Professional competence of students in the process of professional training	**For the structure and content of higher education educational programs:** For the content of education, the educational trajectory of students, the formation of educational programs, their structure and assessment of the level of preparedness of students. **For planning the content of education:** For the content of educational programs of specialties and academic disciplines. **For key competencies of the bachelor:** Narrow–object, didactic nature.	Promotes the formation of attitude in the process of all types of activities, determines the *procedural* criterion	Working training programme for specialties: "Vocational traning"; "Clothing design",, on basic, profile disciplines, and elective disciplines, 2015;
Technological effectiveness	Determined by: – systematization of the content of training; – a clear sequence of all elements of the didactic system (goals, content, ways of managing the pedagogical process) (Epro, 2015; Lubkina, 2000; Metodiskie…, 2015; Žogla, 2010).	*Technological effectiveness* ensures the effectiveness of building mechanisms for the Formation of Professional competence in the pedagogical process			
Variability	Promotes flexible effective structuring of organizational and methodological units in the module (The concept…, 2012; Омирбаев, 2013, 2014; Гареев, Дурко & Куликов, 1987).	Variability optimizes the learning process for the effectiveness of the Formation of Professional competence			

Annex 1.2.2.1.1.

Didactic principles

Internal factors	**Didactic principles**	**Descriptors and Criteria for assessing**	**List of pedagogical conditions**
Personal characteristics of the student himself	*Activity*, *livelong*, *systematicity*, *development of creative potential*	The attitude, conditioned by the procedural criterion, forming the skills	– the Formation of the Model of Professional competence of the Vocational training teacher for Institutions of Technical and Vocational Education; – systematization of technologies and forms of training of the future specialist; – inclusion of emotional-value relations in the evaluation structure of the pedagogical activity of the future specialist; – Disclosure of the creative potential of students of future teachers of Vocational training.
Value orientations and choice of profession by the student	*Variability*, *Self-development*, *development of creative potential, communicativeness*, *intellectually-cognitive*	Motives form a *motivational* crite-rion that forms knowledge	– the organization and conduct of educational activities in the organization of education on the profile; – inclusion of "competent" professional action in the didactic tradition of the specialty; – Model building on the basis of diagnostics, address direction, subject–activity approach, revealing of the object-practical solution; – application of the principles of communicative pedagogy, dialogue of cultures.
Internal activity of a personality	*Systematicity*, *livelong*, *intellectually-cognitive*	The content forms contentive crite-rion that shapes the skills	– organization of educational and practical activities at industrial and other enterprises in practice base; – Organization of research activities with the participation of students (SCES RK, 2011). – The presence of Professional competence in the work of teachers: the staff of teachers, it is necessary to include both theorists with a wide range of knowledge in all areas of design, and practicing designers with production experience;
Desire for self-realization in future profession	*Intellectually cognitive*, *technological effectiveness, variability*	Relation by *procedural* criterion that forms the skills	– organization of activities within the module "Costume design", on the basis of special disciplines "Color introduction, Project graphics, Costume design";

Annex 1.2.2.1.2.

Pedagogical conditions
of training future teachers on specialization
Vocational training

№	Vertically:	Horizontally:	Didactic principles
1	Organization of research activities with the participation of students (ГОСО, 2011)	Application of the principles of communicative pedagogy, disclosure of the creative potential of each student; the inclusion of emotional-value relations in the structure of the evaluation of the pedagogical activity of the future specialist (MEP).	Intellectually-cognitive development; self-development
2	Formation of the Model of Professional Competence of students of future teachers of Vocational Training; systematization of technologies and forms of training of future specialist (ТУПл, 2014; ГОСО, 2011)	Inclusion of "competent" professional action in the didactic traditions of the specialty; Model building on the basis of diagnostics, targeted direction, subject-activity approach, identification of a practical solution (WTP, MED)	systematicity; livelong; activity
3	Organization and conduct of the educational process in the education organizations by profiles (ТУПл, 2014)	Organization of the pedagogical process on the basis of the introduction of the Modular Educational Programs, the Techniques for the Formation of Professional Competence (WTP, MEP)	development of creative potential; communicativeness
4	The organization of the production process in industrial and other enterprises or the practice base (ТУПл, 2014)	The presence of Professional competence in the work of teachers: the staff of design educators should include both theorists with a wide range of knowledge in all areas of design, and practicing designers with production experience (WTP)	technological effectiveness; variability

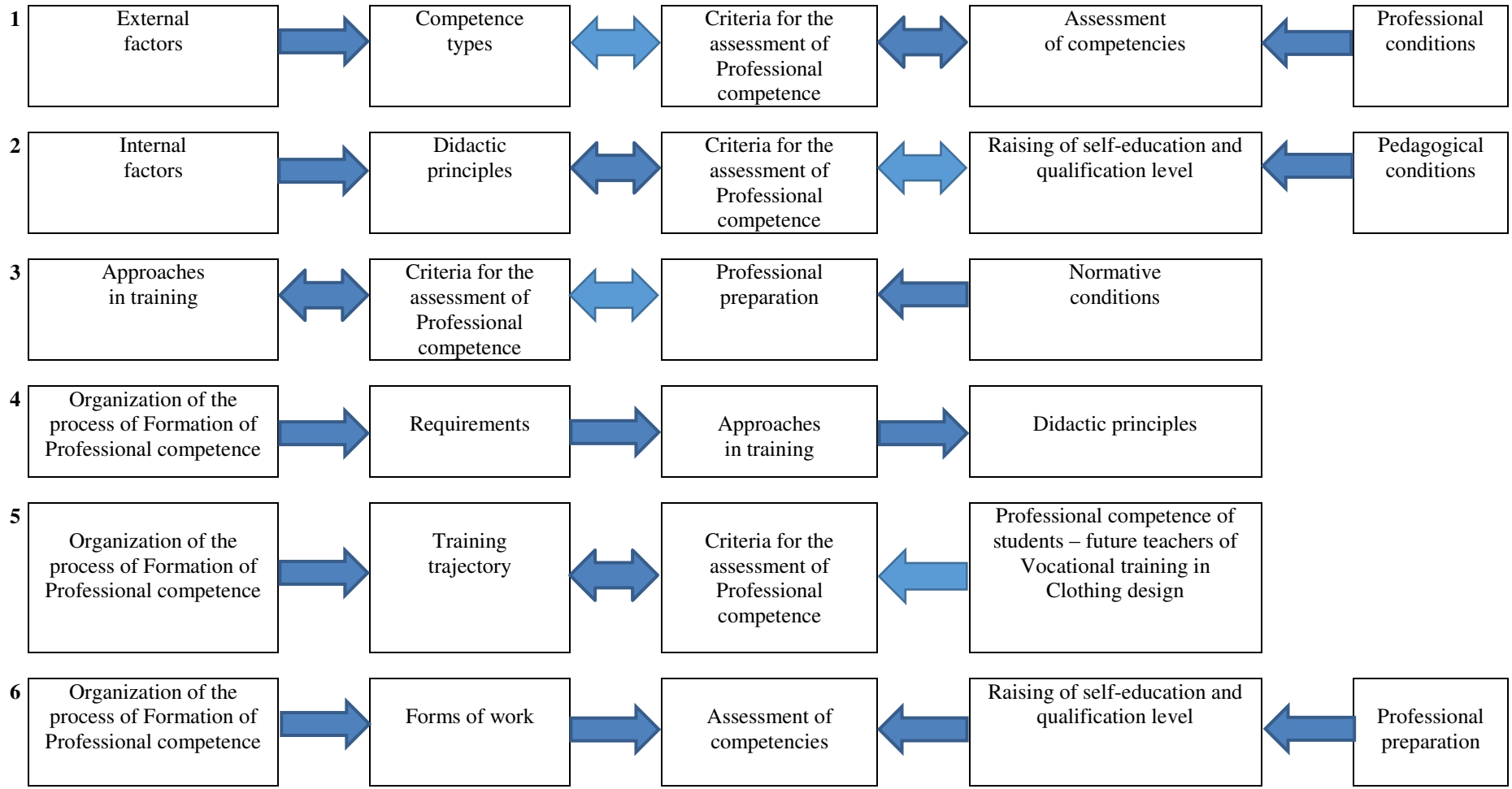
Annex 1.2.2.2.2.

Normative documents of education

Normative documents of education of foreign HEI	Descriptors and Criteria for assessing Professional competence	Approaches in training	Normative documents of educational process in HEI of Republic of Kazakhstan
FSES HPE RF № 16222, GEP ВПО. Direction of preparation 051000 – Professional training (on branches): Decorative and applied art and design (bachelor's degree).№ 781. Russia. 2009.	Actualize the motives in professional preparation, assessment of competencies, raising the level of self-education and qualification of students on the basis of the motivational criterion.	Personal-oriented approaches	Typical curricula of Bachelor's Degree for Specialties: "Vocational training", 2012; "Clothing design", 2012;
FSES HPE RF № 16222, GEP HPE. Direction of preparation: 072500.62 "Design" (bachelor's degree). №781. Russia Russia.2009.			
Work plan for Professional preparation in Fatih University. Turkey. 2012;			
Work plan for Applied Arts in Korea National University of Arts. South Korea. 2010;			
Academic Regulations and Procedures Handbook, Syllabus for Design in Manchester Metropolitan University, UK, 2009;	Determine the content of professional preparation students, due to a contentive criterion for assessing Professional competence.	– competence-oriented approach in HEI; – activity-oriented approach;	Typical training programme of Bachelor's Degree for Specialties: "Vocational training", 2012; "Clothing design", 2012;
Study program: Teacher, study module: "Teacher of economics / home economics / business and home economics". Professional bachelor study programs, RTA, Latvia. 2015–16;			SCES RK for Specialty 05B012000 "Vocational training", 22.06.779– 2007;
Study program: Clothing design and technology. First level professional higher education study programs, Rezekne Technology Academy, Latvia. 2015–16;			
Program: Pedagogy of technologies. Module of the program: Creativity. Lithuanian University of Education. Lithuania. 2015–16;			
FSES HPE RF Direction of preparation 051000 Professional training (on branches), (baccalaureate). № 781. Russia. 2009.			
Curriculum "Clothing design", Vilnius College of Design. Lithuania. 2015–16;	Forms the relationship in the process of all activities, based on the process criterion.	Modular approach	Work programs for bachelor's training for specialties: "Vocational training", "Clothing design", 2015;
Programme handbook**.** School of Arts, Media and Education. University of Bolton, UK, 2010/11			

Annex 1.2.2.2.7.

Dynamic links of the Formation of Professional competence of students – future teachers of Vocational training



Annex 2.1.1.

Formation of Professional competence of students – future teachers based on the research of international experience

Pedagogical interaction Stages of Formation of Professional competence of students – future teachers	Formation of Professional competence on "methodic"	Formation of Professional competence on the "system"
Professional preparation	Based on a decentralized approach	Centralized training with practically oriented goals, (state order)
Raising of self-education and qualification level	The variability of types of upgrading the qualifications of students of future teachers with an institutionalized, systemic, centralized approach	Decentralized system of professional development using modules
Assessment of competencies	With certification of competence level with certification of competence level	By the criteria of the National Education Model
Result	Passing exams and issuing certificates, confirming the level of competence	Fulfillment of state orders on the basis of a holistic pedagogical process
Countries	USA and UK	Germany, France, Denmark, Portugal, Switzerland, Netherlands, Latvia, Spain, Finland, Belgium, Norway, Kazakhstan, Russia, Kyrgyzstan
Authors	Kennedy, Ahn & Choi 2008; Darling – Hammond, 2010, 2012; Cohen, Manion & Morrison, 2007; Harris & Sass, 2014; Freeman, 2002; Goldshmid & Goldshmid, 1972; Kennedy, Ahn & Choi, 2008; Navikienė, 2014; Curzon, 2008; Huckle, 2008; Raven, 1984; Rauhvargers, 2003, 2009; Coghlan & Brannick, 2005; Russell, 1974; Laverghetta, 2011; Mardesic, 2014; Loughran & John, 2002; Xakellis, Brangman & Hinton, 2004; Curzon, 2008;	Adubra, 2014; Babadogan, Kutlu & Ogulmus, 2010; Cohen, Manion & Morrison, 2007; Daniela, Lūka, Rutka & Žogla, 2014; Delamare, 2005; Hensen & Hippach – Schneider, 2012; Halbe, Adamowski & Pahl–Wostl, 2015; Mürwald – Scheifinger, Weber, 2011; Mietule, 2013; Navikienė, 2014; Thumser – Dauth, 2007; Peschek, 2012; Skiner, 1989; Tanrısever & Erisen, 2009; The concept..., 2012; Zhanguzhinova, Magauova & Nauryzbaeva, 2016; Аминов, 2004; Ахметова, 2007; Балл, 2013; Загвоздкин, 2008; Зимняя, 2006; Колесникова, 2005; Омирбаев, 2014;

Annex 2.1.2.

Types of assessment competencies in the USA

Nomination	Description of the types of assessment competencies in the USA	Application in the research
Certification of competency level	Based on a clear job description of functional responsibilities and positions. Sufficient competence is necessary to obtain a certificate of competence level in a particular area (Blank Alas, 2008; Xakellis, Brangman, Hinton, 2004; Сыпабеков, 2010).	Defines levels of FPC stimulates *technological effectiveness* and *lifelong* in education
The Council of professional assessment of teachers	Teacher's knowledge control procedures identified with the help of examinations and tests, monitoring of pedagogical and technological skills and habits, with the help of videos of their teaching (Blank Alas, 2008; Burns, 2007; Darling–Hammond L., 2010).	*Systematicity, technological effectiveness* in the regulation requirements, norms, levels, PC
Quality control of teacher training	Licensing and certification bodies under the relevant state departments of education with certification and licensing programs: basic academic skills; subject knowledge; teaching methods; directly conducting lessons in practice. One of the most common test series is «Praxis». (Baumert Kunter, 2013; Burns, 2007; Zeichner, 1994).	*Lifelong* and *technological effectiveness* of FPC in the regulation requirements for teachers activity
"Locus of control"	Questionnaire results of liability for activities in the 40 statements: the external forces (externalities, external locus of control) or internal (own ability, effort). (Laverghetta Antonio, 2015; Rotter, 1956; Zeichner, 1994).	*Lifelong* and *technological effectiveness*, in regulating the FPC requirements
Career stairway	The concept of "payment for quality" is the possibility of professional growth and providing adequate pay for responsibilities, creating a hierarchy of posts of teachers. Includes 16 quality assessment standards of teaching in 4 groups of criteria: planning and preparation; creating the conditions and environment for active learning; teaching for active learning; professionalism (Blank Alas, 2008; Baumert Kunter, 2013; Xakellis, Brangman, Hinton, 2004;).	Financial motivation, *lifelong* of pedagogical activities *intellectual–cognitive self deevelopment, development of creative potential*
Teacher – mentor	Duties include constant supervision and assistance in adapting young teacher (Blank. Alas, 2008; Freeman, 2002; Laverghetta Antonio, 2015).	It is part of the methodological work of the Lyceum.
Training modules	Categories PC, teaching with using new forms and methods of certification and evaluation of student behavior, perform administrative duties, verbal and nonverbal communication, development of personal skills (Baumert Kunter, 2013; Goldshmid, Goldshmid, 1972; Russell, 1974).	Modules include the *variability* of training content, an individual program
KSA national certification mechanism	Determination of the professional teacher KSA by the Service of ETS Educational Testing – Educational Testing Service and the National Council of Professional Teaching Standards (Bryk, Raudenbush, 1988; Дабагян, 1996; Чошанов, 2000).	*Systematicity, technological effectiveness* in the regulation requirements, norms, levels, PC

Annex 2.1.3.

Types of professional preperation of specialists in vocational schools in USA

Nomination	Description of types of professional preperation of specialists in vocational schools of USA	Application in the research
Decentralized approach	The absent in USA the special institutions of training teachers by special subjects or courses for improving qualification. Most universities, pedagogical schools and scientific-pedagogical centers taking part in improving qualification, leading by the federation of teachers (Bryk, Raudenbush, 1988; Браже, 1993; Гарафутдинова, 2011).	*Personal-oriented approach* is the ultimate in training specialists
Behavioral approach	Identification of the functional responsibilities of each person, description of the main fixed by actions resulting in the implementation of activities to the highest result. Based on the method of *"action research"* (Burns, 2007; White, 1959; Виханский, 2006).	*Systematicity* of statistical data of analysis with *student-oriented learning* and *competence-oriented approach*
The freedom of chose the educational institution	Selecting the content, forms and methods of training teachers by special subjects for vocational schools according to their interests, needs and capabilities of the teacher (Bryk, Raudenbush, 1988; Goldshmid, Goldshmid, 1972; Xakellis, Brangman, Hinton, 2004).	*Variability* reveals *creative potential*, *intellectually-cognitive development* of teachers
Market approach	Actual, informational, scientific, methodological and cultural goods, for which the teachers' pay own money for the quality and practical value (Bryk, Raudenbush, 1988; Garet, Porter, Desimone, Birman, Yoon, 2001; Rauhvargers, 2001, 2003).	Determines the value of a PC specialist, based on the criteria, requirements driven by the *self-development* of teachers
Material incentives	For success in improving PC teachers rewarded increase wages and job status (Blank Alas, 2008; Garet, Porter, Desimone, Birman, Yoon, 2001; Xakellis, Brangman, Hinton, 2004).	Financial motivation creates value attitude to the profession, *intellectually-cognitive development* FPC
Comprehensiveness	Teaching practice becomes mandatory in some cases of training, in the case of total demand (Held, 2004; Goldshmid, Goldshmid, 1972; Garet, Porter, Desimone, Birman, Yoon, 2001).	*Livelong* gives the right to the study of many courses, subjects, and the right to change profession or study other disciplines
Bound form	Pedagogical practice acquires a compulsory character, in some cases of training, in case of general need (Дабагян, 1996; Lowenfeld, 1989; Xakellis, Brangman, Hinton, 2004).	*Systematicity* of professional training of future teachers
Involvement of scientists and experts from different fields of science and technic	Cooperation should be mutual: experienced teachers–mentors should express academic subjects, participate in the development of internship programs and conduct seminars for beginning teachers, with the involvement of the joint work of scientists and experts from different fields of science and *technics* (Baumert Kunter, 2013; Darling–Hammond, 2010; Blank Alas, 2008).	Professional *communicativeness* with specialists from various fields of science and technics, which have scientific degrees and academic titles

Annex 2.1.4.

Types of raising of self-education and qualification level of teachers in the USA

nation	Description of types of raising self–education and qualification level of teachers in the USA	Application in the research
Licensing and certification	Adaptation of occurrence of a young specialist in the teaching profession and fixing its basic qualification (Goldshmid Goldshmid, 1972; Korthagen, Wubbels, 1991; Xakellis, Brangman, Hinton, 2004).	*Systematicity* FPC of future teachers
Individual and group grants	Provided by creatively working teachers by the different public and private funds, the Federation of Teachers for an interesting, progressive idea, teacher experience tangible results for research and publishing (Bryk, Raudenbush, 1988; Korthagen, Wubbels, 1991; Rauhvargers, 2001, 2003).	Stimulates the *development of creative potential* of teachers and FPC
Centers for improving qualification / education for life	Their functions are mostly limited to the solution of organizational and financial problems. The content of the centers and their methodological support directly depend on the teachers. Teachers write many essays, works, self–projects, comparing the different scientific concepts. (Crook–Lyon, Rachel, O'Grady, Kari, Smith, Timothy, 2012; Russell, 1974; Гуров, 2012).	*Livelong* of education contribute to FPC of future teachers
Short-term courses	Provide universities, high schools, research centers, lasting from weeks to months. Contain brochures about summer and other courses; Course topics are very broad; meet the interests and needs of teachers; attracted by the prestige of the institution, faculty (Darling–Hammond, 2010; Blank Alas, 2008; Garet, Porter, Desimone, Birman, Yoon, 2001)	Promote *self-development* of teachers with confirmation certificate of level PC
Additional training / professional development programs	Provide universities, high schools, research centers, lasting from weeks to months. Contain brochures about summer and other courses; Course topics are very broad; meet the interests and needs of teachers; attracted by the prestige of the institution, faculty (Baumert Kunter, 2013; Darling–Hammond, 2010; Blank Alas, 2008; Poom–Valickis, 2003);	*Variability* and *livelong* FPC of future teachers
Seminars and conferences	Provide in higher education with a view to increasing knowledge, improving methodological skills and the requirements associated with an increase in job status. Ability to select a course with the needs (Xakellis, Brangman, Hinton, 2004; Гуров, 2012; Зарипов, 1990);	*Self-development* of teachers with certification of level PC
Saturday and Sunday events	On topical issues, educational fairs, during which teachers receive information about new methods and ways of learning, new editions; conducted methodical literature for sale (Berger, 2002; Blank Alas, 2008; Korthagen, Wubbels, 1991; Garet, Porter, Desimone, Birman, Yoon, 2001).	FPC, *communicativeness* teachers with the level of certification

Types of assessment competencies in Great Britain

Nomination	Description of requirements in the system of education in the UK	Application in the research
Certification pedagogical staff	To enhance this motivation, since 1992, wages have been introduced to teachers through attestation, which determines the goals and objectives of improving professional skills for a two-year period to the next certification. The interests of the teacher are taken into account, and the task of developing the educational institution, within a single program (Harris, Sass, 2014; Owens, 1970; Raven, 1984)	*Systematicity* the requirements of a differentiated assessment of the activity of teachers to the level of development of *intellectually-cognitive* competencies
Ofqual	Office of Qualifications and Examinations Regulation – The service is directly subordinate to the British Parliament. The function of Ofqual is the accreditation of professional non–state associations that are engaged in the development of qualification requirements for workers in virtually all spheres of activity; registration of qualification requirements developed by accredited organizations for various professions, and verification of compliance of these qualification requirements with general rules. The introduction of qualification requirements in a special register, provides the opportunity for the training of future teachers (Atkinson, 2004; Calderhead, Gates, 1993; McIntyre, 1993).	FPC, on the basis of a *system* of requirements, creates prerequisites for the motivation of teachers at all stages of the *lifelong* of vocational training, shapes their *self-development* in professional activity
Scale of competences for teachers	It consists of 27 divisions: "Step" of advancement on the scale – 5 divisions. "Place" of the teacher is determined by the nature of his work, the specific qualifications, the complexity of the tasks facing him and the way he solves them. Progress on the scale depends on the results of annual assessments (the achievement of the planned goals and indicators is estimated). For managers – 43 divisions for directors, their deputies and assistants (assistants). "Step" of advancement on the scale – 7 divisions (Dewey, 1997; Raven, 1984; McIntyre, 1993; Moon, 1999).	A differentiated approach reveals the *individual-personal* FPC, reveals the level of *self-development* of teachers, through the *system* of competence evaluation
Profiles	Tests and results summarized in the matrix table (Armstrong, 2009; Harris, Sass, 2014; Scott, and Gough, 2003).	*Systematicity* in the detection of FPC levels
Diagnosis of individual problems	Research problems of PC teachers, based on an individual–personal approach to each teacher (Russell, 1996; Klingsted, 1990; Moon, 1999*)*	Identifies the problems of teacher *self-development*
Questionnaires	Based on the method of studying collective phenomena / method of studying group differentiation, triangulation of learning processes of education, training, preparation of improvement of professional activity of teachers. (Apple, Teitelbaum, 2001; Klingsted, 1990; Loughran, John, 2002)	*Systematicity, technological effectiveness* is due to sociometric pedagogical diagnostics of teachers' PCs

Annex 2.1.6.

Types of professional preparation of future specialists in Great Britain

Nomination	Description of types of professional preparation of future specialists in Great Britain	Application in the research
Functional approach	Performing work in accordance with a certain professional standard, with a characteristic desire for greater integrity and functionality by integrating knowledge, understanding, values and skills, demonstrating abilities, determines the professional preparation of teachers in the UK. In the procedure for assessing each competency, sub-levels are allocated, and for each sub-level, in turn, specific performance criteria are defined (Atkinson, 2004; Curch, 1975; Raven, 1984).	The subject-practical approach to the FPC is a consequence of the systematicity, *technological effectiveness* in the professional training of teachers
The main specialized professional association	The presence of a single electronic database, in which educational institutions are obliged to make data on specialists who have received training or professional preparation with the award of qualifications. The educational institution interested in conducting training in accordance with certain qualification requirements, it is necessary to fulfill a number of mandatory conditions. The university must be in the special register of educational institutions of Great Britain and, accordingly, have a registration number. Conducts inspection of the university, on the basis of the developed qualification requirements, accredits educational institutions according to approved requirements (Owens, 1970; Calderhead, Gates, 1993; Harris, Sass, 2014).	*Systematicity, technological effectiveness, livelong* of processes of professional preparation creates prerequisites for motivation and FPC in the professional future teachers
Certificate PGCE	PGCE – Postgraduate Certificate in Education – Training is provided in the technical colleges of colleges (Colleges for Technical Teachers) of artistic and pedagogical (Art Training Colleges) and pedagogical departments of universities. In schools An obligatory condition for obtaining a qualification in the specialty is 15–32 weeks of practice after 3–4 years of basic education at a university (Сыпабеков, 2010; McIntyre, 1993; Harris, Sass, 2014).	A subject-practical approach to the activities of future teachers is facilitated by the FPC
Certificate QTS	QTS – Qualified Teacher Status – includes a contractual training scheme for teachers; scheme of licensed training of teachers; a special scheme for the training of teachers who have received pedagogical training in countries that are not members of the European Community; school centers for the initial teacher training (open according to the Law of Education of 1994) (Anderson, Carden, 1999; Scott, Gough, 2003).	*Variability* in the FPC creates prerequisites for motivation and *intellectual–cognitive self–development*

Annex 2.1.7.

Types of raising of self-education and qualification level of teachers in Great Britain

Nomination	Description of types of raising self-education and qualification level of teachers	Application in the research
Concept of partnerships	Centralized state funding, unified training programs built on the mechanism of a market economy with annual national recommendations of the government on the tasks of integrated priorities in the development of programs (Calderhead, Gates, 1993; McIntyre, 1993; Moon, 1999).	*Systematicity*, *communicativeness* of the university and production are facilitated by the FPC of future teachers
System of grants	It is aimed at protecting the rights of consumers of educational products, it is supervised by the Commission for Vocational Training, financed by the state (Darling–Hammond, 2010; Moon, 1999; Scott Gough, 2003)	The *systematicity* nature of the FPC stimulates the *self-development* of future teachers
Further Education (FE)	For teachers of further education institutions, it is not necessary to have the status of a qualified teacher, but at the same time they are encouraged to attend special courses for further education to obtain a Certificate of Education, or a city or shop Certificate of Further Education and Education for Adults. When applying for studies, they need to have a ten–year work experience, so many of them start their studies while working (Raven, 1984; Shulman, 1987; Grossman, 1989).	*Livelong* of PC increase stimulates the *self-development* of future teachers
Postgraduate training	The final stage of continuous pedagogical education is the professional development of teachers in the period of their professional activity (Calderhead, Gates, 1993; Grossman, 1989; Freeman, 2002; Scott, Gough, 2003).	*Livelong* of PC increase in the process of the activity of future teachers
ISCO	The international standard classification of occupations or professions – assesses the suitability for employment, the ability to work, on the basis of national professional qualifications. Promotes comparisons of vocational education in different countries (Fien, John; Rawling, Richard, 1996; Scott Gough, 2003).	Facilitates *systematicity*, manufacturability, *livelong* of FPC of future teachers
Continuing Professional Education	*CPE* – Continuing professional education – is an international provider of licenses for the provision of services for programs of additional higher education (Desimone, Porter, Garet. Kwang Suk Yoon Birman, 2012; Darling–Hammond, 2010; Huckle, 2008).	Promotes *systematicity*, manufacturability, FPC of the future teachers
Continuing Professional Development	*CPD* – Continuous professional development – is an international provider of licenses for the provision of services for retraining programs (Armstrong, 2009; Moon, 1999; Blank Alas, 2008).	
Executive Education	*ExEd – Managerial Education* – idificator of additional education programs, with a high level of preparation (Little, 1993; Garet, Porter, Desimone, Birman Yoon, 2001; Huckle, 2008).	Stimulates creative potential, *self-development* of future teachers

Annex 2.1.8.

Types of assessment competencies in Germany

Nomination	Description of requirements in the education system in Germany	Application in the research
Approach "action competence"	Driven by the criteria of the national model of education. The emphasis in the curriculum of vocational training system FPC components that include professional, personal and social competence. System approach developing the ability and readiness of the future teachers to act in a professional situation. Due to technically competently, thoughtfully and in accordance with the social responsibility, individually and specifically to solve the problem based on knowledge and experience, as well as using their own ideas, to evaluate the solutions and improvements its ability to act. (Arnold, 2001; Zhanguzhinova, Magauova, Nauryzbaeva, 2016; Mürwald–Scheifinger, Weber, 2011; Балл, 2013; Зимняя, Алексеева, Князев, Кривченко, Лаптева, Морозова, 2004).	*Systematicity* cooperation of all necessary KSA in the FPC in the *professional activity* of future teachers
Diagnostic sheets	Consist verbal and numeric assessment of students' knowledge, motives for learning, development of thinking, evaluating the study of discipline or topic, which are recorded in a special table; the almost complete absence of psychological test diagnostics, for two reasons: legal restrictions on the use of tests and priority of evaluation by already manifest peculiarities of activities of employees in comparison with laboratory testing and conjectural nature (Hartmann, Rieger, Luoma, 1999; Peschek, 2012; Schlichtherle, Weiskopf–Prantner, Westfall–Greiter, 2013; Гончаренко, 2001).	*Systematicity* forms intellectually – cognitive PC, creates prerequisites for motivation and *self-development* of the future teachers
The method of "Assessment Center"	It consists of six groups of methodes: descriptive; comparative; combined; minorities; graphics; coefficient (Baumgart, 1998; Mürwald–Scheifinger, Weber, 2011; Ахметова, 2007;).	*Technological effectiveness* stimulates FPC
Method of valuation "180 degrees" and "360 degrees"	Identify the degree of compliance officer position held by methods: 180 ° – Evaluation of employee competencies by manager, subordinates valued by employee and self-esteem. 360 ° – Evaluation of employee competencies by manager, subordinates, colleagues, customers (internal and external) and employee self–esteem (Hensen Hippach – Schneider, 2012; Schlichtherle, Weiskopf–Prantner, Westfall–Greiter, 2013).	*Technological effectiveness*, *systematicity* stimulates FPC in professional activity of the future teachers

Annex 2.1.9.

Types of professional preparation of future specialists in Germany

Nomination	Description of types of professional preparation of future specialists in Germany	Application in the research
In-company training	Education personnel within the firm. The benefits of such a model are associated with a wide range of problems that arise in the course of activities of the institution, with a small number of employees and the high intensity of informal links between them. Under these conditions, *«In-company training»* is the most adequate form of staff development. «In-company training» means not only in the form of training sessions, and advisory work with individual staff members or groups of workers and in the development of teachers methodological issues and decisions (Hensen Hippach–Schneider, 2012; Zhanguzhinova, Magauova, Nauryzbaeva, 2016; Mürwald–Scheifinger, Weber, 2011).	Subject – practically implementation of the FPC on the basis of the *active approach* enables future professionals in a *livelong* process to implement training and *activities, communicativeness*, orientation in the profession and *systematicity*.
By interest	The informal nature of the interaction between teachers allows student to "receive advice and to communicate at any time, without complicating over-structuring time of the institution (Daniela, Lūka, Rutka Žogla, 2014; Halbe, Adamowski, Pahl–Wostl, 2015; Загвоздкин, 2008; Омирбаев, 2014).	Promotes *self-development* of future professionals, the disclosure of *creative potential*, *communicativeness*
Staff – development	Staff development is Methodical work in the school turns into a process of staff development. The totality of the content and procedures, in which the content aimed not only at improving the methods of work, but also on the personal and professional development of staff, understanding their involvement in the activities of the organization, the assignment of the organization values and culture (Baumgart, 1998; Thumser–Dauth, 2007; *Аминов, 2004;* Загвоздкин, 2008).	Promotes *self-development,* stimulates the *activity-related, intellectually – cognitive* PC-based *technological effectiveness* process of preparation of future specialists
The dual system	Students receive practical training directly upon the workplace, with wages paid now, with which the institution sign a contract for training. Students are given a good opportunity to get a direct view of the work processes at the company, to gain real experience, with a diploma on the specialty, according to the level of professional education (Hensen, 2012; How…, 2012; Ordinance…, 2013; Zhanguzhinova, Magauova, Nauryzbaeva, 2016).	Practice-oriented approach forms the *activity-related, subject-practical* PC future specialists

Annex 2.1.10.

Types of raising of self-education and qualification level of teachers in Germany

Nomination	Description of types of raising of self-education and qualification level of teachers in Germany	Application in the research
Decentralized form of improving qualification	Based on action plans to improve the qualifications of educational institutions each year, each region independently carries out professional development of teachers, regional moderators develop recommendations for further work. Use non-traditional forms, techniques, methods (Hensen, 2012; Kliebisch, Schmitz, 1999; Аминов, 2004).	*Variability, self-development, communicativeness* in FPC of future teachers
BIBB	The Federal Institute of Vocational Education – conducts research, development and consulting, encourages innovation in vocational education, forms the concept for the future (Rieger, Luoma, 1999; Schlichtherle, Weiskopf – Prantner, Westfall – Greiter, 2013; Абдулкеримов, 2011).	*Systematicity and technological effectiveness* in FPC of future teachers
Institutions improving qualifications and centers of moderation (IIQCM)	Carry out improving qualifications of teachers as provided by law. Characterized by regional structure, targeting and feedback, allows adjusting the work IIQCM (Daniela, Lūka, Rutka Žogla, 2014; Köhl, 1996; Halbe, Adamowski, Pahl – Wostl, 2015; Zhanguzhinova, Magauova, Nauryzbaeva, 2016; Гончаренко, 2001).	*Livelong*, *systematicity*, *and technological effectiveness* to future teachers in FPC
Weiterbilding	Vocational training and improving qualification, extension or renewal of education after higher education (Kliebisch, Schmitz, 1999; Peschek, 2012; Thumser – Dauth, 2007).	*Livelong*, *systematicity*, *and technological effectiveness* in FPC of future teachers in professional *activity*
Ausbildung	Secondary special education, education upon the profession, training in approved training program with the issuance certificate of didactics of higher education, after passing the final exam. It helps future professionals to gain purposefully experience and learn at the same time chosen specialty (Arnold, 2001; Hensen Hippach – Schneider, 2012; Kliebisch, 1999; Загвоздкин, 2008).	*Livelong*, *systematicity*, *and technological effectiveness* in FPC of future teachers in professional *activity*

Annex 2.1.11.

Types of assessment competencies in France

Nomination	Description of the requirements in the education system in France	Application in the research
"Open professionalism"	State requirements for teachers, based on the councils of pedagogical universities at the universities of PVPU, which establish new forms of training and retraining of teaching staff (Altet, 1994; Arrete…, 1991; Балл, 2013).	System approach in the FPC in the activities of future pre-applicants
French National Model of assessments competence	Includes ten main criteria (Arrete…, 1991; Аминов, 2004; Омирбаев, 2014): 1) the person in question is an active person in the assessment of competence; 2) the purpose of the assessment is the development of a professional project; 3) the evaluation should be multi-disciplinary, interdisciplinary; 4) equipment: finance, equipment, information and methodological; 5) at each phase of the evaluation should be one interview with the client; 6) the final document should contain a description of the professional project; 7) receiving and informing all job-seekers of their competence; 8) the state finances the activities of the centers; 9) mandatory assistance to those who have passed the assessment of competence after its completion; 10) assisting clients in the preparation of a professional resume, for job search.	Creates conditions for FPC of future specialists in the process of professional activity. It determines the *systematicity*, *intellectual-cognitive development,* the *technological effectiveness* of the processes of training future teachers
"Engineering of Competencies"	The theory of "engineering of competencies" by Leboter, (2003) – is observed in the conditions of realization of any activity in the form of a combination of knowledge, skills, attainments, as well as past and new experiences (Loin…, 1989; Loin…, 2005; Hartmann, Rieger, Luoma, 1999; Ахметова, 2007).	*Activity* approach in the FPC through KSA
Multidimensional approach	There are three approaches in assessing competence: 1. Psychological – a positive attitude to work with a professional plan. 2. Economic – a quick finding of a place to work. 3. Pedagogical – training for independent choice (Arrete…, 1991; *Балл, 2013*).	KSA, experience, behavioral characteristics are the new PC of future teachers
Teacher Activity Evaluation	There are 2 evaluation systems (Stoof, 2002; Ministere…, 1997; Гончаренко, 2001): 1. Administrative evaluation refers to punctuality, labor efficiency, the manifestation of personal abilities. 2. Pedagogical evaluation is under the authority of the inspector for the relevant subjects.	*Systematicity*, *technological effectiveness* in FPC of future teachers
Independent assessment of competences	*«Bilan de competences»* – enables individual development within the profession (Delamare Le Deist, 2005; Modification…, 2007; Абдулкеримов, 2011*).*	*Systematicity*, technological in the self-development of future teachers
Project "Objective Competences"	*«MEDEF, 2002»* – Use of the competence approach in organizations and the subsequent interest of the scientific community in the problem of competences. The impetus for the development of competencies was the support of the Association of Employers MEDEF (Arrete…, 1991; Obin, 2003; Ministere…, 1997).	*Systematicity*, *technological effectiveness* in the self-development of future teachers

Annex 2.1.12.

Types of professional preparation of future specialists in France

Nomination	Description of types of professional preparation of future specialists in France	Application in the research
Certification	To confirm their professional competence and the ability to teach in a certain field, teachers need to pass a competitive examination, which results in the issuance of a state certificate for the fields of teaching (Altet, 1994; Arrete…, 1991; Modification…, 2007; Родермель, 2011)	*Systematicity* stimulates self-development and FPC of future teachers
Tests system	Careful selection of candidates through testing, analysis and interview (Bedarida, 1989; Delamare Le Deist, 2005; Гончаренко, 2001; Loin…, 1989; Loin…, 2005;)	*Technological effectiveness* stimulates the FPC of future teachers
Retraining "school – enterprise"	Training is carried out in vocational training centers, where students obtain the theoretical course, combining it with practice in the enterprise. Professional training can be carried out at the enterprise, without paying salaries to students. Alternating vocational training (also under contract with the enterprise) involves the internship of interns who have already received a special education for the purpose of specialization or pro–orientation. In this case, trainees receive a salary (Stoof, Martens, Merrienboer, 2002; Гурье, 2009)	The subject-practical approach contributes to the FPC in the activities of future teachers
Lifelong education	Concerning workers who raise their qualifications without interruption or with separation from production, is carried out without coordination with state bodies at the expense of enterprise funds and tax from workers. There is such kind of professional training as an internship at an industrial enterprise. It is foreseen for both students at different stages of education in HEI, and for graduates (Daniela, Lūka, Rutka Žogla, 2014; Родермель, 2011; Абдулкеримов, 2011).	The subject-practical approach contributes to the continuity of the FPC in the work of future teachers
Partnership of enterprises and educational institutions	Integration of all partners involved in the training process, including trainees, at all stages, beginning with the distribution of responsibilities (the enterprise outlines goals, and training institutions offering training courses offer ways to achieve them); mutual information of the personnel; mutual responsibility, including students; attestation of teaching staff; cooperation on conditions of competition (Stoof, 2002; Нейдинг, 1973; Аминов, 2004; Гурье, 2009).	Communicativeness in the FPC stimulates *technological effectiveness*, self-development in professional activity
Differentiated multilevel system	Type of vocational guidance in pre-professional education, implemented in school. Profiling, differentiation and deep general education. There is a tendency for gradual expansion and deepening of general education as a basis for further specialization (Stoof, 2002; Омельяненко, 1989; Obin, 2003).	*Technological effectiveness* in the FPC of future teachers
Nomenclature of levels of professional classification	The existing types of training specialists are interrelated and unambiguously correlated with the nomenclature of the levels of professional classification, which allows solving the problems of employment, tariffs and labor remuneration of trained specialists, taking into account the changing demand and new requirements for employees (Decret…, 1991; Ministere…, 1997; Родермель, 2011; Лащихина, 2010).	*Systematicity* and *technological effectiveness* in FPC of future teachers

Annex 2.1.13.

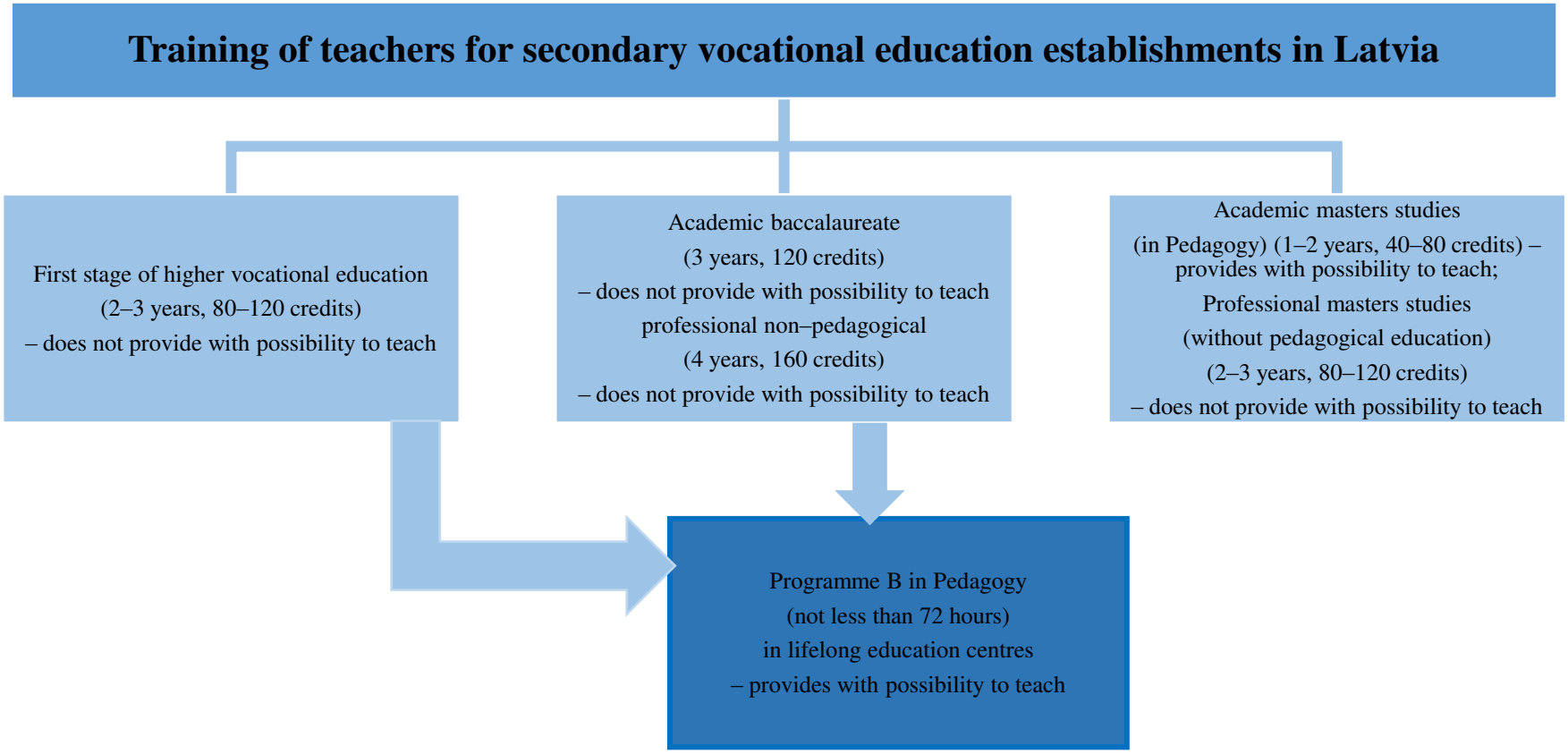
Types of raising of self-education and qualification level of teachers in France

Nomination	Description of types of raising of self-education and qualification level of teachers in France	Application in the research
University and institutes for training teachers (IUFM)	They provide basic training, participate in the continuous education of teachers. They are state higher educational institutions, are under the jurisdiction of the Ministry of National Education (Altet, 1994; Bedarida, 1989; Obin, 2003; Воскресенская, Вульфсон, Лысова, Малькова, 1995; *Лащихина, 2010;* Родермель, 2011).	S*ystematicity*, *technological effectiveness*, self-development in FPC of future teachers
Modular principle	Preparation and strengthening of professional potential, development of abilities to adapt circumstances. It includes the possibilities of distance learning, participation in seminars, workshops, conferences, using budgetary credits and fund participation financing mechanisms, based on the permission of the ministry or regional government bodies (Babadogan, Kutlu, Ogulmus, 2010; Goldshmid, Goldshmid, 1972; Mietule, 2013; Navikienė, 2014; Skiner, 1989; Tanrısever, Erisen. 2009; Yutsyavichene, 1990; Анденко, 1993; Башарин, 1994; Вазина, 1991; Гареев, Куликов, Дурко, 1987; Закорюкин., Панченко, Твердин, 1983; Колесникова, 2005; Лаврентьев Лаврентьева, 1994; Миронова, 1993; Омирбаев, 2014).	The module promotes FPC in an individual-personal approach, based on the *variability* of the training program

Annex 2.1.3.

Formation of Professional competence based on teacher training types in Latvia

(Grozījumi…2000; Ministru…, 2010, 2015, 2016; Noteikumi…, 2001; Закон…, 1991; Profesionālās…, 1999; Положение…, 2001; Правила…, 2014)



Annex 2.2.1.1.

Modular educational program "Costume Design"

Components of the module	Description of module components		
Cipher and name of the module	**MPK – Costume Design** The module consists of three parallel disciplines: "Color Introduction" (mandatory component I) "Project graphics" (optional component) "Costume design" (optional component)		
Module type	Mandatory module by specialty		
Module Level	Bachelor's program		
Amount hours in a week	"Color introduction" Total – 135 hours Total number of lecturers – 45 hours (per week 3 hours) of which: Lecture – 15 hours (per week 1 hour) Practical lesson – 30 hours (per week 2 hours) Total self–suficient work – 90 hours	"Project graphics" Total – 135 hours Total number of lecturers – 45 hours (per week 3 hours) of which: Lecture – 15 hours (per week 1 hour) Practical lesson – 30 hours (per week 2 hours) Total self–suficient work – 90 hours	« Costume design » Total – 180 hours Total number of lecturers – 60 hours (4 hours a week) of them: Lecture – 15 hours (per week 1 hour) Studio classes – 45 hours (per week 3 hours) Total self–suficient work – 120 hours
Amount of credits	10 credits KZ (17 ECTS)		
The form training	Full–time		
Semester	5,6 semester		
Amount students	Minimum number of students – 10 people		
Prerequisites of module	Painting, Drawing, Composition, Technical sketch, Font, Technology of sewing production, Designing of garments		
Content module	**Goal and tasks:** – lay theoretical foundations and practical knowledge, skills, attitude of the Costume Design module and, on this basis, develop professional competence for further design and teaching activities; – familiarize students with the basic methods that form the artistic, design and technological features of the Costume Design module; – on the basis of motivational, contentive, procedural criteries for assessing the Formation of Professional competence, develop the design and pedagogical qualities of a clothing designer. **Content:** – Students perform theoretical and practical tasks on studying the basic composition-shaped and functional features of Costume Design as a means of forming Professional competencies.		

Modular educational program "Costume Design"

Results training	**Competences acquired as a result of studying the discipline: the student should know:** –the general theoretical basis of the Costume Design module; – methods, techniques and means of composition, styling and technology of the Costume Design module; – work with the project concept, color and technology of Costume Design. **be able to:** – identify and select the optimal task of the Costume Design module; – Possess practical, technical knowledge, skills, attitude of the Costume Design mod – apply knowledge of the interdisciplinary connection of disciplines; – independently put forward the idea of the project, the design solution of the product; take a convincing form of its implementation; develop a sketch, layout; **have:** – compositional solution of project graphics; –Application of the graphic task; –the skills of artistic and graphic execution and the application of laws in the work on projects. – development and design of complete products in various areas of industrial design.
The form of the final control	In the discipline "Color introduction" – the exam. According to the discipline "Project graphics" – the exam. In the discipline "Costume design" – an exam.
Conditions for obtaining credits	During the module study, students will be offered the tasks of the following types: – Reproductive tasks – tasks with limited time for their implementation, oriented to the development of mental mechanisms underlying the creative abilities; – partially-search tasks – tasks that require simple thought-based operations with data (for example, tasks for identifying, enumerating, comparing, generalizing); complex mental operations (induction, deduction, interpreting, and others); or tasks requiring additional reporting of facts; – creative tasks – search tasks on the practical application of knowledge in a new situation; problem tasks and situations; tasks to detect on the basis of their own observations; to acquire new knowledge in the process of their own thoughts. To assign credits it is necessary to attend all types of training sessions provided for in the work curriculum for the disciplines, get a positive admittance rating and take the final control. – performance of a semester task, according to the work program and syllabuses of disciplines.
Duration of the module	Two semesters
Methods of teaching	Heuristic, cognitive, interactive method

Annex 2.1.14.

The similarity and difference of the bachelor's training systems on the example of the specialties Design and Education in Kazakhstan and Latvia

<table>
<tr><th rowspan="2">№</th><th rowspan="2">Nomination</th><th colspan="2">Similarity of systems</th><th colspan="2">Difference of systems</th></tr>
<tr><th>Kazakhstan</th><th>Latvia</th><th>Kazakhstan</th><th>Latvia</th></tr>
<tr><td>1</td><td>The law on Education</td><td colspan="2">General provisions on the system, taking into account the regional characteristics of each country</td><td>• Framework of qualifications;
• SCES RK – State Compulsory Education Standard;
• TC – Typical curricula;
• WTP – Working training programme;
• Syllabus;
• ISP – individual student's plan.</td><td>• Standard of professions;
• The Law of Vocational Education;
• Regulations on the state of the second level of higher professional education;
• Course program.</td></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Normative bases of the HEI for the management of special educational trajectories</td><td rowspan="2">• Framework of qualifications;
• WTP – working curriculum;
• Electronic University – Platoons, E–Learning;</td><td rowspan="2">• Standard of professions;
• Course program;
• Electronic University – MOODLE.</td><td colspan="2">Analysis of the difference in educational trajectories:</td></tr>
<tr><td colspan="2">1) Kazakhstan is an integral, consistent structure, within the framework of social and humanitarian education;
2) Latvia – sectoral training of specialists with differentiation for science and production.</td></tr>
<tr><td>3</td><td>Higher Education Model</td><td colspan="2">Credit system of training, based on the Bologna Declaration</td><td>A new national model of education based on international innovation initiatives, using the Credit Learning System</td><td>Synthesis of the education system of continental Europe and the Anglo – Saxon system, using the Credit Learning System</td></tr>
</table>

Annex 2.1.14. (continuation)

The similarity and difference of the bachelor's training systems on the example of the specialties of Design and Education in Kazakhstan and Latvia

<table>
<tr><td rowspan="4">4</td><td rowspan="4">Goals of Higher Education</td><td colspan="2" rowspan="4">The introduction of precisely defined and comparable degrees, as well as a two – stage structure in accordance with the Dublin descriptors; Adoption of a credit system similar to the ECTS system; promotion of mobility; the development of European cooperation in the field of quality control and the expansion of European aspects of higher education.</td><td colspan="2">Analysis of the difference between the Models of Higher Education:</td></tr>
<tr><td colspan="2">1) Kazakhstan – higher and postgraduate education;
2) Latvia – academic and professional education.</td></tr>
<tr><td rowspan="2">1) Law of Education of the Republic of Kazakhstan;
2) The State Compulsory Education Standard and Educational Curricula that ensure the continuity of education levels;
2) Educational institutions, irrespective of the forms of ownership, SPAs and types that implement educational programs;
3) Educational management bodies and relevant infrastructures, including educational, methodological and scientific–methodological support organizations that carry out pedagogical diagnostics;</td><td rowspan="2">1) Law of Education of the Republic of Latvia
2) Academic education programs are implemented by higher schools.
3) The procedure for the implementation of academic education programs is established by the Law on Higher Educational Establishments.</td></tr>
<tr><td colspan="2">The analysis of the difference in the concepts of the system of academic education</td></tr>
<tr><td>5</td><td>Frame of qualifications</td><td rowspan="2">Classifier of training directions and specialties of higher professional education</td><td rowspan="2">Standard of professions</td><td colspan="2" rowspan="2">1) Kazakhstan is a four-stage system, a holistic interrelated process, including pre-school education and training, secondary education, higher education, postgraduate education.
2) Latvia – three-step system, focused on the scientific training of specialists, including basic education, general secondary, higher academic education.</td></tr>
<tr><td>6</td><td>The concept of the Academic of education</td></tr>
<tr><td>7</td><td colspan="3">Content of education programs</td><td>1) The State Compulsory Educational Standard of the Republic of Kazakhstan (SCES RK);
2) general educational and professional SPE (WTP), Working (WTP);
3) additional;
4) Modular Educational Programs (MEP) (Developed by the institution of education in coordination with the developers TTP)</td><td>1) The state standard of education.
2) Education programs (developed by the institution of education in coordination with its founder).
3) Programs of subjects or courses (approved by the head of the educational institution).</td></tr>
</table>

The similarity and difference of the bachelor's training systems on the example of the specialties Design and Education in Kazakhstan and Latvia

<table>
<tr><td rowspan="5">8</td><td rowspan="5">Levels of secondary and higher education</td><td colspan="2">Analysis of the difference in the content of education programs:</td></tr>
<tr><td colspan="2">1) Kazakhstan is a centralized character and a wide range of normative-rewriting documents;
2) Latvia – an independent direction of universities and flexibility in planning content and education.</td></tr>
<tr><td>1) basic secondary education;
2) secondary education (general secondary education, technical and vocational education);
4) post-secondary education;
5) higher education;
6) postgraduate education.</td><td>1) general education;
2) vocational education;
3) academic education.</td></tr>
<tr><td colspan="2">Analysis of the level’s difference of the secondary and higher education</td></tr>
<tr><td colspan="2">1) Kazakhstan – differentiation of types of institutions by classification and distribution of educational levels in accordance with centralized regulatory documents;
2) Latvia – the differentiation into two trajectories of education – academic and professional in accordance with the levels of preparation.</td></tr>
<tr><td>9</td><td>Educational programs</td><td>1) general education (SPO, workers);
2) professional (SPO, workers);
3) additional.</td><td>1) general education programs;
2) vocational education programs;
3) academic education programs;
4) post-secondary education programs;
5) education programs for the interests.</td></tr>
</table>

The similarity and difference of the bachelor's training systems on the example of the specialties Design and Education in Kazakhstan and Latvia

<table>
<tr><td rowspan="5">10</td><td rowspan="5">Recognition of diplomas</td><td colspan="2" rowspan="5">Legislative acts</td><td colspan="2">Analysis of the difference between educational curricula</td></tr>
<tr><td colspan="2">1) Kazakhstan is the integral construction of the educational process throughout the country, in accordance with the unified documentation of training programs, a wide range of the introduction of elective disciplines. Great content of social and humanitarian disciplines;
2) Latvia – the variability of educational programs for different levels of training, the flexibility of planning an educational trajectory.</td></tr>
<tr><td>1) https://www.kantiana.ru/entrant/foreign/ms–prizn.pdf
2) nostrification of diplomas by the order of the Minister of Education and Science of the Republic of Kazakhstan "On Approval of the Rules for Recognition and Nostrification of Education Documents" dated January 10, 2008.</td><td>The European Higher Education Area
Joint declaration of the European Ministers of Education. Convened in Bologna on the 19th of June 1999.
http://www.aic.lv/rec/LV/new_d_lv/bol_lv/default.htm
Baltijas Augstākās izglītības koordinācijas komiteju (BHECC). The Higher Coordinating Committee of the Baltic Education (HCCBE)</td></tr>
<tr><td colspan="2">Analysis of the difference in the recognition of diplomas</td></tr>
<tr><td colspan="2">1) Kazakhstan – recognition of diplomas in the CIS countries;
2) Latvia – the recognition of diplomas in the CIS countries and the European Union.</td></tr>
<tr><td>11</td><td>Academic power</td><td>Bachelor of arts on specialty Design</td><td>Bachelor of arts on specialty Design</td><td>Bachelor of Arts in Design on specialization Costume Design</td><td>Bachelor of Arts in Design on specialization Clothing designer</td></tr>
<tr><td rowspan="3">12</td><td colspan="3" rowspan="3">Duration of training</td><td>5 year</td><td>4 year</td></tr>
<tr><td colspan="2">Analysis of the difference in the length of study</td></tr>
<tr><td colspan="2">1) Kazakhstan – due to the large content of socio-humanitarian disciplines, and more scientific-and-theoretical orientation of education, the longer duration of instruction is stipulated;
2) Latvia – in connection with the differentiation of academic and professional education, the content of scientific and theoretical disciplines has shortened the duration of training in vocational education.</td></tr>
</table>

Annex 2.1.14. (continuation)

The similarity and difference of the bachelor's training systems on the example of the specialties Design and Education in Kazakhstan and Latvia

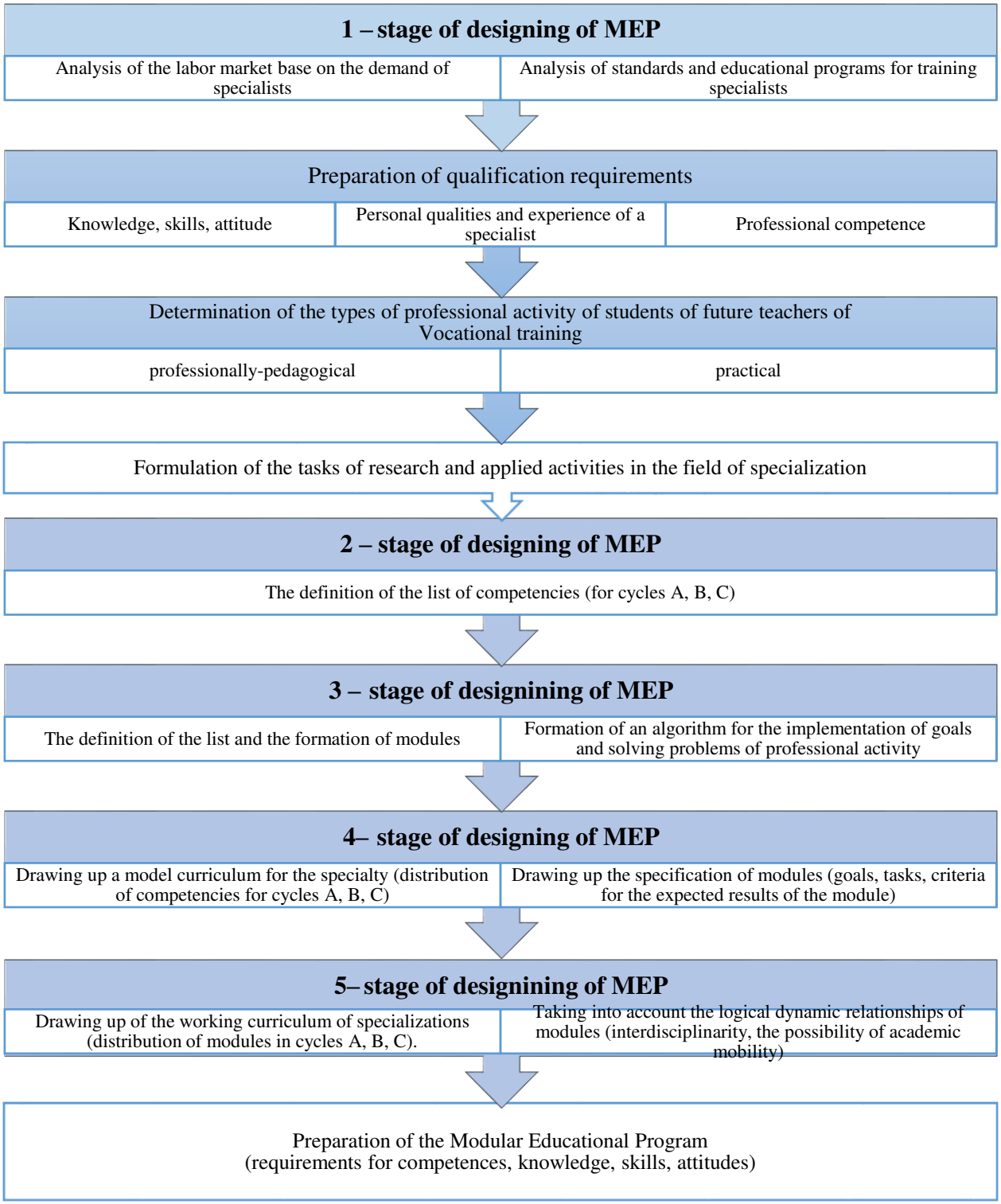
13	Cycle A –	General educational disciplines 33 credit = 53 ECTS	General courses Socio–Humanitarian Disciplines 26 credit = 39 ECTS
14	Cycle B –	Basic Disciplines 78 credit = 129 ECTS Component for Choice 50 credit = 83 ECTS	Training courses by industry 36 credit =54 ECTS Courses by profession 60 credit =90 ECTS
15	Cycle C –	Profiling Disciplines 8 credit = 13 ECTS Component for Choice 42 credit = 69 ECTS	Elective courses 6 credit =9 ECTS
16	Practice	7 credit = 19 ECTS Educational (open–air), industrial I, production II, Pre–diploma	Plener, museum, production 26 credit = 39 ECTS
17	Final Work	Writing and defense of the thesis = 2 credit (9 ECTS)	Qualifying work 12 credit =18 ECTS
18	State exam	1 credit = 5 ECTS	
19	Total number of credits	Total: 161 credit (264 ECTS)	Total: 160 credit = 240 ECTS
20	Duration of training 4 years	**Bachelor of "Education" on specialty "Vocational training", on specialization "Teacher of design"**	**Bachelor of "Education" on qualification "Teacher of home economics with the basics of business and the economy"**
		4 year	4 year
21	Cycle A –	General educational disciplines 33 credit = 53 ECTS	General courses Socio–Humanitarian Disciplines 26 credit = 39 ECTS
22	Cycle B –	Basic Disciplines 20 credit = 32 ECTS Component for Choice 44 credit = 74 ECTS	Training courses by industry 36 credit = 54 ECTS Courses by profession 60 credit = 90 ECTS
23	Cycle C –	Profiling Disciplines 5 credit = 8 ECTS Component for Choice 27 credit = 45 ECTS	Elective courses 6 credit = 9 ECTS
24	Practice	Educational (open–air), production, Undergraduate 6 credit = 10 ECTS	Plener, museum, production 26 credit = 39 ECTS
26	Final Work	Writing and defense of the thesis 2 credit = 4 ECTS	Qualification work 12 credit = 18 ECTS
		State exam 1 credit = 2 ECTS	
27	Total:	129 credit = 212 ECTS	160 credit = 240 ECTS

The similarity and difference of the bachelor's training systems on the example of the specialties Design and Education in Kazakhstan and Latvia

28	**Academic degree**	**Master of Pedagogical Sciences**	**Master of Pedagogical Sciences**	**Master of art** **Master of Scenography**	**Master of Pedagogical Sciences**
29	Duration of training 2 years				
30	**The first level of higher professional education**				**on a specialty "Design of clothes and technology", with assignment of qualification A "Clothing Designer"**
31	Duration of training 2,5 years				
32	Concept of Vocational education system				1) Law of Education of the Republic of Latvia 2) The Law of Vocational Education 3) Vocational education programs are implemented by higher schools. 4) The procedure for implementing Vocational Education programs is established by the Law on Higher Education.
33	Cycle A –				General courses. Socio-humanitarian disciplines 23 credit = 34,5 ECTS
34	Cycle B –				Training courses at industry 18 credit = 27 ECTS Courses by profession 31 credit = 46,5 ECTS
35	Cycle C –				Elective courses 4 credit = 6 ECTS
36	Practice				Professional, qualifying 16 credit = 24 ECTS
37	Final Work				Qualifying work 8 credit = 12 ECTS
38	Total				100 credit = 150 ECTS
39	**The second level of higher professional education**				**Профессиональная степень магистра дизайна**
40	Duration of training				1,5 year
41	**Programs of centers the Continuous Lifelong Learning**	They are part of the Bologna Declaration	Advanced training courses at scientific centers of the Republic of Kazakhstan, with the issuance of a certificate of the passed program by industry, no less than 74 hours.		Program "B" for Pedagogy under Universities, not less than 72 hours of training, which gives an opportunity to teach in institutions of secondary vocational education

Annex 2.2.1.

The stages of designing competency-oriented Modular educational programs for the preparation of future students Vocational training on the specialization Clothing Design



Annex 3.1.1.

Questionnaire for students

1.	What level (year of study) of Design are you a student at?					
2.	What country student are you from?					
Motivational-personal component		**Yes, always**	**Almost always**	**Neutral, I do not know**	**Occasionally, partly**	**No, never**
1.	Are you interested in the latest trends of fashion and design?					
2.	Whether you are engaged in self–education or professional development?					
3.	What do you think, whether the profession of designer is an important?					
4.	Do you believe that creativity is the main criterion of the designer profession?					
5.	Do you think that the designer must develop own social personality?					
6.	As you consider whether communication and ability to build relationships with people are necessary for Designer?					
7.	What do you think, are the rating system is adequately the same with your opinion?					
The content component (cognitive)						
1.	Do all disciplines of design programme are you targeting?					
2.	Do you know how to build the design process?					
3.	Do you know the goals, objectives and nature of the design process?					
4.	Do you know the essence of design?					
5.	Do you know what components forming the project?					
6.	Do you know the criteria by which to adequately assess your work?					
7.	Do you know the conditions of the project and whether you have to use them in the learning process (design, technology, construction)?					
The component of process (Activity / subject-practical)						
1.	Do you own the theoretical knowledge in designing the objects of design?					
2.	Do you own the practical knowledge in designing the objects of design?					
3.	Can you organize all the activities associated with the project of the objects of design? (from a sketch of project to a composition made in material)					
4.	Do you own the analytical skills of forecasting current fashion and design trends?					
5.	Can you provide the project activities?					
6.	Do you own the technology of designing the objects of design?					
7.	Do you own the construction of designing the objects of design?					

Annex 3.1.2.

Questionnaire for teachers

1.	What course teacher of specialty Design are you at?					
2.	What country teacher are you from?					
Motivational-personal component		**Yes, always**	**Almost always**	**Neutral, I do not know**	**Occasionally, partly**	**No, never**
1.	Whether students are interested in the latest trends in fashion and design?					
2.	Do students work on self-education, profes-sional development?					
3.	In your opinion, whether the profession of designer is important for students?					
4.	Whether the creativity is a motivation among students?					
5.	Do students develop their social personality in the design process?					
6.	Do students use the communicativeness in work?					
7.	Is the self-esteem of students' work an adequate?					
The content component (cognitive)						
1.	Whether the students are orient in all disci-plines of the programme Design?					
2.	Do the students know the mechanism of building the Design process?					
3.	Do the students know the goals, objectives and nature of the design process?					
4.	Do the students know the essence of design?					
5.	Do the students know what components are forming a project?					
6.	Do the student's criteria is an adequate in evaluation of their work?					
7.	Are students know the conditions of working upon the project and whether they are use them in the learning process (design, technology, construction)?					
The component of process (Activity / subject-practical)						
1.	Whether students possess the theoretical knowledge in designing of the objects of design?					
2.	Whether students possess the practical knowledge in designing of the objects of design?					
3.	Do the students know how to organize all the activities associated with the design of the objects of design? (From a sketch of a project to a finished product)?					
4.	Whether the students possess the analytical skills of forecasting current fashion and design trends?					
5.	Do the students know how to provide the project activities?					
6.	Whether the students possess the technology of designing the objects of design?					
7.	Whether students are proficient in the construction of designing objects of design?					

Annex 3.1.3.

Questionnaire for Employers

1.	What University's graduates on a specialty Design are you an employer of?					
2.	What country are you an employer of?					
Motivational-personal component		**Yes, always**	**Almost always**	**Neutral, I do not know**	**Occasionally, partly**	**No, never**
1.	Whether graduates of Design are interested in the latest trends in fashion design?					
2.	Do graduates of Design improve their self-education, professional development?					
3.	In your opinion, the profession of designer is an important for graduates of Design?					
4.	Does creativity is motivation for graduates of design?					
5.	Do graduates of Design develop their social personality in the design process?					
6.	Do graduates of Design use the communicativeness at work?					
7.	Do graduates of design an adequately evaluate their work?					
The content component (cognitive)						
1.	Do graduates of Design orient in the system and components design?					
2.	Do the graduates of Design know the mechanism of constructing the design process?					
3.	Do the graduates of Design know the goals, objectives and nature of the design process?					
4.	Do the graduates of Design know the essence of design?					
5.	Do the graduates of design know the components which forming a project?					
6.	Do the graduates of Design know the criteria for an adequate assessment of their work?					
7.	Do the graduates of Design know the conditions of the project and whether they use in the learning process (design, technology, pattern construc-tion)?					
The component of process (Activity / subject-practi-cal)						
1.	Do graduates of Design own the theoretical knowledge in designing the objects of design?					
2.	Do graduates of Design own the practical knowledge in designing the objects of design?					
3.	Are graduates of Design able to do organize all activities related to the design of costume? (from the sketch of the project to the completely ready product at the industry)					
4.	Do graduates of Design own the analytical skills in forecasting current fashion and design trends?					
5.	Do graduates of Design able to provide the project work?					
6.	Whether the graduates of Design possess the technology of designing the objects of design?					
7.	Whether graduates of Design are proficient in construction at designing the objects of design?					

Annex 3.2.1.

The results of descriptive statistics (mean) for identification of the dynamics of indicators of motivational criterion

Statistics

		MLK1_1 Interest in the specialty	MLK1_2 Interest in the specialty	MLK2_1 Gnoseological need to raise the level of self-education, qualification	MLK2_2 Gnoseological need to raise the level of self–education, qualifi-cation	MLK3_1 Awareness of the importance of the profession
N	Valid	26	26	26	26	26
	Missing	0	0	0	0	0
Mean		2,69	2,58	2,69	2,62	2,73

Statistics

		MLK3_2 Awareness of the importance of the profession	MLK4_1 Creativity	MLK4_2 Creativity	MLK5_1 Social characteristics of a personality	MLK5_2 Social characteristics of a personality
N	Valid	26	26	26	26	26
	Missing	0	0	0	0	0
Mean		2,69	2,85	2,77	2,96	2,85

Statistics

		MLK6_1 Communicativeness	MLK6_2 Communicativeness	MLK7_1 Adequate assessment system	MLK7_2 Adequate assessment system
N	Valid	26	26	26	26
	Missing	0	0	0	0
Mean		3,27	3,15	3,62	3,54

Annex 3.2.2.

The results of descriptive statistics (mean) for identification of the dynamics of indicators of contentive criterion

Statistics

		SKK1_1 Systemic orientation in all design components	SKK1_2 Systemic orientation in all design components	SKK2_1 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK2_2 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK3_1 Knowledge of purposeful activ-ity essence of project-oriented pedagogical process
N	Valid	26	26	26	26	26
	Missing	0	0	0	0	0
Mean		3,42	3,31	3,85	3,77	3,62

Statistics

		SKK3_2 Knowledge of purposeful activity essence of project-oriented pedagogical process	SKK4_1 Knowledge of design content as a subject of pedagogical process	SKK4_2 Knowledge of design content as a subject of pedagogical pro-cess	SKK5_1 Knowledge of project-oriented pedagogical components for the formation of Professional competence	SKK5_2 Knowledge of project-oriented pedagogical components for the formation of Professional competence
N	Valid	26	26	26	26	26
	Missing	0	0	0	0	0
Mean		3,31	3,85	1,81	3,96	1,96

Statistics

		SKK6_1 Knowledge of criteria on adequate work assessment	SKK6_2 Knowledge of criteria on adequate work assessment	SKK7_1 Knowledge of project-oriented pedagogical conditions and their implementation in educational and training process	SKK7_2 Knowledge of Project-oriented pedagogical conditions and their implementation in educational and training process
N	Valid	26	26	26	26
	Missing	0	0	0	0
Mean		3,65	3,54	4,04	3,62

Annex 3.2.3.

Results of the Wilcoxon test for identification statistical significance of differences between the first and the second measurements of the contentive criterion indicators

	SKK3_2 – SKK3_1 Knowledge of purposeful activity essence of project-oriented pedagogical process	SKK4_2 – SKK4_1 Knowledge of design content as a subject of pedagogical process	SKK5_2 – SKK5_1 Knowledge of project-oriented pedagogical components for the formation of Professional competence	SKK7_2 – SKK7_1 Knowledge of project-oriented pedagogical conditions and their implementation in educational and training process
Asymp. Sig. (2–tailed)	,038	,000	,000	,015

Annex 3.2.4.

Results of the Mann – Whitney U – test for identification of statistical significance of contentive criterion between two groups

Ranks

	group	N	Mean Rank	Sum of Ranks
SKK3_2 Knowledge of purposeful activity essence of project–oriented pedagogical process	experimental	26	40,65	1057,00
	control	81	58,28	4721,00
	Total	107		
SKK4_2 Knowledge of design content as a subject of pedagogical process	experimental	26	19,73	513,00
	control	81	65,00	5265,00
	Total	107		
SKK5_2 Knowledge of project–oriented pedagogical components for the formation of Professional competence	experimental	26	18,25	474,50
	control	81	65,48	5303,50
	Total	107		
SKK7_2 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	experimental	26	45,17	1174,50
	control	81	56,83	4603,50
	Total	107		

Test Statistics[a]

	SKK3_2 Knowledge of purposeful activity essence of project-oriented pedagogical process	SKK4_2 Knowledge of design content as a subject of pedagogical process	SKK5_2 Knowledge of project-oriented pedagogical components for the formation of Professional competence	SKK7_2 Knowledge of Project-oriented pedagogical conditions and their implementation in educational and training process
Mann–Whitney U	706,000	162,000	123,500	823,500
Wilcoxon W	1057,000	513,000	474,500	1174,500
Z	–2,785	–6,753	–7,056	–1,958
Asymp. Sig. (2–tailed)	,005	,000	,000	,050

Annex 3.2.5.

The results of descriptive statistics (mean) for identification of the dynamics of indicators of procedural criterion

Statistics

		PKD1_1 Possession of theoretical knowledge on Costume design	PKD1_2 Possession of theoretical knowledge on Costume design	PKD2_1 Possession of Practical knowledge on Costume design	PKD2_2 Possession of Practical knowledge on Costume design	PKD3_1 Skill to organize all kinds of activities related to Costume design
N	Valid	26	26	26	26	26
	Missing	0	0	0	0	0
Mean		3,38	1,92	3,85	1,65	4,15

Statistics

		PKD3_2 Skill to organize all kinds of activities related to Costume design	PKD4_1 Possession of analytical prognostic skills	PKD4_2 Possession of analytical prognostic skills	PKD5_1 Skill to ensure project activity	PKD5_2 Skill to ensure project activity
N	Valid	26	26	26	26	26
	Missing	0	0	0	0	0
Mean		1,54	4,31	2,12	3,85	2,04

Statistics

		PKD6_1 Possession of project-oriented pedagogical process providing technology	PKD6_2 Possession of project-oriented pedagogical process providing technology	PKD7_1 Possession of construction of project-oriented pedagogical process	PKD7_2 Possession of construction of project-oriented pedagogical process
N	Valid	26	26	26	26
	Missing	0	0	0	0
Mean		4,31	1,81	4,62	2,08

Annex 3.2.5.

Results of the Wilcoxon test for identification statistical significance of differences between the first and the second measurements of the procedural criterion indicators

Test Statistics[a]

	PKD1_2 – PKD1_1 Possession of theoretical knowledge on Costume design	PKD2_2 – PKD2_1 Possession of Practical knowledge on Costume design	PKD3_2 – PKD3_1 Skill to organize all kinds of activities related to Costume design	PKD4_2 – PKD4_1 Possession of analytical prognostic skills
Asymp. Sig. (2–tailed)	,000	,000	,000	,000

Test Statistics[a]

	PKD5_2 – PKD5_1 Skill to ensure project activity	PKD6_2 – PKD6_1 Possession of project-oriented pedagogical process providing technology	PKD7_2 – PKD7_1 Possession of construction of project-oriented pedagogical process
Asymp. Sig. (2–tailed)	,000	,000	,000

Annex 3.2.6.

Results of the Mann – Whitney U – test for identification of statistical significance of procedural criterion between two groups

Ranks

	group	N	Mean Rank	Sum of Ranks
PKD1_2 Possession of theoretical knowledge on Costume design	experimental	26	33,73	877,00
	control	81	60,51	4901,00
	Total	107		
PKD2_2 Possession of Practical knowledge on Costume design	experimental	26	19,10	496,50
	control	81	65,20	5281,50
	Total	107		
PKD3_2 Skill to organize all kinds of activities related to Costume design	experimental	26	23,02	598,50
	control	81	63,94	5179,50
	Total	107		
PKD4_2 Possession of analytical prognostic skills	experimental	26	24,25	630,50
	control	81	63,55	5147,50
	Total	107		
PKD5_2 Skill to ensure project activity	experimental	26	22,10	574,50
	control	81	64,24	5203,50
	Total	107		
PKD6_2 Possession of project–oriented pedagogical process providing technology	experimental	26	18,44	479,50
	control	81	65,41	5298,50
	Total	107		
PKD7_2 Possession of construction of project–oriented pedagogical process	experimental	26	18,29	475,50
	control	81	65,46	5302,50
	Total	107		

Test Statistics[a]

	PKD1_2 Possession of theoretical knowledge on Costume design	PKD2_2 Possession of Practical knowledge on Costume design	PKD3_2 Skill to organize all kinds of activities related to Costume design	PKD4_2 Possession of analytical prognostic skills
Mann–Whitney U	526,000	145,500	247,500	279,500
Wilcoxon W	877,000	496,500	598,500	630,500
Z	–4,182	–6,848	–6,139	–5,972
Asymp. Sig. (2–tailed)	,000	,000	,000	,000

Test Statistics[a]

	PKD5_2 Skill to ensure project activity	PKD6_2 Possession of project-oriented pedagogical process providing technology	PKD7_2 Possession of construction of project-oriented pedagogical process
Mann–Whitney U	223,500	128,500	124,500
Wilcoxon W	574,500	479,500	475,500
Z	–6,377	–6,983	–7,063
Asymp. Sig. (2–tailed)	,000	,000	,000

Annex 3.3.1.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the motivational criterion indicators among students of different countries

Ranks

	country	N	Mean Rank
MLK1_2 Interest in the specialty	Kazakhstan	26	36,81
	Latvia	25	22,26
	Lithuania	5	16,50
	Total	56	
MLK3_2 Awareness of the importance of the profession	Kazakhstan	26	37,38
	Latvia	25	21,60
	Lithuania	5	16,80
	Total	56	
MLK7_2 Adequate assessment system	Kazakhstan	26	35,52
	Latvia	25	20,82
	Lithuania	5	30,40
	Total	56	

Test Statistics[a,b]

	MLK1_2 Interest in the specialty	MLK3_2 Awareness of the importance of the profession	MLK7_2 Adequate assessment system
Chi–Square	14,711	16,776	13,897
df	2	2	2
Asymp. Sig.	,001	,000	,001

Annex 3.3.2.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the motivational criterion indicators among teachers of different countries

Ranks

	country	N	Mean Rank
MLK1 Interest in the specialty	Kazakhstan	14	10,79
	Latvia	7	20,50
	Lithuania	5	11,30
	Total	26	
MLK3 Awareness of the importance of the profession	Kazakhstan	14	10,79
	Latvia	7	20,50
	Lithuania	5	11,30
	Total	26	

Test Statistics[a,b]

	MLK1 Interest in the specialty	MLK3 Awareness of the importance of the profession
Chi–Square	9,999	9,354
df	2	2
Asymp. Sig.	,007	,009

Annex 3.3.3.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the motivational criterion indicators among respondents (students, teachers, employers) of different countries

Ranks

	status	N	Mean Rank
MLK1 Interest in the specialty	students	56	46,79
	teachers	26	51,77
	employers	22	67,91
	Total	104	
MLK3 Awareness of the importance of the profession	students	56	46,75
	teachers	26	53,40
	employers	22	66,07
	Total	104	
MLK4 Creativity	students	56	43,22
	teachers	26	52,77
	employers	22	75,80
	Total	104	
MLK5 Social characteristics of a personality	students	56	44,48
	teachers	26	53,00
	employers	22	72,32
	Total	104	
MLK6 Communicativeness	students	56	38,28
	teachers	26	69,42
	employers	22	68,70
	Total	104	

Test Statistics[a,b]

	MLK1 Interest in the specialty	MLK3 Awareness of the importance of the profession	MLK4 Creativity	MLK5 Social characteristics of a personality	MLK6 Communicativeness
Chi–Square	9,422	7,340	21,530	15,123	29,770
df	2	2	2	2	2
Asymp. Sig.	,009	,025	,000	,001	,000

Annex 3.3.4.

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Nonparametric Correlations

			MLK1 Interest in the specialty	MLK2 Gnoseological need to raise the level of self-education, qualification
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	1,000	,437**
		Sig. (2–tailed)	.	,000
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,437**	1,000
		Sig. (2–tailed)	,000	.
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,275**	,458**
		Sig. (2–tailed)	,002	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,339**	,190*
		Sig. (2–tailed)	,000	,026
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,160	,194*
		Sig. (2–tailed)	,070	,022
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,144	,273**
		Sig. (2–tailed)	,097	,001
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,220*	,190*
		Sig. (2–tailed)	,012	,025
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,323**	,332**
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,336**	,365**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK3 Awareness of the importance of the profession	MLK4 Creativity
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,275	,339**
		Sig. (2–tailed)	,002	,000
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,458**	,190
		Sig. (2–tailed)	,000	,026
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	1,000**	,322**
		Sig. (2–tailed)	.	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,322**	1,000*
		Sig. (2–tailed)	,000	.
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,331	,404*
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,388	,378**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,359*	,258*
		Sig. (2–tailed)	,000	,003
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,393**	,290**
		Sig. (2–tailed)	,000	,001
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,353**	,119**
		Sig. (2–tailed)	,000	,168

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK5 Social characteristics of a personality	MLK6 Communicativeness
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,160	,144**
		Sig. (2–tailed)	,070	,097
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,194**	,273
		Sig. (2–tailed)	,022	,001
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,331**	,388**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,404**	,378*
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	1,000	,505*
		Sig. (2–tailed)	.	,000
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,505	1,000**
		Sig. (2–tailed)	,000	.
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,343*	,431*
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,294**	,253**
		Sig. (2–tailed)	,001	,003
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,224**	,134**
		Sig. (2–tailed)	,008	,109

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK7 Adequate assessment system	SKK1 Systemic orientation in all design components
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,220	,323**
		Sig. (2–tailed)	,012	,000
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,190**	,332
		Sig. (2–tailed)	,025	,000
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,359**	,393**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,258**	,290*
		Sig. (2–tailed)	,003	,001
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,343	,294*
		Sig. (2–tailed)	,000	,001
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,431	,253**
		Sig. (2–tailed)	,000	,003
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	1,000*	,312*
		Sig. (2–tailed)	.	,000
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,312**	1,000**
		Sig. (2–tailed)	,000	.
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,331**	,509**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK2 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK3 Knowledge of purposeful activity essence of project-oriented pedagogical process
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,336	,380**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,365**	,546
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,353**	,433**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,119**	,243*
		Sig. (2–tailed)	,168	,005
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,224	,266*
		Sig. (2–tailed)	,008	,002
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,134	,275**
		Sig. (2–tailed)	,109	,001
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,331*	,360*
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,509**	,419**
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	1,000**	,678**
		Sig. (2–tailed)	.	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK4 Knowledge of design content as a subject of pedagogical process	SKK5 Knowledge of project-oriented pedagogical components for the formation of Professional competence
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,512	,488**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,518**	,410
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,451**	,421**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,290**	,241*
		Sig. (2–tailed)	,001	,005
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,260	,127*
		Sig. (2–tailed)	,002	,136
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,255	,141**
		Sig. (2–tailed)	,002	,093
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,413*	,316*
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,372**	,437**
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,558**	,574**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK6 Knowledge of criteria on adequate work assessment	SKK7 Knowledge of project-oriented pedagogical conditions and their implementation in educational and training process
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,292	,204**
		Sig. (2–tailed)	,001	,020
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,311**	,252
		Sig. (2–tailed)	,000	,003
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,315**	,395**
		Sig. (2–tailed)	,000	,000
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,256**	,220*
		Sig. (2–tailed)	,003	,011
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,284	,126*
		Sig. (2–tailed)	,001	,139
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,320	,058**
		Sig. (2–tailed)	,000	,489
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,357*	,323*
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,359**	,320**
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,478**	,491**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD1 Possession of theoretical knowledge on Costume design	PKD2 Possession of Practical knowledge on Costume design
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,252	,241**
		Sig. (2–tailed)	,004	,007
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,261**	,171
		Sig. (2–tailed)	,002	,045
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,364**	,180**
		Sig. (2–tailed)	,000	,037
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,245**	,166*
		Sig. (2–tailed)	,004	,057
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,250	,086*
		Sig. (2–tailed)	,003	,320
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	,346	–,015**
		Sig. (2–tailed)	,000	,860
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,474*	,203*
		Sig. (2–tailed)	,000	,018
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,491**	,343**
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,477**	,454**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD3 Skill to organize all kinds of activities related to Costume design	PKD4 Possession of analytical prognostic skills
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,344	,226**
		Sig. (2–tailed)	,000	,010
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,278**	,314
		Sig. (2–tailed)	,001	,000
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,291**	,237**
		Sig. (2–tailed)	,001	,005
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,136**	,171*
		Sig. (2–tailed)	,109	,048
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,100	,064*
		Sig. (2–tailed)	,237	,455
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	–,036	–,079**
		Sig. (2–tailed)	,667	,351
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,155*	,157*
		Sig. (2–tailed)	,066	,066
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,171**	,274**
		Sig. (2–tailed)	,041	,001
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,410**	,345**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD5 Skill to ensure project activity	PKD6 Possession of project-oriented pedagogical process providing technology
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,228	,225**
		Sig. (2–tailed)	,008	,010
		N	104	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,205**	,273
		Sig. (2–tailed)	,014	,001
		N	104	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,281**	,284**
		Sig. (2–tailed)	,001	,001
		N	104	104
	MLK4 Creativity	Correlation Coefficient	,105**	,242*
		Sig. (2–tailed)	,217	,005
		N	104	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,069	,126*
		Sig. (2–tailed)	,413	,139
		N	104	104
	MLK6 Communicativeness	Correlation Coefficient	–,023	,025**
		Sig. (2–tailed)	,781	,770
		N	104	104
	MLK7 Adequate assessment system	Correlation Coefficient	,202*	,298*
		Sig. (2–tailed)	,016	,000
		N	104	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,312**	,397**
		Sig. (2–tailed)	,000	,000
		N	104	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,426**	,424**
		Sig. (2–tailed)	,000	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations			
			PKD7 Possession of construction of project-oriented pedagogical process
Kendall's tau_b	MLK1 Interest in the specialty	Correlation Coefficient	,201
		Sig. (2–tailed)	,021
		N	104
	MLK2 Gnoseological need to raise the level of self–education, qualification	Correlation Coefficient	,247**
		Sig. (2–tailed)	,003
		N	104
	MLK3 Awareness of the importance of the profession	Correlation Coefficient	,404**
		Sig. (2–tailed)	,000
		N	104
	MLK4 Creativity	Correlation Coefficient	,180**
		Sig. (2–tailed)	,036
		N	104
	MLK5 Social characteristics of a personality	Correlation Coefficient	,077
		Sig. (2–tailed)	,363
		N	104
	MLK6 Communicativeness	Correlation Coefficient	,054
		Sig. (2–tailed)	,520
		N	104
	MLK7 Adequate assessment system	Correlation Coefficient	,197*
		Sig. (2–tailed)	,020
		N	104
	SKK1 Systemic orientation in all design components	Correlation Coefficient	,412**
		Sig. (2–tailed)	,000
		N	104
	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Correlation Coefficient	,494**
		Sig. (2–tailed)	,000

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK1 Interest in the specialty	MLK2 Gnoseological need to raise the level of self-education, qualification
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,380	,546
		Sig. (2–tailed)	,000	,000
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,512	,518
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,488	,410
		Sig. (2–tailed)	,000	,000
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,292	,311
		Sig. (2–tailed)	,001	,000
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,204	,252
		Sig. (2–tailed)	,020	,003
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,252	,261
		Sig. (2–tailed)	,004	,002
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,241	,171
		Sig. (2–tailed)	,007	,045
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,344	,278

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK3 Awareness of the importance of the profession	MLK4 Creativity
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,433	,243
		Sig. (2–tailed)	,000	,005
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,451	,290
		Sig. (2–tailed)	,000	,001
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,421	,241
		Sig. (2–tailed)	,000	,005
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,315	,256
		Sig. (2–tailed)	,000	,003
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,395	,220
		Sig. (2–tailed)	,000	,011
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,364	,245
		Sig. (2–tailed)	,000	,004
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,180	,166
		Sig. (2–tailed)	,037	,057
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,291	,136

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK5 Social characteristics of a personality	MLK6 Communicativeness
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,266	,275
		Sig. (2–tailed)	,002	,001
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,260	,255
		Sig. (2–tailed)	,002	,002
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,127	,141
		Sig. (2–tailed)	,136	,093
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,284	,320
		Sig. (2–tailed)	,001	,000
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,126	,058
		Sig. (2–tailed)	,139	,489
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,250	,346
		Sig. (2–tailed)	,003	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,086	–,015
		Sig. (2–tailed)	,320	,860
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,100	–,036

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK7 Adequate assessment system	SKK1 Systemic orientation in all design components
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,360	,419
		Sig. (2–tailed)	,000	,000
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,413	,372
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,316	,437
		Sig. (2–tailed)	,000	,000
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,357	,359
		Sig. (2–tailed)	,000	,000
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,323	,320
		Sig. (2–tailed)	,000	,000
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,474	,491
		Sig. (2–tailed)	,000	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,203	,343
		Sig. (2–tailed)	,018	,000
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,155	,171

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK2 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK3 Knowledge of purposeful activity essence of project-oriented pedagogical process
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,678	1,000
		Sig. (2–tailed)	,000	.
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,558	,692
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,574	,609
		Sig. (2–tailed)	,000	,000
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,478	,521
		Sig. (2–tailed)	,000	,000
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,491	,433
		Sig. (2–tailed)	,000	,000
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,477	,440
		Sig. (2–tailed)	,000	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,454	,358
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,410	,342

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK4 Knowledge of design content as a subject of pedagogical process	SKK5 Knowledge of project-oriented pedagogical components for the formation of Professional competence
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,692	,609
		Sig. (2–tailed)	,000	,000
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	1,000	,623
		Sig. (2–tailed)	.	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,623	1,000
		Sig. (2–tailed)	,000	.
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,441	,560
		Sig. (2–tailed)	,000	,000
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,465	,505
		Sig. (2–tailed)	,000	,000
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,388	,436
		Sig. (2–tailed)	,000	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,303	,299
		Sig. (2–tailed)	,000	,001
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,427	,400

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK6 Knowledge of criteria on adequate work assessment	SKK7 Knowledge of project-oriented pedagogical conditions and their implementation in educational and training process
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,521	,433
		Sig. (2–tailed)	,000	,000
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,441	,465
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,560	,505
		Sig. (2–tailed)	,000	,000
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	1,000	,345
		Sig. (2–tailed)	.	,000
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,345	1,000
		Sig. (2–tailed)	,000	.
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,457	,422
		Sig. (2–tailed)	,000	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,267	,350
		Sig. (2–tailed)	,002	,000
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,273	,359

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD1 Possession of theoretical knowledge on Costume design	PKD2 Possession of practical knowledge on Costume design
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,440	,358
		Sig. (2–tailed)	,000	,000
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,388	,303
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,436	,299
		Sig. (2–tailed)	,000	,001
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,457	,267
		Sig. (2–tailed)	,000	,002
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,422	,350
		Sig. (2–tailed)	,000	,000
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	1,000	,463
		Sig. (2–tailed)	.	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,463	1,000
		Sig. (2–tailed)	,000	.
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,341	,523

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD3 Skill to organize all kinds of activities related to Costume design	PKD4 Possession of analytical prognostic skills
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,342	,295
		Sig. (2–tailed)	,000	,001
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,427	,363
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,400	,345
		Sig. (2–tailed)	,000	,000
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,273	,279
		Sig. (2–tailed)	,001	,001
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,359	,387
		Sig. (2–tailed)	,000	,000
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,341	,268
		Sig. (2–tailed)	,000	,002
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,523	,444
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	1,000	,468

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD5 Skill to ensure project activity	PKD6 Possession of project-oriented pedagogical process providing technology
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104	104**
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,405	,318
		Sig. (2–tailed)	,000	,000
		N	104**	104
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,375	,407
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,276	,237
		Sig. (2–tailed)	,001	,005
		N	104**	104*
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,219	,246
		Sig. (2–tailed)	,009	,004
		N	104	104*
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,334	,529
		Sig. (2–tailed)	,000	,000
		N	104	104**
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,174	,452
		Sig. (2–tailed)	,038	,000
		N	104*	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,431	,621
		Sig. (2–tailed)	,000	,000
		N	104**	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,479	,494

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations			
			PKD7 Possession of construction of project-oriented pedagogical process
Kendall's tau_b	SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	N	104
	SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	Correlation Coefficient	,431
		Sig. (2–tailed)	,000
		N	104**
	SKK4 Knowledge of design content as a subject of pedagogical process	Correlation Coefficient	,356
		Sig. (2–tailed)	,000
		N	104**
	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Correlation Coefficient	,394
		Sig. (2–tailed)	,000
		N	104**
	SKK6 Knowledge of criteria on adequate work assessment	Correlation Coefficient	,291
		Sig. (2–tailed)	,001
		N	104
	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Correlation Coefficient	,578
		Sig. (2–tailed)	,000
		N	104
	PKD1 Possession of theoretical knowledge on Costume design	Correlation Coefficient	,435
		Sig. (2–tailed)	,000
		N	104*
	PKD2 Possession of Practical knowledge on Costume design	Correlation Coefficient	,483
		Sig. (2–tailed)	,000
		N	104**
	PKD3 Skill to organize all kinds of activities related to Costume design	Correlation Coefficient	,399

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK1 Interest in the specialty	MLK2 Gnoseological need to raise the level of self-education, qualification
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,000	,001**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,226	,314
		Sig. (2–tailed)	,010**	,000
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,228	,205
		Sig. (2–tailed)	,008**	,014**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,225	,273
		Sig. (2–tailed)	,010**	,001*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,201	,247
		Sig. (2–tailed)	,021	,003*
		N	104	104

Annex 3.3.4. (continuation)

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK3 Awareness of the importance of the profession	MLK4 Creativity
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,001	,109**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,237	,171
		Sig. (2–tailed)	,005**	,048
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,281	,105
		Sig. (2–tailed)	,001**	,217**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,284	,242
		Sig. (2–tailed)	,001**	,005*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,404	,180
		Sig. (2–tailed)	,000	,036*
		N	104	104

Annex 3.3.4. (continuation)

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK5 Social characteristics of a personality	MLK6 Communicativeness
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,237	,667**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,064	–,079
		Sig. (2–tailed)	,455**	,351
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,069	–,023
		Sig. (2–tailed)	,413**	,781**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,126	,025
		Sig. (2–tailed)	,139**	,770*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,077	,054
		Sig. (2–tailed)	,363	,520*
		N	104	104

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			MLK7 Adequate assessment system	SKK1 Systemic orientation in all design components
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,066	,041**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,157	,274
		Sig. (2–tailed)	,066**	,001
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,202	,312
		Sig. (2–tailed)	,016**	,000**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,298	,397
		Sig. (2–tailed)	,000**	,000*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,197	,412
		Sig. (2–tailed)	,020	,000*
		N	104	104

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK2 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK3 Knowledge of purposeful activity essence of project-oriented pedagogical process
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,000	,000**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,345	,295
		Sig. (2–tailed)	,000**	,001
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,426	,405
		Sig. (2–tailed)	,000**	,000**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,424	,318
		Sig. (2–tailed)	,000**	,000*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,494	,431
		Sig. (2–tailed)	,000	,000*
		N	104	104

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK4 Knowledge of design content as a subject of pedagogical process	SKK5 Knowledge of Project-oriented pedagogical components for the formation of Professional competence
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,000	,000**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,363	,345
		Sig. (2–tailed)	,000**	,000
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,375	,276
		Sig. (2–tailed)	,000**	,001**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,407	,237
		Sig. (2–tailed)	,000**	,005*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,356	,394
		Sig. (2–tailed)	,000	,000*
		N	104	104

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			SKK6 Knowledge of criteria on adequate work assessment	SKK7 Knowledge of project-oriented pedagogical conditions and their implementation in educational and training process
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,001	,000**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,279	,387
		Sig. (2–tailed)	,001**	,000
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,219	,334
		Sig. (2–tailed)	,009**	,000**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,246	,529
		Sig. (2–tailed)	,004**	,000*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,291	,578
		Sig. (2–tailed)	,001	,000*
		N	104	104

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD1 Possession of theoretical knowledge on Costume design	PKD2 Possession of Practical knowledge on Costume design
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,000	,000**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,268	,444
		Sig. (2–tailed)	,002**	,000
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,174	,431
		Sig. (2–tailed)	,038**	,000**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,452	,621
		Sig. (2–tailed)	,000**	,000*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,435	,483
		Sig. (2–tailed)	,000	,000*
		N	104	104

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD3 Skill to organize all kinds of activities related to Costume design	PKD4 Possession of analytical prognostic skills
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	.	,000**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,468	1,000
		Sig. (2–tailed)	,000**	.
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,479	,449
		Sig. (2–tailed)	,000**	,000**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,494	,579
		Sig. (2–tailed)	,000**	,000*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,399	,443
		Sig. (2–tailed)	,000	,000*
		N	104	104

Annex 3.3.4. (continuation)

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations				
			PKD5 Skill to ensure project activity	PKD6 Possession of Project-oriented pedagogical process providing technology
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,000	,000**
		N	104	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,449	,579
		Sig. (2–tailed)	,000**	,000
		N	104	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	1,000	,501
		Sig. (2–tailed)	.**	,000**
		N	104	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,501	1,000
		Sig. (2–tailed)	,000**	.*
		N	104	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	,351	,623
		Sig. (2–tailed)	,000	,000*
		N	104	104

Annex 3.3.4. (continuation)

Analysis of the results of Kendall Tau b test for identification the correlation between the criterion indicators

Correlations			
			PKD7 Possession of construction of project-oriented pedagogical process
Kendall's tau_b	PKD3 Skill to organize all kinds of activities related to Costume design	Sig. (2–tailed)	,000
		N	104
	PKD4 Possession of analytical prognostic skills	Correlation Coefficient	,443
		Sig. (2–tailed)	,000**
		N	104
	PKD5 Skill to ensure project activity	Correlation Coefficient	,351
		Sig. (2–tailed)	,000**
		N	104
	PKD6 Possession of project–oriented pedagogical process providing technology	Correlation Coefficient	,623
		Sig. (2–tailed)	,000**
		N	104
	PKD7 Possession of construction of project–oriented pedagogical process	Correlation Coefficient	1,000
		Sig. (2–tailed)	.
		N	104

**. Correlation is significant at the 0.01 level (2–tailed).
*. Correlation is significant at the 0.05 level (2–tailed).

Annex 3.3.5.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the contentive criterion indicators among students of different countries

Ranks

	country	N	Mean Rank
SKK2_2 Knowledge of constructing mechanisms of project–oriented pedagogical process	Kazakhstan	26	41,31
	Latvia	25	16,54
	Lithuania	5	21,70
	Total	56	
SKK4_2 Knowledge of design content as a subject of pedagogical process	Kazakhstan	26	22,88
	Latvia	25	32,32
	Lithuania	5	38,60
	Total	56	
SKK6_2 Knowledge of criteria on adequate work assessment	Kazakhstan	26	40,88
	Latvia	25	16,28
	Lithuania	5	25,20
	Total	56	
SKK7_2 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Kazakhstan	26	39,12
	Latvia	25	20,46
	Lithuania	5	13,50
	Total	56	

Test Statistics[a,b]

	SKK2_2 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK4_2 Knowledge of design content as a subject of pedagogical process	SKK6_2 Knowledge of criteria on adequate work assessment	SKK7_2 Knowledge of Project-oriented pedagogical conditions and their implementation in educational and training process
Chi–Square	32,290	7,268	32,624	23,225
df	2	2	2	2
Asymp. Sig.	,000	,026	,000	,000

Annex 3.3.6.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the contentive criterion indicators among teachers of different countries

Ranks

	country	N	Mean Rank
SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	Kazakhstan	14	10,79
	Latvia	7	19,07
	Lithuania	5	13,30
	Total	26	

Test Statistics[a,b]

	SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence
Chi–Square	6,614
df	2
Asymp. Sig.	,037

Annex 3.3.7.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the contentive criterion indicators among employers of different countries

Ranks

	country	N	Mean Rank
SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	Kazakhstan	6	14,75
	Latvia	8	8,63
	Lithuania	5	6,50
	Total	19	

Test Statistics[a,b]

	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process
Chi–Square	9,043
df	2
Asymp. Sig.	,011

Annex 3.3.8.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the contentive criterion indicators among respondents (students, teachers, employers) of different countries

Ranks

	status	N	Mean Rank
SKK2 Knowledge of constructing mechanisms of project–oriented pedagogical process	students	56	45,90
	teachers	26	48,79
	employers	22	73,68
	Total	104	
SKK3 Knowledge of purposeful activity essence of project–oriented pedagogical process	students	56	46,56
	teachers	26	47,50
	employers	22	73,52
	Total	104	
SKK4 Knowledge of design content as a subject of pedagogical process	students	56	46,15
	teachers	26	51,38
	employers	22	69,98
	Total	104	
SKK5 Knowledge of project–oriented pedagogical components for the formation of Professional competence	students	56	48,38
	teachers	26	47,62
	employers	22	68,77
	Total	104	
SKK6 Knowledge of criteria on adequate work assessment	students	56	41,64
	teachers	26	56,73
	employers	22	75,14
	Total	104	
SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process	students	56	49,41
	teachers	26	46,96
	employers	22	66,91
	Total	104	

Annex 3.3.8. (continuation)

Test Statistics[a,b]

	SKK2 Knowledge of constructing mechanisms of project-oriented pedagogical process	SKK3 Knowledge of purposeful activity essence of project-oriented pedagogical process	SKK4 Knowledge of design content as a subject of pedagogical process	SKK5 Knowledge of project-oriented pedagogical components for the formation of Professional competence	SKK6 Knowledge of criteria on adequate work assessment
Chi–Square	15,625	15,842	10,907	9,324	22,652
df	2	2	2	2	2
Asymp. Sig.	,000	,000	,004	,009	,000

Test Statistics[a,b]

	SKK7 Knowledge of project–oriented pedagogical conditions and their implementation in educational and training process
Chi–Square	7,325
df	2
Asymp. Sig.	,026

Annex 3.3.9.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the procedural criterion indicators among students of different countries

Ranks

	country	N	Mean Rank
PKD3_2 Skill to organize all kinds of activities related to Costume design	Kazakhstan	26	18,73
	Latvia	25	38,88
	Lithuania	5	27,40
	Total	56	
PKD5_2 Skill to ensure project activity	Kazakhstan	26	22,15
	Latvia	25	36,26
	Lithuania	5	22,70
	Total	56	

Test Statistics[a,b]

	PKD3_2 Skill to organize all kinds of activities related to Costume design	PKD5_2 Skill to ensure project activity
Chi–Square	21,231	11,042
df	2	2
Asymp. Sig.	,000	,004

Annex 3.3.10.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the procedural criterion indicators among employers of different countries

Ranks

	country	N	Mean Rank
PKD2 Possession of Practical knowledge on Costume design	Kazakhstan	6	15,00
	Latvia	8	8,25
	Lithuania	5	6,80
	Total	19	

Test Statistics[a,b]

	PKD2 Possession of Practical knowledge on Costume design
Chi–Square	7,935
df	2
Asymp. Sig.	,019

Annex 3.3.11.

Results of the Kruskal – Wallis test for identification statistical significance of differences of the procedural criterion indicators among respondents (students, teachers, employers) of different countries

Ranks

	status	N	Mean Rank
PKD7 Possession of construction of project–oriented pedagogical process	students	56	46,68
	teachers	26	53,87
	employers	22	65,70
	Total	104	

Test Statistics[a,b]

	PKD7 Possession of construction of project–oriented pedagogical process
Chi–Square	7,082
df	2
Asymp. Sig.	,029