3rd International Conference
«Research, Innovation and Education» 2016

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PRAXEOLOGICAL ASPECT OF TEACHING INTERNSHIP OF THE PEDAGOGICAL EDUCATION MASTER

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Abstract

In the paper, we have provided evidence to deal with issues of internship introduced at a university at a present stage of education development. We have identified conflicts that contribute into a need to develop new principles and approaches to its setting. A meaning of the internship as an activity, its structure and functions have been explored, there is a scientific justification for the internship for master students in education from a standpoint of the praxeological approach. The activity is considered in terms of its efficiency and performance, achieved quantitative and qualitative effects with minimal resource costs.

We have explored a structure of praxeological knowledge in a form of its actor's objective, his or her tools to achieve a goal and a result-product of the activity. We have identified definitions for purposes and results of the internship based on principles of the praxeological approach: subject-focused teaching process, resource rationality, heuristicity, instrumentalization, economization, programmatization, anticipation, training and innovative efficiency.

There is an example in the paper of how to introduce the internship for master students in education (master's program "Computer Science in Education"). Teaching, scientific teaching, educational and research internships have been described with goal-content-result structural components.

There is a conclusion that the applied praxeological approach as a tutorial basis to introduce teaching internship for students ensures openness, integrity and high performance of the

internship, helps future teachers to overcome a reproductive type of professional behaviour.

Keywords: internship, praxeology, praxeological approach, master student, computer science, activities.

Introduction

An internship is an important step to train students in education. Functioning as a link between theoretical training and future professional activities, the internship enhances and enriches the theoretical training of students, gives them an opportunity to deepen and consolidate knowledge received, applying them for the first time in real teaching cases.

So far issues of internship establishment and selection of its contents have become especially relevant due to an increasing role of the internship stated in federal governmental standards for higher education.

The internship envisages training students to engage in various activities such as a cognitive, activity. It is focused on an object and returning to an actor as knowledge on the object; knowledge is a product of the cognitive activity, as well as a skill to reproduce the real life adequately, without which real orientation of the actor in the world is impossible, as well as its successful conversion. There is also a reflective and evaluative activity that has as its product a focus of the activities by the internship actor, his or her value orientation. A communicative activity aims at other actors; its product is establishment of interaction. A transforming activity aims at changes to the environment and a person him/herself. The transforming activity is actually held when there are changes to material existence (changes to the nature, society, people) and in theory and imaginatively relates to projecting and scheduling. An aesthetic activity includes setting and making improvements to a process and a product of human's activity, free expression of cognitive and creative potential of the internship actor.

The real life shows a contradiction between goals of the internship and its actual outcomes. Scientists say that "the content and structure of practical training of students used to be repeatedly changed, nevertheless, the internship has not got yet its scientific basis. In fact, it comes down to situational "immersion" for a student into a life of a particular school, where, at best, he or she can only master a few teaching techniques. In other words, there are separate internships, but there is no holistic training." (Bolotov, 1997)

To understand an essence of the internship, let us review its philosophical aspects.

Its philosophical interpretation says that the internship is an activity considered both broadly (like any other human activity) and narrowly (as a subject activity only) (Kikel & Soroko, 2006).

The internship (from Greek Praktike, praktikos that means active and dynamic) is considered as a purposeful human activity, the content of which is development and transformation of natural and social objects. It is a universal basis and a driving force to develop the human society and cognition (Komensky et al., 1989; State Committee of Russia for Construction, IPC SE "New City", 1997).

The internship has certain specifics of human activities, depending on its uniqueness and unpredictability under specific conditions, includes freedom to choose actions, limited in their turn with human capacities and available resources (intellectual, material, logistical, information), adaptation of an actor to changing environmental conditions, an ability to conform purposes during the productive activity owing to human activism and proactiveness, people's ability to organize and develop themselves and fight against external and internal challenges.

A structure of the internship is represented with a system of interacting elements: a purpose depends on needs and interests of an actor, cognitive information mechanisms, motives; purposeful activities, action tools to be used to achieve the purpose; results-products of activities.

Broadly, the internship has got a social and historical nature, as it considers and analyses a shared collective activity of people instead of an individual, the shared human experience in its history. The internship is also associated with activities by other people, affects their interests, while activities by other people also directly or indirectly influences the internship of the individual.

In the philosophic sense, experts divide following types of the internship: material activity (transformation of the social life, labour), social internship (development of a person as a citizen and public figure), artistic internship (perceptually objective activity to produce artistic values), research and experimental internship (making conditions for a person to explore properties of the real world).

As a kind of activity, the internship makes a unity with the theory and human's cognitive activity: a person as an active actor empirically cognizes and captures important properties and regularities in the external world, the internship is a source for scientific cognition, its driving force. It gives to cognition necessary factual material to be generalized and theoretically treated. The ultimate goal of cognition is not only knowledge itself, but also a

real transformation of the reality to meet material and spiritual needs of the society's and an individual. Knowledge obtained during the internship is used as a guide to action to transform the reality and meet human's requests to improve the life and make it perfect. During such transformation an *ideal* plan of action experiences improvements, changes and development.

The internship proves objectivity of knowledge, serves as a criterion to check validity of cognition results, links and relates an object and an action produced in accordance with a thought on it.

During the internship experts assess performance of an intern (a degree of complexity and innovation, quality of obtained results). Activities are carried out at different hierarchy levels: operational one where an intern makes separate operations with a reproductive character. There is also a tactic one where they implement a full production process successfully applying all available ways and tools for activities to solve set tasks. The tactic level assumes available skills to feel confident quickly in the changing environment, situations, assumes that the intern masters skills to apply common algorithms to schedule actions reasonably. A strategic level includes a free orientation in various domains, independent setting by the intern a place and a goal for his or her own activity. The strategic level assumes perfectly developed cognitive skills, creativity, activity reflexivity, available broad area of thought and perfect communication skills.

A concept of the "internship" is applicable to various domains. In particular, it is usual to talk of medical, legal, social, teaching and other internship.

The Dictionary of Pedagogics defines the internship as "a backbone component in teacher training, which assumes involving a student into a real teaching process at an educational institution and assumes that the student develops knowledge and skills necessary in teaching supervised by professionals from a teacher training school and an educational establishment" (Kodzhaspirova & Kodzhaspirov, 2003).

The teaching internship is considered as a form of vocational training (Lebedev, 2004), a special form to show students' cognitive activities, an environment for students where they can determine whether they fit teaching jobs (Budanova, 2007), the environment to refract got knowledge and a process of acquiring their initial teaching experience, as a tool for adaptation to job (Budanova, 2009), a type of learning and work activities of a student, a special stage in teacher's training, a domain for trainee's self-actualization, a factor of professional development of a future college professor (Ivanischeva, 2011), a special way of personality

existence, a kind of otherness for a learner (State Committee of Russia for Construction, IPC SE "New City," 1997), the environment for student's professional personal identity (Vedernikova, 2006).

Master courses curricula in education envisage that the internship, along with students' independent work and research is a platform to implement a practical component in college teaching, a unique and multi-faceted phenomenon. It performs an adaptation function adjusting a student to future professional work), a target function (sets a vector to develop professional competence in a future teacher), a teaching function (enhances and enriches theoretical training), an educating function (influences on teacher's personality development), a developmental function (makes and develops skills of an individual), reflective function (analysis of own theoretical training) and diagnostic (identifying gaps in theoretical training) function.

The internship is an objective and backbone factor for all sides in student's training. In dynamics from theory to practice and vice versa in determining the content of teacher's training, the internship is a source of scientific knowledge for teaching theory. Identified in the course of the internship shortcomings and challenges evidence weaknesses and vulnerabilities of the entire system of future teacher training.

Research methods

Understanding the internship taking into account ideas of philosophical anthropology, cultural studies, and sociology allows us from a new perspective to see possibilities of the internship in terms of training efficiency for future teachers (Kokhanowsky, 2003).

So far, in teaching science, there has developed an independent scientific field, based on historical experience of research from 16th to 17th cc. by Ya. A. Komensky (Komensky et al., 1989), Swiss teacher I.G. Pestallotsi (Ibid.), Soviet scientist Yu. K. Babansky (Babansky & Potashnik, 1982; Babansky, 1977). It is associated with research in efficient teaching, i.e. teaching praxeology (I.A. Kolesnikova (Kolesnikova & Titova, 2005), L. Yu. Monakhova (Maron, et al, 2012), A.E. Maron [Ibid.], E.V. Titova (Kolesnikova & Titova, 2005) and V. S. Fedotova (Maron, et al., 2012; Fedotova, 2010).

A concept of "praxeology" has a status of a philosophy and science category. The praxeology is considered as a teaching on practice. Broadly, the praxeology is a general theory of efficient ("correct") organization of activities. The praxeology can be defined as "a theory of conscious change, transformation and improvement to the nature, society, and an individual based on cognized laws and

by means of techniques and technology of various kinds" (State Committee of Russia for Construction, IPC SE "New City," 1997).

The praxeology includes three groups of challenges: an analytical description, characteristics, classification and systematization of actions; research in conditions and laws that determine action efficiency; learning genesis and development of various activities, ways to improve them and a regress, driven by a force of tradition and ingenuity.

As a science, the praxeology deals with studying historical types and kinds of practice - rational forms to arrange human actions aimed at making changes to the nature, society and an individual himself or herself.

As an academic discipline, the praxeology acts as a teaching internship to make principles to develop a practical attitude of a person to the world, practical mind and wisdom.

The structure of the internship coincides with concepts of the content of praxeological knowledge that involves consideration of an intern (an individual or a group) and its goal as a subjective image of the future, a purposeful activity to choose tools and resources for the internship, an object of action and its result. In this regard, it seems appropriate to use a praxeological approach to identify essential ideas on the teaching internship.

In the triad under consideration (goal – tools - result), attention of the praxeology is focused on studying the practice as a form of human activity from the perspective of assessing its efficiency, establishing the productive activity, achieving quantitative and qualitative effects of activities.

Within praxeological research framework they have been developing methodology to establish and techniques to implement various activities (including teaching) in terms of establishing their efficiency, social significance (value), identifying possible consequences of human actions.

In a praxeological sense, an "ability to do" means that a subject is able by himself to feel confident in situations, acquire necessary knowledge, set correctly a goal in accordance with objective laws and existing circumstances, identify specific ways and tools for actions, work out and improve them to achieve the set goal.

Famous Polish praxiologyst T. Kotarbin'sky said that "one can and need to consider a question on such mode of action, which would ensure an optimum quantitative effect with the given input effort or in the most significant moments provide means that fit objectives, as well as the question of common indicators of action performance increase regardless of an object and specifics of it ... " (Kotarbin'sky, 1975; Maron, et al., 2012].

Results and discussion

Let us describe substantial components of praxeological knowledge.

The goal is inherent to activities made by each subject. It acts as a subjective image of the desired future, something, because of which certain actions are taken. The goal is not necessarily come down to any particular objects, it can look like an ideal to be pursued. The practice is an activity done by a subject, pursuing specific goals, so the practice is a purposeful activity.

The activity acts as symbolization of the goal. Everything used to achieve the goal, is a tool in the practice. Tools includes real objects, knowledge, and experience. The goal is implemented in a result and a product. At the stage of achieving a result of the practice, a subject has an opportunity to assess efficiency of his or her actions, including emotional and rational aspects that accompany achievement of the result, achievement of the goal, and adjust his or her activities, having reviewed the used tools.

A subject of the praxeolology includes regularities and conditions, under which desired results may be achieved owing to rational, purposeful, transformative activities by an individual in its actions.

The praxeological approach is seen as a methodology to improve activities of actors to the teaching process. This methodology provides an overall strategy to consider success activities in view of generating new scientific and professional knowledge (epistemological dimension), changes to the teaching environment (procedural dimension), and achievement of product quality (effective dimension).

Optimizing vocational training to professionals and introducing the teaching internship based on the praxeological approach includes such interaction between actors in the teaching environment, which changes mechanisms of resource supply for this activity and suggests another quality of a product resulting from the learning process.

The teaching praxeology in the system of teaching knowledge functions as a general theory of teaching, an area of science focused on practical requirements. It primarily addresses teacher's work in its general manifestations that are essential, show an intrinsic nature of professional teaching, as well as significant, important for people involved in teaching. Such knowledge is generated at a crossroad of philosophic statements, categories, laws, with which we explain an labour phenomenon; of approaches in general science related to considering and solving career problems

and regularities in scheduling activities; of interdisciplinary knowledge accumulating cumulative theoretical and practical experience of reasonable teaching; of proper teacher tutorial knowledge on the system of teaching, of results of reflection on causes, circumstances and mechanisms for success teaching.

A basis for the teaching praxeology includes certain logical requirements to schedule actions in the learning process specified with a career directive. The teaching praxeology has a function of a tutorial reference point, which helps a professional to reach a new career level, at the expense of including him or her into another type of relationship. As I.A. Kolesnikova and E.V. Titova say, "praxeological relationship between an individual and the real life are always constructive. They assume making objects in a perfect or real sample form based on the principle of effectiveness and success. The teaching praxeology does not only reveal the best procedure, but also a necessary way of thinking on an action. This science does not only tell a teacher what to do and how to do, but also how to think rationally in order to do well" (Kolesnikova & Titova, 2005; Kotarbin'sky, 1975).

The praxeological approach as a special way to analyse and explain human activities in terms of their feasibility, effectiveness and efficiency allows to make a significant contribution into internship establishment owing to setting diagnostic goals, conceptualization (with theory as a basis, as well as knowledge of procedures), scheduling the internship content based on exact determination of a desired standard as observable actions by students and tools used for this purpose, available feedback with appropriate diagnostics and corrections to the workflow.

In historical development of praxeological views on the practice as a human activity, concerning components of the practice there is a change of priorities. In an attempt to identify causes of efficiency and productivity of activities in different time people used to recognize the purpose, tools and the result as dominants. There is a general trend to go away from Aristotelian ideas of pragmatism ("the end justifies the means") to modern views in the teaching praxeology ("result of activities should be valuable and useful, significant both for the society and an individual"), whereas knowledge of action functions as tools for the practice.

With such understanding in mind, results of the internship are considered from several following points of view: personal development, presenting a student as a bearer of individual subjective experience. There are also student's self-realization in the social, cultural and professional environment (principle of subjective orientation in the learning process), achievement of teaching effects

by a trainee at the lowest cost resource (principle of resource rationality) due to opening new, more efficient procedures for his or her career (heuristic principle), receiving new, social and person-meaningful results-products of activities by the intern (principle of innovative productivity), forecasting results of the internship and possible challenges on a way to achieve them successfully (principle of anticipation), drafting optimal schedules for the internship, which allow to achieve desired results at the lowest cost, clearly stating and presenting time for each action and task, the best allocation of available resources (principle of programmization), a rational choice of funds according to goals specified for the internship (principle of instrumentalization), reducing personal and resource-time costs to implement activities (economization principle), freedom to choose routes to establish work, realization of intern's creative ideas (creativity principle).

Establishing the internship based on principles of the praxeological approach ensures making the promising and developing teaching environment that encourages students to disclose their internal potential, building student's skills to apply effectively their theoretical knowledge and real life experience got attending a university to solve professional objectives during the teaching internship, independently design and implement the informative learning process, an ability to interact efficiently with students receiving qualitatively new results.

Main features of such environment include integrity in building the career content, integration of various components of professional teaching (theoretical, tutorial, research, etc.), predictability and reflection on performance, identification of emerging challenges, making corrections to work. The internship has a gradually increasing complexity of (adaptive and fact finding, learning and tutorial, scientific and professional, research stages): from general introduction into learning and teaching at educational establishments of various types, observations and an analysis of teaching information through an active career and gained experience to creative self-actualization and a scientific search.

Successful solving tasks set by the internship is achieved owing to a clear definition of objectives and results for the internship at each stage, conscious usage of available resources, identifying internal and external reasons that prevent purpose-achievement, identifying possible and the most efficient ways to overcome encountered difficulties, making corrections to actions if necessary.

During the internship they specify the target, make detail scheduling, and reveals the information base of career and work out decision-making procedures.

When determining the internship goals, people follow the following manifestations of the praxeological approach: consistency, focus on an individual, ease of manufacturing, productivity and success. Consistency allows to represent an object in question as a system with all inherent links and on that base offer a holistic scheme to manage the system successfully, assumes interiorization of a future teacher within the learning system and teaching knowledge. The focus on an individual allows us to describe conditions for complete implementation of an individual during the internship and the future career, making professional competence of a learner, experience of teaching, learning values of the teaching community by a future teacher. A priority goal of the internship is personality development of a student, disclosure of his or her creativity. This gives an opportunity to review personal development of a student in accordance with his or her feasible pace, individually focused methods and techniques to achieve a high level of professional competence. Workability is manifested in mastering a total of modern teaching technologies. Productivity allows to go into the essence of activities from psychological and teaching standpoints, reveal its regularities, conditions for successful progress and a focus on result achievement. Successfulness determines a compliance degree between an obtained product and social and personal goals.

Let us give an example of how to arrange the internship for master students in education (the Computer Science Education master's Program). A curriculum envisages three types of internship: teaching, research and teaching and research.

The teaching internship is held in the first year of master's training and aims at learning basics of teaching and educational work at a field-specific (senior secondary school level, field-specific level) and vocational establishment for secondary or higher education, innovative directions in teaching, training skills to take specific classes in chair’s disciplines, gaining experience of taking classes.

The internship has the following content. At the first stage (adaptive and fact finding) a master student attends and holds independently various types of classes in computer science and one extracurricular event at a field specific school. The master student works as a teacher in computer science, a form master, as well as a head of an elective course, a hobby group or a teacher on an elective course. At this stage of the internship, the main focus is on control over knowledge of scientific and tutorial foundations in sections of computer science courses for general and field-specific secondary schools, differentiated training, and taking classes in computer science.

In the second stage (learning and teaching), the master student learns basics of teaching and learning and teaching work at an establishment of higher education, develops skills to design the content of teaching at a higher school. The teaching internship includes doing works as follows: learning a structure of the teaching process, curricula and content of courses, forms of classes (lectures, workshops, seminars and laboratory practicums); independent making plans and lecture notes on academic disciplines; an intern drafts the content of training material at a modern scientific and tutorial level, selects and analyses basic and supplement literature in accordance with a subject and objectives of training, makes an analysis of held lectures; makes systematization and describes gained research results.

Toolkit: theoretical knowledge in teaching, psychology, teaching techniques in computer science, teaching and tutorial literature, visual and teaching aids. A personality of a teacher in charge of the internship also plays an important role as he or she is a bearer of knowledge and experience, the rich information environment, provides an opportunity to students to find tools by themselves.

P. F. Kapterev said that "the broader and more fundamental teacher's knowledge are, the more efficient his or her work will be ... The teacher should act as an artist: should transform a method, transform it in his or her own domain and instrument and be able to modify it endlessly, adjust to various children with different backgrounds and inherent potential. The true teacher cannot be a slave of either software, or teaching techniques, remaining a free and independent actor. ""The toolkit itself can never be a dead and frozen norm, it always endures changes and it evolves ..." (Kodzhaspirova, 2013).

Result-product: skills to design and select the content of training material at various teaching levels.

A logical follow-up to the teaching internship is a research and teaching internship (scientific and professional stage), supported with elements of scientific inquiry in accordance with a theme of a master student's research area within a graduation thesis (the second year of master studies).

A purpose of the research and teaching internship is to train a master student to do teaching, designing, tutorial, administrative, cultural and educational activities according to a field-specific vector under a general master course curriculum based on recent achievements in teaching science and teaching practice; develop skills of independent research work, work out skills to apply got

theoretical knowledge to solve specific issues and consolidate teaching skills.

Contents of the internship. Among basic activities performed during the scientific and teaching internship, there are gathering, systematization and generalization of practical material to complete a master's thesis; piloting results from research work; lecture taking and tutorial support (literature selection, engaging theoretical training and drilling materials, tests, case studies, etc.) according to a plan approved by a scientific supervisor), making abstracts of a report for a scientific conference (session) or a paper to be published, completion of theoretical studies on the thesis topic in the second year of master studies.

Together with an internship supervisor the master student determines disciplines and subject matters for himself/herself to take classes for junior students. Subjects for classes should be associated with a subject of his or her future theses. To take classes, the intern develops and agrees with his or her internship supervisor procedural guidelines, including a statement to justify relevance of the lecture subject, its relationship with previous topics of a course, basic theoretical statements for the subject chosen, a list of questions addressed at training exercise sessions, recommended practices to learn each issue within the subject matter, a checklist for students, tasks, tests, case studies, etc., relating to questions to be learnt, a list of recommended literature for each section within the subject matter specifying numbers of pages, directly related to the section to be learnt. Having taken each lecture, a trainee discusses its results with a supervisor, and if necessary makes adjustments to procedural guidelines for the lecture.

Toolkit: theoretical and practical knowledge on science method of thought, teaching, teaching techniques in computer science, special disciplines.

Result-product: skills to choose tools rationally to improve performance, reveal and troubleshoot causes that prevent achievement of desired educational and training effects, own training and tutorial developments.

The first and second years in master studies are supplemented with the research internship (research stage), it aims at developing in master students skills to make independent scientific work, research and experiments, gaining experience when exploring relevant scientific issues, skills of sistematization, enhancing and consolidating professional knowledge, as well as skills to select required materials to complete the master thesis.

The contents of internship: the research internship is held in a form of student's research project within the approved subject for

his or her research and according to a relevant direction of master studies and the subject for a final qualifying paper.

The content of the research area in a master program in education (master program "Computer Science in Education") involves development and testing special techniques to teach computer science, establishing research with tools of information technology in the system of educational institutions of various types, establishing a pedagogical experiment to implement a tutorial system of training in computer science, usage of modern multimedia technology to make modern learning training aids, designing the content for discipline "Computer Science" in circumstances of a field-specific and higher school.

Result-product: skills to make independent research, critical thinking, scientific and tutorial developments (papers, master's thesis, etc.), schedules and projects to transform the real life.

Conclusions

Using the praxeological approach as a tutorial foundation to set the teaching internship for students in the context of rational, purposeful and successful teaching interaction between a trainee and teachers at an educational establishment ensures openness, integrity and high performance of the internship, helps to overcome in future teachers a reproductive type of professional behaviour, encourage a transforming potential to development interns, purposeful usage of them for self-identity, self-realization and self-improvement of students within the professional environment, presenting not only an image of teaching action, but also necessary way of thinking on the action; qualitatively new technological, science and tutorial support to the internship, based on a sequence and interaction between different types of teaching (communicative, design, research, etc.); a developed criteria-diagnostic apparatus to assess efficiency of the internship, including a performance criterion for professional teaching; optimality; readiness of students to teaching, etc.

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