Professional becoming: future environmental engineers’ social representations

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Abstract. The objective of the paper is to answer the question how students - future environmental engineers define their practice through the analysis of their social representations of acmeology and its influence on professional becoming. Two methods of research were used by us: theoretical analysis and diagnostic tests. It is stated that social representation is an “environment” in relation to the person/group. The professional becoming and acmeology representation constitutes a concept simultaneously hybrid and frame in an area of studies, the social psychology that has been constructed from the interdisciplinary nature. Social representation gives a possibility to comprehend professional mobility understanding. The concept of the social representations was characterized, the understanding of which by future environmental engineers was analyzed in given article. The social representation issue of professional becoming and acmeology designates a particular knowledge form. We have analyzed the understanding of social representation of professional becoming by students. Two methods of research were used by us: theoretical analysis and diagnostic tests. Students of 1-4 courses of the training direction “Technosphere safety” took part in the surveys. In conclusion it is stated that social representation professional becoming and acmeology could provide an increasing of future environmental engineers’ professional interests, as well using personality resources for success achievements with in professional activity.

1 Introduction

The higher education system modernization puts forward a new comprehensive goal of ensuring quality education that is fair for all and life-long learning possibility. "In the process of higher education system modernization the main requirements of professional mobility of specialists are knowledge” [1, p. 4] of ‘acme development’ and social representations of professional becoming. Professional mobility is the movement of an individual or a professional group in the socio-professional structure of society with or without a change in social status. It was defined mainly as the readiness and ability of a worker to solve tasks, the ability to master new specialties quickly. Professional mobility of environmental engineers implies the possession of a system of...
Professional tools and the ability to effectively apply them to perform tasks in the field of technosphere safety and environmental protection, as well as a high level of professional knowledge, readiness for "prompt selection and implementation of optimal methods for performing various tasks" [1, p.5] in the branch of technosphere safety and environmental protection. The future environment engineers have the opportunity to form personal skills and realize them in the professional activity [1].

Currently, it is still pressing to discuss how to teach students taking into consideration the objective social as well as professional needs of future environmental engineers. Environmental engineers apply the principles of engineering, chemistry, biology to develop solutions to urgent environmental problems. The tasks are to improve recycling, public health, waste disposal, as well as water and air pollution control. Environmental engineers address global issues: climate change, unsafe drinking water, environmental sustainability and so on [2]. That’s why it is essential to apply such learning means that would help students to develop representations of professional becoming in the conditions of university [1, p. 4]. "Future specialists’ social representations of professional becoming give the possibility to master both academic material and develop interpersonal skills" [1].

Environmental engineers focus on information gathered from the natural surroundings, particularly data on future effects of human health. They seek to protect human beings as well as the environment from climate change and pollution. Environmental engineers apply understanding of environmental systems to develop strategies to protect environmental and human health. Graduates are prepared to solve the problem of the quality of life that’s why they should master the communicative skills as well as be highly motivated to achieve the best results in order to “contributed greatly to the progress of environmental thought which keeps the phenomenon of the quality of living constantly in the agenda” [3, p. 23]. R. Keles, R.W. Marans [3, 4], E. Banzhaf, F. Barrera, A. Kindler, S. Reyes-Paeckec, U. Schlink, J. Welz, S. Kabisch [5] studied the issues of environmental quality influence on the quality of life for human beings. C. Walmsley says that “study of professional practice creates unique challenges for the qualitative researcher” [6]. To understand professional thoughts, one needs "a theoretical framework that can guide analysis of complex thinking processes" [6]. Höijer states that “social representations theory specifies how collective cognitions are produced and transformed through communication with a focus on the socio-cognitive processes or mechanisms involved” [7, p. 6]. W. Wagner, R. Farr, S. Jovchelovitch and D. Rose say that "social representation theory is a social psychological framework of concepts and ideas to study psychosocial phenomena in modern societies. It maintains that social psychological phenomena and processes can only be properly understood...” [8].

2 Materials and methods
3 Results

The highest level at which the formation of a professional takes place is one of creative self-development as one of acmeological invariants, when he/she acts as its subject, first of all, professional. “Translated from Greek “acme” means a person’s development peak, and “logy” is a science. As a science acmeology contains new the consideration capabilities of becoming professional - creative personality as a share of “acme” mastering by future specialists – conditions of the achievement highest degrees of the development. It is a science about person’s quality and one of life.

Social representations, therefore, are depicted as both the process and the result of social construction [10]. Social representations theory specifies a body of theory within sociological social psychology and [11]

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<td>Social representation</td>
<td>Sociological social psychology</td>
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<td>A</td>
<td>emphasizes the ways that society shapes social psychological processes</td>
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<td>“explain human behavior as a result of the relationship between mental states and social situations” [11]</td>
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<td>is a phenomenon dealing with psychological activity in the context of communication and discourse, «out of which emerges a system of common sense» [12], p. 6</td>
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<td>“The social and dynamic perspective has to do with communication and discourse” [15, p. 6]</td>
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<td>taking part in communication specialists “incorporate parts of the social heritage in their meaning repertoires and vice versa” [15, p. 6]</td>
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Maksimova believes that a special comprehension is acquired by some theoretical theory of maturity [18, p. 9].

The concept “Social Representations” was key by Serge Moscovici, who wanted to understand how scientific knowledge got public through social representation [1, p.4]. Scientific thought became “common sense” in mass social one through communication across social realms, as opposed to it being strictly reserved to a scientific audience [19].

By means of social representations (manner in which a thought or knowledge is represented) scientific matter would become a common sense [1, p. 5]. The manner in which an ideal is made ‘real’ in social thought is both through the process of ascribing meaning to it, and its final social representation is a result of a “social constructivism”, that is, the way it is built into thought and made real as object.

Our study focuses on a structure of social representation considered by Moscovici, G. Mead and H. Blummer. Moscovici has proposed an essence of active representation, pointed towards social practice [20, 21]. The representations are emerged in the dialectic one that “serve to orient themselves in the social and material context, to dominate it” [21, p.8].

The representations are theories of the common sense: Moscovici, Jodelet, Abric, Banchs, in short, a great number of authors agrees in this point. Theory means to see if we paid attention to the etymological origin of the term. Indeed, for Greek the word ‘theoría’, derived from the still more old word ‘theorós’, meant to see the divine thing. Wilhelm Doise, however, considers that the representations “constitute generative processes in those relations” [21, p.10].

Both authors, Moscovici and Doise, concentrate in two aspects essential to differentiate to the representation of other closely tie terms like those from ideology, image, opinion and attitude, to mention some that we will try in the following inscription [20, 21].

The representations act like spectacles by means of which the individuals also establish their relations with a specific object and with the other subjects within the group. “The representations are theories or represent the paper of such. Therefore, in this quality they must show “how the things happen”. To put it another way, the representations have by mission: first, to describe; later, to classify, and finally, to explain)” [21].

The representations are a form of informal natural thought, a type of knowing empirical, that in addition a guide for the social action of the subjects articulates to the interior of the groups with a practical utility, in essence as, that is to say, like a finalized knowledge [22, 23].

The representation comprises a link between behaviors and cognition, object and subject, which arises in the middle of that connection and, as well facilitates it. It is clear that, against the somewhat argumentation of Durkheim on the ways in which the collective representations act, Moscovici much more contributes a finished idea, when locating to the subject like producer of meaning in the space of daily relations in which one develops. However, the fact of to have changed the term of collective...
4 Discussion

Discuss problems of future environment engineers’ representations of professional becoming identity during the process of university training. The objective of the paper is to answer the question how students define their future practice through the analysis of their social representation and its influence on professional becoming.

According to Moscovici’s view, social representation is the “environment” in relation to the person or group, and is specific to the society and should be seen as the specific means of “understanding and communicating what we know already” [2].

The social representation is a connector between meaning and image. There is a need to reconstitute “common sense” in society that makes sense of images/meaning. The social thing takes part through the communication, apprehension marks that provide its cultural effect, “values and ideologies related to the positions and specific social properties” [2].

The representations are not generic, that is to say, they exist independently neither of the people nor of the objects to which they tie. As D. Jodelet argues, one of the recognized voices more within the area of representations: “representation is one of something and somebody”.

The representations are a mere mental mirror of the outer world. “…Like the invisible particles and fields are a constituent factor of the physical reality” [2].

Future specialists should “understand that the concept of ‘professional becoming’ means an activity” [1].

Professional becoming consists of the “key acmeological mechanisms of achievements self-education, self-control, self-development and self-fulfillment as the process of realization” of person’s potentiality.

Self-realization is considered to be productive external activity realization which is based on one’s abilities and skills. It is a person’s highest desire to realize their talents and abilities. Self-realization of the individual is impossible in isolation from objective reality, from social relations in society. Person is a specific personality as a bearer of reason, consciousness and social representations.

It is essential to develop social representations of acmeology and its influence on professional becoming of future environment engineers. Knowing oneself, a person discovers those sides and inner qualities. Social representations of one’s attitude to professional becoming lead to an understanding of one’s own values, contradictions, desires, goals, interconnected with the outside world, which includes surrounding reality and the processes taking place in society.
becoming include forms of thought and enable thought about practice to be analyzed in a proper way [1, p. 4].

The concept designates “specific knowledge, one of common sense, which contents indicate the operation of generative and functional processes socially characterized” [2, p. 9].

The social representations contain the oriented modalities of practical ideas within the communication, the understanding and dominion of the social, the material and ideal surroundings” [2, p. 9]. Whereas such, present/display specific characteristics concerning organization of the contents, the mental operations and the logic [2].

For Moscovici, a social representation is “a particular modality of knowledge whose function is the elaboration of the behaviors and the communication between the individuals. It is an organized corpus of knowledge and one of the psychic activities they release the powers of its imagination” [2].

The representations are a form of informal natural thought, a type of knowing empirical. Of such way, the representations facilitate the integration of the individuals around the object. A representation exists in and through the social practice but in addition, and this is significant, exists for the social practice. “In very elementary representations a process of mental and symbolic elaboration even takes place everything that will orient the behaviors” [2].

As we know, the representation of psychoanalysis was made successful by ascribing and associating it to an idea already present in society, and makes it real [24]. So the manner in which an ideal is made ‘real’ in social thought is both through the process of ascribing meaning to it, and its final social representation is a result of a “social constructivism”, that is, the way it is built into thought and made real as object. For Moscovici, a social representation is a particular modality of knowledge whose function is the elaboration of the behaviors and the communication between the persons. It is an organized corpus of knowledge and one of the psychic activities due to which the persons make the physical and social reality intelligible, is integrated in a group or in a daily relation of interchanges, they release the powers of its imagination. “The representation of professional becoming makes it possible to develop individuals’ skills in society” [1, p. 5].

Social representation has an intrinsic practical value that it is demonstrated in the interaction of the subjects with the object. Of such way, the representation of professional becoming facilitates the integration of the individuals around the object. However, in the daily life no social representation exists isolated of other ones.

We have analyzed the understanding of social representation of professional becoming by students. Two methods of research were used by us: theoretical analysis and diagnostic tests. Students of 1-4 courses of the training direction “Technosphere safety” took part in the surveys (fig.1). The results indicated that:

• there were indications of differences according to students’ type of course;
• professional training can have a great effect on people’s life;
• some stereotypes may reflect common sense knowledge of what means to be a well-qualified specialist with acme-development.

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We can conclude that 3-4 year students are considered to realize the importance of their professional becoming than 1-2 year ones. It is clear that social representations constitute oriented modalities of thought towards the communication. We saw that social representation of professional becoming was important. The images that are present in one social group can have significant effect on the attitudes towards professional becoming and ultimately on learners’ motivation and interest. The social representation is a particular demonstration of its significance in social life and communicative interactions among social groups. Representation and images of terms play a central role in learning processes.

We agree with Moscovici’s ideas that the creation of social representations is “to make the unfamiliar … familiar” and so give social meaning to concepts circulating in a culture [2].

5 Conclusions

In order to summarize, it is accepted that all social representation owns the following characteristics:

a) it is always the representation of an object.

b) it has an image character and the property of being able to interchange sensible and the idea, the concept and the perception.

c) it has a significant character.

d) it has a constructive character.

e) it has an independent and creative character.

We would like to emphasize that in general social representation is defined as a system of ideas, values, interests and practices that makes consistent order among effects. Social representation of professional becoming by means of acmeology can provide a professional motivation strengthening of future environment engineers. It can also ensure their creative potential stimulation, and a use of personality resources application for successful attainments in the course of professional activity. Social representation can be achieved by means of forming of one’s acmeological orientation.”

Fig. 1. Students’ understanding of social representation of professional becoming.
person in the course of one’s life. Secondly, it allows students to be oriented in the huge range of important issues, provides the need in self-development, realization of person’s qualities in professional achievements. At last, future environment engineers should possess different skills that help them to react operatively on changing professional situations and ecological problems of our world.

6 Prospects for further research

The theory attracts ongoing debate and controversy from both social representationists and other theorists. One should keep in mind that communication is tailored to fit a certain specialised field. Particular interest is presented by the study of social representation of future teachers’ or doctors’ professional becoming as it is these specialists that deal with communication aspects. As professionals, they interact with a variety of people on and off the job. This involves determining what level of communication is appropriate and then adapting social presentations.

References


