

Dependence of Learning Activity When Mastering Competencies at Level of Professional Identity Development

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Abstract. The relation between the levels of professional identity and competencies being mastered in the learning process in high school is disputable. Empirical evidence shows the influence of the levels of the professional identity on the process of mastering competencies needed for the chosen profession. The results of the empirical research are of practical value. They can help to improve educational technologies that are used in high school. A set of educational technologies should reflect the efforts to achieve the levels of the professional identity suitable for change of the positive attitude to competencies being mastered. Interactive and the heuristic technologies are typical examples.

Higher education provides students with competencies needed to master selected profession. The set of competencies is based on the body of research results that are demonstrative of the main characteristics of the training process. These results highlight the patterns of designing competencies, mechanisms for their formation, and the levels of their mastering.

At the same time, many issues regarding the psychological content and conditions that ensure the efficiency of the process of mastering the competencies remain unresolved. One of the reasons is the contradiction between the «technocratic» and «humanitarian» paradigms that determine the fundamental qualities of the competence approach. Technocratic paradigm interprets competencies as knowledge and skills necessary for high-quality productive activity after training [1]. They are considered as alienated, pre-set social requirements (norms) which predetermine the conditions for the effectiveness and productivity of the activity in a particular professional sphere [1, 2]. V.I. Zvonnikov defines competencies as integral over-objective characteristics of the training of students [3]. These characteristics are manifested in the willingness and the ability to carry out any activity in specific problem situations.

Humanitarian paradigm considers competence in connection with the ability of a person to master professional knowledge and skills. Competence combines the cognitive, motivational, value, and behavioral characteristics of a personality which contribute to the appropriation of a body of knowledge and skills that enable them to implement their professional duties successfully.

From the point of view of the humanitarian paradigm the process of mastering competencies goes in parallel

with the development of professional identity. Professional identity is a set of psychosocial characteristics of a person which include his or her representations of a professional group attributives and the position one occupy in this group [4]. The professional development of the individual is conditioned by his or her professional identity experience.

Both technocratic paradigm and humanitarian paradigm principles are employed in educational process. Nevertheless an assumption may be put forward according to which the interconnection of these approached is hierarchical in nature. To test this hypothesis is to make contribution in the promotion of a more accurate teaching of competencies.

Method

Above cited theoretical considerations are used in empirical scrutiny of ratio analysis of the competencies a graduate student must possess and of the desirable characteristics of his or her professional identity.

The core of the research program is a proposition that to master the content of education requires the learner to manifest his or her cognitive activity [5].

Cognitive activity is the subject of the student's own reflection. Therefore, it is important to take into account what the learner himself speaks or thinks about the material offered as the main components of learning activity. Proceeding from this, to test the hypothesis put forward in the empirical study a methodology has been developed to determine the structure and content of the relationships between a body of competencies and different kinds of professional identity.

During individual and group semi-structured interview, the graduate students of the so called helping

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professions have been given a list of competencies included in the State Educational Standards for psychologists and social workers. There were 21 respondents. Their task was to select the competencies, which they view as the most important for their future profession, and to explain their choice.

The thematic analysis of the generalized linguistic data obtained through interviews showed that the selected competencies might be grouped according to three criteria: "I use", "I can", and "I value". These groups were elucidated in accordance with theoretically identified aspects of cognitive activity in the leaning process.

The competencies labelled "I value" reveal the motivational aspect of the subjective concern of competences mastered. Its contents reveal the elements of cognitive activity that determine conscious and purposeful nature of self-regulation of learning and assess the adequacy of the needs of the individual from the point of view of his capabilities to become high-grade professional.

The competencies labelled "I can" reveal the operational concern of competences mastered. The content of this aspect associates with the realization of the goals and means necessary for effective professionalization. This awareness provides for the understanding of meaningful tasks of learning and professional activity.

The competencies labelled "I use" reveals the pragmatic component of the student' concern of competences. It correlates with the semantic aspect of learning and professional activity and shows the reasons why the individual searches for and use information necessary for effective implementation of the efforts exerted in the process of leaning.

Frequency analysis let select competencies appropriate for quantitative study. The final version of questionnaire included 39 competencies (thirteen for each component) which should be estimated according to the Likert' scale from 1 (low) to 7 (high). The reliability of the questionnaire was verified by splitting the sample into two equal parts. The Cronbach coefficient $\alpha = 0.83$ indicated a statistically reliable reproducibility of the results. Internal validity was defined as the consistency of estimates obtained for all three scales of the questionnaire using correlation analysis, which resulted in confirmation of the absence of a statistically significant and strong relationship between them (Table 1).

Table 1 Correlation coefficients between scales of the questionnaire.

	Motivational component	Motivational component	Motivational component
Motivational component	1	.021	.043
Operational component	.021	1	-.011
Pragmatic component	.043	-.011	1

Two main features of professional identity have been taken into consideration. These are the level of its development and the level of its maturity. The level of the development of the professional identity identifies the degree of understanding of the content and meaning of future professional activity. The level of the maturity of professional identity is an indicator of the individual' ability to represent main features of future profession independently and self-consciously. The questionnaire to measure the components of professional identity has been developed by A.A. Ozerina [6].

In current study the measured indicators of the features of the professional identity served as independent variables and measured indicators of the components of the chosen competencies have been taken as the dependent variables. One-factor ANNOVA has been used to test the probability of the influence of independent variable on the severity of the component of the competencies measured.

Results and their brief considerations

To make use of the indicators of the features of the professional identity as independent variables requires denoting them in a nominal (or categorical) scale. This task has been solved by grouping the respondents during the cluster analysis.

Table 2 presents the results of a cluster analysis of the measurement of the level of the development of the professional identity formation in graduate students receiving psychological and medical education (N = 155).

Table 2 The results of the cluster analysis of the PIF.

Variable name	Cluster centers		
	Cluster 1	Cluster 2	Cluster 3
Formation of the professional identity	19.9	14.7	24.7
	N=50	N=27	N=72

Affiliation of the respondent to the cluster is an independent variable expressed as a "low" (cluster 2), "moderate" (cluster 1), and "high" (cluster 3) level of the formation of the professional identity. A similar sequence of procedures has been applied to the indicator of the level of maturity of professional identity (PIM). According to the results of cluster analysis the sample of respondents have been sorted in three groups: - high, medium, and low levels of the maturity of professional identity. Table 3 presents the results of a cluster analysis of the measurement of the level of the development of the professional identity

Table 3 The results of the cluster analysis of the PIM.

Variable name	Cluster centers		
	Cluster 1	Cluster 2	Cluster 3
Maturity of professional identity	15.09	24.36	20.01
	N=46	N=78	N=114

Now ANNOVA makes it possible to determine the influence of the level of the formation of a professional identity and professional identity maturity on respondents' assessment of the affective, operational and pragmatic aspects of competencies. The results of the ANNOVA are summed in Table 4. They reflect the influence of belonging to the cluster on different components of the competencies being mastered.

Table 4 Differentiated indexes of influence of the levers of development of PIF and PIM on the respondent' concern of the components of professional competencies.

Aspects of competence assessment	PIF		PIM	
	F	Sig	F	Sig
Motivational component	4.699	.010	4.066	.019
Operational component	7.460	.001	3.373	.036
Pragmatic component	8.529	.000	2.540	.089

Suchwise the study revealed a general trend that states the dependence of the student' concern of competences being mastered in the leaning process on the level of the development of the different features of the professional identity.

The high level of the formation of the professional identity at a statistically significant and reliable level predetermines a conscious and active attitude towards competences offered as a content of education. In other words in the structure of the professional identity there are elements that consist of operational, motivational, and pragmatic aspects of the competences necessary to carry out professional activities. From a functional point of view, the understanding of the main features of the profession and the reflection of one's place in it acts as a condition for the manifestation of activity in the process of the mastery of the competencies.

On the other hand, it can be stated that the level of the individual's independence in constructing the images of the profession and professional, the autonomy of the occupational position, that is the maturity of the professional identity, also has a direct effect on how the activity of the trainee manifests itself in relation to the set of necessary competencies.

It should be pointed out that on the whole the degree of influence of the formation of the professional identity on the learning activity relating to the mastering of the competencies is more probable than the influence of its maturity. Therefore, it can be predicted that mastering the proposed competencies will be the more successful the more the trainee understands the essence of the chosen profession and is satisfied with his professional choice. At the same time, the reflection of important professional qualities ensuring independence and autonomy of professional activity plays a lesser role in mastering competences.

The data obtained in the empirical research show that respondent' concern of the relational value of

competencies is of hieratical order. The higher the level of the development of the PIF the higher is the rank of the pragmatic component of the competencies mastered (T=8.529). Operational component ranks second (T=7.460) and the motivational component is low in the hierarchy (T=4.699). It means that the understanding of the main features of the profession and the reflection of one's place in it directs the learner in the way that implies spontaneous utilization of knowledge and skills necessary in his professional activity. For the PIM the rank order of the respondent' concern of the competencies' components is different. Motivational component ranks high (T=4.066) followed by operational (T=3.373) and pragmatic (T=2.540) ones.

At the same time the revealed relations between scrutinized variables permits to affirm an inner agreement of the all of the components of the competencies being mastered in the learning process. This agreement reflects the homogeneous character of the learning process itself and stresses the main function of the professional identity as the power that brings all its aspects in accordance.

In the empirical research, an inverted influence of the different components of competencies being acquired on the aspects of the professional identity has not been established. So it might be stated that any list of competencies (let them be literally attractive) taken separately from personal qualities of the learners stays out from the fruitful attempts to invest in successful professional development.

This perspective expressed provides with the obligation to take a certain position in the discussion between those scientist who support the idea of the preference of the acquisition of a number of suitable competencies in the process of professional development and those who urge that mainly the personal qualities of the learners should be taken into consideration. The earlier position is primarily a pedagogical one while the latter preferentially finds its adherents in psychology.

From the pedagogical point of view competencies form the basis for the development of the professional identity. The lack of competencies important for a certain profession would hinder the acquisition of the personal qualities associated with mature professional identity.

For example the list of competencies proposed by E. V. Voevoda includes the aspiration to self development, value orientations, communication skills, skills in the sphere of information technologies etc. [7]. He describes them as predictors of the manifestation of the achieved professional identity. The similar approach may be found in works by A.S. Nekrasov, M. V. Panfilova and some other researchers [8, 9].

The other party thinks about professional identity as a key factor in the process of mastering competencies. For instance V.L. Zhvetkov and Y.V. Slobodchikov claims that professional identity determines the success in mastering the competencies needed in the communication sphere of teachers and social workers [10]. The authors view communicative competence as the ability to establish and to support meaningful contacts with other people. At the same time,

communicative competence is not simply a set of more or less coordinated skills. It is a collection of relatively stable psychological characteristics that consists of professional self-concept, emotional stability, empathy, and corresponding values [11, p. 30]. The more these psychological characteristics have been developed, the better the chances are to obtain skills that are sought for.

There is an intermediate position of course. In this case in the process of empirical investigation professional competencies and professional identity are taken as separate variables and the existence of correlation between them is being surmised.

J. Mohtashami, H. Rahnama, F. Farzinfard, A. Talebi, F. Atashzadeh-Shoorideh, M. Ghalenoe in the research in which nurses in a medical centre were respondents have found that there is a positive correlation between a set of professional competencies and professional identity [11]. Nevertheless such studies do not answer the question which of the investigated phenomenon depends on which. Such an intermediate position may be approved from the theoretical standpoint. But it lacks practical value as it does not permit to determine priorities in the day to day learning practice.

Latest advances in psychology of education say in favor of the priority of the professional identity as the factor of the mastering of the competencies in the process of learning. The learning activity is motivated by inner tension which is the consequence of the person's efforts to identify with the aims, values, and content of the chosen profession. This tension works as differentiated levels of the acquired professional identity. It should be concluded that this tension determines the intensity of the learner's activity towards mastering competencies needed in the profession. The inverted influence of competencies on professional identity is improbable. Competencies form outward entity of the learning process. Following Rubinstein to internalize outward entities demands exposing them to inner reflective work [12]. It means that learning activity is characterized by selectivity and the formation of learner's own criteria of the evaluation of the information through the mechanism of identification.

Conclusion

Empirical evidence claims to assume the influence of the levels of the professional identity on the process of mastering competencies needed for the chosen profession. This affirmation is of practical value because it can help to improve educational technologies that are used in high school. One of the most important tasks in the learning process is to form student's attributes that fulfil the criteria of the formed and mature professional identity. Consequently a set of educational technologies should reflect the efforts made to resolve this task. There is a broad field of possibilities that activate learner's attitudes toward competencies being mastered in a positive way. First, it is a group of interactive educational technologies. They assist to learn the ways of the positive business and interpersonal interaction, of

the mutual understanding, and conflict resolution on the ground of the learners' own self-consciousness. Second, heuristic technologies should be mentioned. They are aimed at the development of critical thinking obligatory in acquisition of skill necessary to have competencies for scientific work. These are only possible examples. Further refinement of educational technologies based on the result of the empirical investigation of relationships between levels of professional identity and competencies, being mastered in high school, calls for a creative approach.

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