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Changes of intracompartmental tissue pressure during segment lengthening with the help of intraosseous Bliskunov device.

Sergey Strafun¹, Andrey Tkach², *, Sabyrbek Dzhumabekov³, Aleksandr Strafun¹, Pavel Fedulichev², Andrey Kuznetsov²

¹State Institution Institute of Traumatology and Orthopedics of NAMS of Ukraine, Kyiv, Ukraine
²State Institution Crimean State Medical University named after S.I. Georgievskyi, Simferopol, Ukraine
³Bishkek Research Center of Trauma and Orthopedics, Bishkek, Kyrgyzstan

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ABSTRACT

This article describes our experience lengthening limbs in 156 patients by the method of Bliskunov's. Subfascial control pressure with a "Stryker Intracompartmental Pressure Monitor", according to standard procedure Whiteside's, Noted that where lengthening segments (femur, tibia) at the standard speed of 1 mm / day, podfastsialnaya pressure does not exceed the normal version (20 mm Hg. Hg.). In the two cases where the extension was carried out with the excess of this rate - there is an increase subfascial pressure with the development of the classical clinical symptoms MHIS. Described in detail these two observations at a deviation from the norm. Microcirculation disturbance induced by MHIS, the cause of which is to increase the elongation rate of the segment can lead to complications such as delayed fusion, pseudoarthrosis, inflammation of soft tissue and osteomyelitis. MHIS prevention in this case serves as a compliance rate of elongation of no more than 1 mm / day.

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Changes of intracompartmental tissue pressure during segment lengthening with the help of intraosseous Bliskunov device.

1. Introduction

In works of G.A. Ilizarov (1968), V.I. Stetsuly and V.V. Veklica (2003), A.I. Bliskunov (1983) and others devoted to distraction osteosynthesis it was defined the rule of optimal daily distraction of long bones - 1 mm.

The velocity of distraction is not limited by the ability of the distraction device (external or internal) to conduct diastasis between the fragments per unit of time (usually taken daily), but by creation of optimal conditions for the possibility of extension. Modern distraction devices allow extension with significant, almost unlimited speed, the minimum elongation step can reach a 1/100 of a millimeter. Speed of distraction is limited by muscles - inertial system that enables the elongation of up to 20% of the original length of the segment. Subsequently, elastic elongation and regeneration of bone at the point of distraction will be stopped almost completely and intensification of distraction will increase time required for "maturation of the regenerate," until exhaustion of the bone regenerative capacity (Klimovitsky et al. 2009). Also, if elongation speed is ungrounded high there is a risk of local hypertensive ischemic syndrome (LHIS), and this risk increases significantly in patients with fibrotic changes of extendible segment that were previously obtained due to trauma, surgery or extension of a segment by more than 20% of the initial length. LHIS developing on the background of distraction causes a violation of the tissues nutrition, neuritis development, scar-fibrotic degeneration of muscles and fascia, which leads to secondary changes and forms a closed "vicious circle" - a sharp decrease in elasticity, increases the resistance of the tissues to distraction, makes overload on distraction devices, reduces elongation rate. Further the reparative regeneration of whole segment is decreased - from the formation of the bone regenerate in slow time, to generation of defective bone remodeling, unable to bear the functional load. In rare, severe cases, the regeneration process stops, and persistent pain syndrome appears while attempting to carry out extension (Klimovitsky et al. 2009; Klimovitsky 2010; Dragan V et al. 2011; Dragan V et al. 2011).

Distraction forces and the resistance of the soft tissues during elongation are antagonistic. Moreover, there are differences in the correlation of action of these antagonist forces for elongation when using external and internal devices. In particular, V.G. Klimovitsky, V.V. Dragan, L.E. Goncharova et al (2010) described this system, in comparison with the movement on the road: when we use intraosseous methods - the force vectors are passing one another "on contrary roads with dividing strip", which serves the cortex of the bone; and if we use external methods - one of the forces moves "against the rules on the one-way road" (Klimovitsky et al. 2009).

2. Material and methods

We have performed elongation of the lower limbs with the help of intraosseous devices in 156 patients:
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- Monosegmental - 87 cases:
  - 86 - thigh (average elongation $8.3 \pm 0.5$ cm);
  - 1 - shin (5 cm);

- Pair - 64 patients:
  - 55 - thigh (average elongation $8.5 \pm 0.5$ cm);
  - 9 - shin (average elongation value $4.5 \pm 0.3$ cm);

- Multipair elongation - 4 patients:
  - One patient underwent simultaneous lengthening of the four segments;
  - Three patients, "two by two" with average elongation - $12.5 \pm 0.5$ cm. We should note one patient in this group, to whom it was performed simultaneously both thigh (7.5 cm) and shin extension (5 cm), and in second stage - lengthening of shin (4 cm). The total amount of elongation was 16.5 cm.

Being inside the bone (femur or tibia), drive intraosseous device performs the function of bone fragments holder and shock absorber of power loads on the bone. Distraction mechanism is working due to tripping unit carried by the actuator fixed to the outer body of device, and a special spring-ratchet mechanism, which is located inside the outer body of device. The presence of teeth in the ratchet mechanism make possible to carry out distraction with minor amplitude of movements of the actuator, which patients make on their own, consistently carrying out strictly metered and smooth dynamic extension of a rod system, thereby increasing the diastasis between extendible fragments of the segment (Klimovitsky et al. 2009; Klimovitsky 2010; Dragan V et al. 2011; Dragan V et al. 2011).

After completion of the distraction program and achievement of the desired value of bone lengthening, we disable drive of distraction apparatus that connects the outer body of device with the iliac crest. The unit is removed from the bone after a full functional rehabilitation and reconstruction of distraction regenerate into a regular bone.

Elongation programs aimed at maximum result when simultaneous or subsequent distraction of respective pairs of segments is performed can be called an appropriate term "multipair elongation" ie elongation pair by pair. The prefix indicating the plurality is selected as "multi", that means a plurality with homogeneity sense (Klimovitsky et al. 2009; Klimovitsky 2010; Dragan V et al. 2011; Dragan V et al. 2011).

Elongation program selection depends on:
1. specific clinical aim;
2. patient health status;
3. presence of post-traumatic changes, including scar-fibrotic degeneration;
4. constitutional features and the level of preparation for the distraction process;
5. consideration of the interests and wishes of the patient.

Nevertheless, it is necessary to specify the optimal values of elongation which are serving as primary indicative points for planning of any particular program of elongation. The term "optimal" in this case means such distraction algorithm where elongation occurs in sufficiently comfortable conditions for the
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patient, without significant stress to the organism, muscle-ligament system, joints, without risk of local hypertensive ischemic syndrome, with good results of recovery of the lower extremity function, including the time indices (Klimovitsky et al. 2009; Klimovitsky 2010; Dragan V et al. 2011; Dragan V et al. 2011).

The elongation plan includes the schedule of distraction until achievement of the planned extension of the segment, and also daily plan with calculation of distraction step and taking into account planned pauses for the adaptation of muscles to stretch as well. When multifractional mode of distraction is used the risk of LHIS development is significantly reduced.

When planning monosegmental and pair elongation of thigh it is important to consider that after distraction to 4.0 - 4.5 cm, the elastic properties of muscles begin to decrease markedly, and gradually increases resistance in response to a distraction that results in a relative reduction of the muscle sheaths volume and gives the start for LHIS.

It should also be noted that the program of multipair extension "two by two" is more favorable for joints. Especially it is necessary to highlight the situation with the knees when the load on the articular apparatus is largely determined by the combined opposition of individual intersegmental muscle groups, as well as the stresses of the adjacent segments, in response to distraction. Knee joints are located in a kind of "lock". Therefore, time diversity of peak loads on the joints is an important moment in organization of proper rehabilitation. This definition applies also to tension of muscle sheaths – in case of rapid distraction decrease of sheaths volume occurs, which leads to the development of LHIS. Unlike muscles sheaths are not elastic, for their lengthening we need a certain amount of time, which only occurs when slow multifractional distraction is used (Klimovitsky et al. 2009; Klimovitsky 2010; Dragan V et al. 2011; Dragan V et al. 2011; Strafun et al. 2009; Tkach 2012).

It is also important to note that the method of bone lengthening with the help of intraosseous devices makes it possible for patient and doctor to begin active rehabilitation measures earlier, which allows joints to overcome distraction stress loads more easily.

It should be noted that the above mentioned programs are optimal for most patients. Based on the obtained clinical experience, they can be recommended as basic for drawing elongation programs. However, taking into account the individual characteristics of the specific patient, adequate adjustments in the planning and in the implementation of the program of distraction should be made.

Sometimes, we had to retreat from the previously mentioned "classical" speed of distraction. In some cases, this deviation had objective reasons - on the control radiograph performed during distraction, formation of the regenerate in an uncharacteristically early period of distraction process was noted. The average rate of distraction of 1 mm/day was insufficient to carry out the planned program of distraction, because of the threat of accelerated formation of the regenerate and the onset of the early "fusion" of fragments of the femur (we observed one such patient who carried elongation of both thighs). In other cases, speed of distraction was changed by patients who want to "accelerate the time of treatment." Typically, patients make distraction on their own, outpatient, and their actions were motivated primarily by the following: "the device worked by itself, without my participation".
The increase in speed of distraction is usually accompanied by its characteristic set of negative symptoms: hyperextension of fascial sheath, with the creation of conditions for development of LHIS, the formation of contractures of adjacent joints, slowing formation of the regenerate in distraction zone, excessive stress on the distraction devices which leads to damage of blacket, migration of screws and break of ratchet.

The observation group of changes of intracompartmental pressure dynamics during lengthening of lower extremity segments included 5 patients who underwent lengthening with fully implantable guided intraosseous devices. Intracompartmental pressure measurement according to the classical standard method Whiteside, using a serial device "Stryker Intra-Compartmental Pressure Monitor", using a single set of interchangeable needles, syringes and membranes for simultaneous determination of indicators. Shin was lengthened in one case, in four cases there was lengthening of the thigh; and of these, in two patients it was performed "the pair" extension. Thus, we controlled intracompartmental pressure during distraction of 7 segments. In three cases, there was an increase in speed of distraction, in 4 cases distraction took place in the normal mode, with a speed of 1 mm/day. With the standard velocity of elongation, the value of intracompartmental pressure did not change. Quite different clinical picture was observed in case of deviation from "gold standard of extension".

### 3. Results

Following observations may serve as an illustration.

Patient O., 47 years old, which was carried out an elongation of both thighs with a cosmetic purpose. The program has been drawn up for the elongation of both thighs for 7 cm. Patient was inspected before surgical treatment (Fig. 1) and extra - CT scan was made to determine the exact length of the segments of the lower extremities.

Figure 1. Radiographs of a patient O., 47 years in the AP (a) and lateral (b) projections before elongation.

Surgical interventions - subtrochanteric osteotomy of the left femur, implantation of intraosseous distractor, originally was produced on the left thigh and in 10 days - on the right. Distraction initiated 10
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days after implantation of distractors with standard elongation speed of 1 mm/day. Used distraction device allows performing a multifractional distraction. In 1 step of distractor (1 cycle of the ratchet-gear) occurs extension of the rod on the length equal to 1/21 mm. Thus, it is possible to perform the daily program extension in 4–7 stages. On the control radiograph after 20 days, a 10 mm distraction was noted, with the presence of radiographic evidence of the formation of the bone regenerate (Fig. 2).

Fig.2. Radiographs of a patient O., 47 years in the AP (a) and lateral (b) projections, 20 days after beginning of distraction

In 30 days, significant ossification centers in the distraction regenerate were observed (Fig. 3). Distraction on the left femur was impossible - distractor did not work. An additional surgery was performed - reinstalling of the distraction device and osteotomy of bone regenerate.

Fig. 3. Radiographs of a patient O., 47 years in the AP (a) and lateral (b) projections, 30 days after beginning of distraction

Distraction was started on the 5th day. To prevent premature “regenerate union” distraction speed was increased in 1.5–2 times on both femurs, and brought up to 2–3 mm/day. Each time when the distractor
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mechanism is working the patient feels a "click", which is useful for calculating the value of distraction. After the completion of the plan of elongation 3-dimensional computed tomography was performed to determine the length and equality of extensible segments (Fig. 4).

Fig. 4. CT scan of patient O., 47 years. Allows to specify the length of the extension, equality of segments and the quality of the bone regenerate

The program of distraction is completed, the intraosseous devices are disabled. Control radiographs are made in 8 months after surgery (Fig. 5).

Fig. 5. Radiographs of patient O., 47 years old, right femur (a) and left femur (b) after completion of distraction
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Intracompartmental pressure in this patient was monitored at various stages of treatment. Initially, prior to surgery, on the left and right thighs it was the same - 7 mm Hg in the front thigh sheath and 5 mm Hg in the back thigh sheath. Second time the intracompartmental pressure was monitored when a distraction of 30 mm was reached. In our case, this period coincided with the violation of the distractor on the left thigh, which is why the patient stopped distraction on both thighs. Intracompartmental pressure was: on left thigh - 7 mm Hg in the front thigh sheath and 7 mm Hg in the back thigh sheath; on right thigh - 8 mm Hg in the front thigh sheath and 7 mm Hg in the back thigh sheath. When extending the thighs, with the speed that almost two to three times higher than the recommended one (1 mm/day), after reaching 70 mm distraction, before disconnecting distraction mechanism intracompartmental pressure was monitored. Tissue pressure had the following characteristics: right thigh - front sheath 17 mm Hg and back sheath 18 mm Hg; left thigh - front sheath 19 mm Hg and back sheath 19 mm Hg. Taking into account increased velocity of distraction and increased intracompartmental pressure, a moderate pain syndrome appeared in the lower extremities, estimated by the patient on a visual analogue scale (VAS) to 5 points. It should be noted that during period of 1 mm/day distraction there was no pain in lower extremities and it was relieved on the 3-rd day after cessation of distraction.

On the control examination in 8 months after implantation of distractor devices, tissue pressure was determined on the same level as before surgery, it was the equal to the 7 mm Hg in the front and rear sheaths of both thighs. Assessment of pain syndrome on the VAS was equal to 0 points.

This clinical case is a good example that an "abrupt" extension of a segment, which occurs during planned distraction or in case of treatment of fractures with extension method, establishes all conditions for the development of LHIS (Strafun et al. 2007; Tkach 2012). This syndrome can pass in "silence" under the guise of pain syndrome of the acute phase, but result in consequences in residual period – such as formation of false joints, delayed union or nonunion, which in case of osteosynthesis will be accompanied by break of metal fixation device. The next negative consequences of LHIS are dysfunction of the motion in adjacent joints, decrease of muscle power in segment and neurological symptoms manifestation due to form of scar-fibrous degeneration of soft tissues as a result of acute ischemia (Strafun et al. 2007; Strafun et al. 2009; Tkach 2012).

In the second clinical observation, in contrast to the first, where we were consciously forced to increase the velocity of extension, distraction speed was increased by patient himself.

We conducted lengthening of the femur in patient G. 30 years old, with post-traumatic shortening of the right thigh by 4 cm. He was treated after fracture of the femur by skeletal traction with delayed union. In the following, a surgery was performed - open reduction, osteosynthesis of femur with plate (Fig. 6).
During the treatment, there was severe varus deformity of the femur. The consolidation of the fracture occurred, and metal plate was removed and 5 years after injury patient returned to our hospital. The examination revealed post-traumatic varus deformity of the thigh, with the presence of anatomical femoral shortening by 4 cm (Fig. 7).

In this patient a surgical intervention was performed – corrective subtrochanteric osteotomy and intramedullary distractor implantation into the right femur. Wounds have healed by first intention. On the 10-th day distraction was started, with recommended speed of elongation of 1 mm/day (Fig. 8).
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In 2 weeks after surgery, during the examination, patient complained of pain that was evaluated on VAS up to 7 points, on the control X-ray distraction gap was 27 mm. The patient was given a talk about the need to comply with the prescribed treatment, orthopedic regimen and elongation speed. Intracompartmental pressure, compared with the contralateral side was increased up to 23 mm Hg in the front sheath and 25 mm Hg in the rear sheath, while intracompartmental pressure in the left thigh (non-operated) in the front and rear sheathes were similar, and corresponded to 4 mm Hg. Clinically there were defined pain in the right thigh, mostly along the sciatic nerve and pain in the right knee joint. A conservative therapy (vascular, anti-inflammatory, neurotrophic) was prescribed and distraction was terminated. After 10 days clinical symptoms of muscle tension were absent, pain syndrome was ceased; control of intracompartmental pressure - in both sheathes was 7 mm Hg. Distraction with speed of 0.5 mm/day was restarted (Fig. 9).
After distraction reached 40 mm, the program of extension was completed.

4. Discussion

Basing on the mentioned above we can conclude that:

On the beginning of distraction - in the first 2 weeks of lengthening recommended limit of distraction speed is 0.5–0.8 mm per day, with a consequent increase in the daily velocity of distraction to the level necessary for achievement of the planned aim. In the second phase of the extension program that begins with a mark of 4 cm, it is recommended to make a daily speed of elongation of 1 mm/day, with obligatory pauses (stops in distraction) in the extension to provide a more comfortable and safe distraction process for the patient.

In case of patient compliance with the recommended speed of elongation of a segment intracompartmental pressure does not exceed the threshold value of 15 mm Hg.

If speed of bone elongation exceeds recommended levels it will increase intracompartmental pressure with the threat of development of chronic local hypertensive ischemic syndrome.

References

Reasoning of parameters and operating conditions of the direct stroke grain crusher

Olena Yalpachyk, Serhii Budenko*

Tavria State Agrotechnological University, Melitopol, Ukraine

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ABSTRACT

This article provides basic results of theoretical and experimental studies of the cornmeal crushing process using the direct stroke grain crusher. On analyzing the current state of the problem, the conclusion had been made considering that one way to improve the crushing process is the grain crusher scheme implementation with the preliminary separation of the initial material and grinding each fraction at separate stages. The authors have developed the method and the instrument for crushing grain by the direct stroke of operating parts in the form of metal fingers with the preliminary separation of the grain material. Such a direct stroke grain crusher can be effectively used on small livestock farms. The article contains a description of the pin crusher prototype with the vertical axis of rotor rotation, being served as the basis for creating an experimental installation. Theoretical and experimental researches were carried out in order to set rational ratios of grain crusher designing parameters. Experimentally obtained regression equations, making it possible to determine the parameters of the given grain crusher type size, were described. The technique of forecasting energy costs when crushing grain material was developed, having made it possible to implement the forecasting of the efficiency rate and capacity of crushing the raw stuff, using the grain crusher. Experimental researches have clearly proved that the rational range of technological modes determined that the content of dust-like fraction in the ready-made product is 3...5 times less than while crushing at hammer crushers of other constructions. The specific energy consumption of crushing process in the direct stroke grain crusher is 1.8...2 times less than for other crushers.

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* Corresponding author at: Tavria State Agrotechnological University, 18, B. Khmelnytsky Ave, Office 1.201, Melitopol, Zaporizhzhia region, 72310, Ukraine. Tel.: +380 619 421306, +380 619 421428.
E-mail addresses: alena_jal@mail.ru (O. Yalpachyk), budenko2013@yandex.ru (S. Budenko), mv.tsau@gmail.com.
1. Introduction

Crushing is one of the most power-consuming processes at processing of feed grain for the cattle and poultry. For this purpose hammer crushers are mostly used. At fine crushing these crushers give up to 30% of powdered faction, and at rough - to 20% of underground factions.

At present especially the problem of hardware, forage crushers for private, peasant and also small farms is getting especially urgent.

Among considered schemes of grain crushers it is possible to distinguish the following schemes of grain crushing with prior separation of initial product (grain): with open cycle; with recirculation of underground material; with multi-stage recirculation and crushing; with preliminary separation of initial product and crushing of each faction on the separate stages.

Examination of schemes of technological process of crushing with the division of grain into factions allowed drawing the following conclusions:

- the minimum power output of the process can be achieved with combining of grain supply in such interval of physical-mechanical properties which would provide the most complete crushing of grain on the given stage and optimal load of the cascades of the crusher;

- Providing the first condition the partial passing of underground grain to the next stage is possible, therefore the construction of crusher must provide the scheme of the multi-stage crushing.

We worked out a method and device for grain crushing by the direct strike of the driven elements in the form of metallic fingers [6, 7]. Such crusher of direct strike with prior separation of grain material is compact enough, does not require the use of powerful drive equipment and can be effectively used on small stock-raising farms [2-4].

The analysis of scientific publications allowed to deduce the following most perspective ways of improvement of direct strike crushers constructions:

- decline of specific consumptions of energy and specific quantity of metal due to the application as crusher driven elements of the ultrafine hammer in the form of a thin metallic bar or metallic string;

- preliminary grain separation organization process considering the size;

- maximal discharge of the ground product of the specified size due to the creation of the effective constructions of separators;

- decline of the circulatory loading as a result of the speed-up taking of the ground up particles from the crushing chamber;

- increase of separation intensity of the sieve surface due to the application of the special form of the distributive surface of the sieve;

- maximal use of the peripheral and butt-end surfaces of chamber of the crushing chamber;

- crusher’s air mode rational organization.
In order to establish rational correlations of the developed crusher structural parameters, the methodology of the mathematical planning of experiment was applied.

As a method of prognostication and determination of factors for realization of the experiment an expert method (method of Delphi) was chosen.

The criterion of optimization the module of grain crushing was chosen. The selection of factors for realization of optimization researches came true on the basis of review of literary sources, theoretical analysis of grain crushing processes and a priori ranging after the method of Delphi.

An expert group of 8 specialists estimated the following factors: $X_1$ – frequency of crusher rotor rotation $n$, min$^{-1}$; $X_2$ – speed of falling of grain material $v$, m/sec; $X_3$ - a grain material supply $Q$, kg/sec; $X_4$ – grain material falling height $H$, mm; $X_5$ - quantity of rotor fingers $r$, pcs; $X_6$ – grain material falling angle, degrees.

As a result of conducted a priori ranging, first 3 places occupied the following factors: rotor rotation frequency $n$, min$^{-1}$; supply of grain material $Q$, kg/sec and quantity of rotor fingers $r$, pcs.

As a result the expression for determination of the number of fingers is received:

$$\text{weevil} \alpha = \frac{K_a}{\text{finger} \cdot \text{path of weevil fall}}$$

Picture 1. Design model of weevil falling between the fingers of the crusher

As a result the expression for determination of the number of fingers is received:
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\[ Z = \frac{60\pi \cdot R_\delta \cdot \sqrt{g}}{\pi \cdot R_\delta \cdot n \sqrt{R \cdot \sin \alpha + 2(R + R_\delta) + 30(R + R_\delta) \sqrt{g}}} \]

and minimum speed, necessary for destruction of weevil \( v_{min} \):

\[ v \geq v_{min} \quad \text{or} \quad \frac{\pi \cdot n}{30} \cdot R_\delta \geq v_{min} \]

With the use of the worked out dependences the example of finger crusher is constructed with the vertical axis of rotor rotation which served as a basis for creation of the experimental device (picture 2).

![Picture 2. General view photo of the experimental crusher:](image)

1 – frame; 2 – crushing chamber; 3 – separator; 4 – bunker; 5 – regulative shutter; 6 – electric motor; 7 – strap transmission; 8 – control stand; 9 – areas of selection of bottom row of driven elements and bottom jalousie sieve.

The novelty of technical decision of crusher with the improved system of grain separation and products of crushing is protected by 4 patents of Ukraine on the invention and 4 declarative patents on useful models.

During realization of the planned experiment the matrix of three-factor experiment was extended by additional experiments for the receipt of equation of the second order. The experiment is conducted three times - at three different values of openings of the sieve device 8, 10 and 12 mm.

For each pair factor interaction: rotation and supply frequency, frequency of rotation and number of fingers, the supply of material and number of fingers the surfaces and lines of levels of function of review are built to as for example, in the picture 3.
The received decoded models of the process of crushing looked like:

- for the diameter of openings of the sieve $d_o = 8$ mm:
  \[
  \tilde{y}_i = 10,4158 - 0,00151 x_1 - 39,8645 x_2 - 0,965 x_3 - 0,0056 x_1 x_2 - 0,000229 x_1 x_3 + 0,6 x_2 x_3 + 0,000001164 x_1^2 + 102,8099 x_2^2 + 0,08625 x_3^2
  \]

- for the diameter of openings of the sieve $d_o = 10$ mm:
  \[
  \tilde{y}_i = 18,33 - 0,00543 x_1 - 46,13 x_2 - 1,5835 x_3 - 0,00313 x_1 x_2 + 0,691 x_2 x_3 + 0,00000147 x_1^2 + 104,132 x_2^2 + 0,0893 x_3^2
  \]

- for the diameter of openings of the sieve $d_o = 12$ mm:
  \[
  \tilde{y}_i = 18,44 - 0,00967 x_1 - 0,0035 x_1 x_2 + 0,00000247 x_1^2 + 103,802 x_2^2 + 0,0413 x_3^2
  \]

After the careful analysis of graphic dependences and equations of regression corresponding conclusions and recommendations were reached.

The received results at different diameters of openings of the sieve device are similar by the nature. For this dimension-type of crusher the most rational parameters to be accepted are: amount of fingers - 8, frequency of rotation 1900-2100 rpm, supply 800…810 kg/h.

At the change of diameter of openings of the sieves from 8 to 12 mm the maximal degree of crushing changes in rather small limits: from 0,95 to 1,14, therefore using replacement of sieves for the change of degree of crushing is inefficient. Change of value of degree of grain crushing from a supply is very substantial and such crushers need batching devices of grain supply, by adjusting the grain supply it is more effective to regulate the degree of crushing.

The conducted experimental researches showed that for receiving crushed grain with the middle value of the module of grade, $M = 1,4,2, 2$ mm it is not reasonable to increase frequency of rotation of rotor of crusher over 2500 rpm.
In the picture 4 experimental dependences of the change of the module of grade are shown on the areas of sampling from frequency of rotation of rotor and dependence of the module of grade from the area of selection of the crushed grain at different frequency of rotor rotation.

The analysis of diagrams enables to draw conclusion that for the receipt of high-quality product (by value module of grade) it is necessary to maintain rotor rotation frequency from 1800 to 2500 rpm. For the receipt of rougher grade it is needed to reduce rotor rotation frequency and, for a fine grade - to increase frequency of rotation.

The problem of energy saving, increase of performance coefficient was, is and will be urgent. Therefore the authors of the given work conducted an analytical analysis of power balance and prognostication of grain crusher performance coefficient.

Theoretical considerations of S.V. Melnikov are taken for the basis of researches [1]. All making powers necessary for the drive of the crusher were considered and connection of separate constituents with the basic indexes of the crushed product somehow with the degree of crushing of the material $\lambda$ and coefficients $C_V$, which expresses work of resilient deformations, taken to 1 kg of the crushed material and $C_S$, presenting work, needed for creation of new surfaces of the crushed material were defined.

It allowed deriving a formula for determination of performance coefficient of the crusher depending on the enumerated parameters.

In the picture 5 a) the diagrams of change of the value $\log \frac{\lambda^3}{(\lambda - 1)}$ and values of coefficient of performance of crushing of grain-crops depending on the degree of crushing $\lambda$ are given. The diagrams are built on the condition that the relation $C_V/C_S$ during the whole process is a permanent value.
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Picture 5. Diagrams of dependences of crushing performance coefficient from the basic indexes of process of crushing

In the picture 5 b) the diagrams of dependence of performance coefficient of the process of crushing from the value of relation of coefficients $\frac{C_V}{C_S}$ at different values of degree of crushing $\lambda$ are showed.

Thus, for exact prognostication of power consumption at crushing of grain material it is needed with maximal exactness to forecast a value of performance coefficient of the crushing process and, thus, value of power necessary for the realization of this process. The conducted researches enable to realize prognostication of performance coefficient and power of crushing of raw material on the grain crusher.

On the basis of finding we draw conclusion, that receipt of the prepared product of the set grain-size distribution, depending on the chosen mode of operations of the direct stroke crusher with previous separation of grain is fully possible. It proves the aim of researches. From data of frequency distribution on factions at the kinematics mode of crushing with the parameters of the direct stroke crusher of grain at $Q = 800...1100$ kg/h. and $n = 2000$ rpm maintenance of powdered faction (with the diameter less than 0,25 mm) in the prepared product at humidity of grain of 14...15% presents: for a wheat 2,77 %, barley 2,86 % and their mixtures not more than 2,81%. It is by 3...5 times less than, than at crushing on the hammer crushers of other constructions.

Specific power-hungriness of process of crushing in the crusher of direct strike of grain is by 1,8...2 times less than for other crushers.
2. Analysis of recent research

The problems of economic security as a priority of the national policy were investigated in numerous theoretical researches and summaries of the native scholars, in particular Baranovskiy A., Boyko V., Heyets V., Hoychuk O., Hubskiy B., Varnalyi Z., Zhalilo Ya., Korets'kii M., Muntiyan V., Paskhaver V., Pakhomov Yu., Sabluk P., Skydan O., Shlemko V., Yaremko L. and others. However, some aspects of the national strategy of economic security ensuring need to be further investigated.

Statement of research objectives
- to specify the essence of economic security;
- define the role of political institutions in the national security development and implementation process.

3. Results

The market relationship building, the ownership pattern change, the methods of public administration, the openness of national and regional economies define the necessity of economy sustainable development ensuring and permanent monitoring over social-economic processes. Many scholars consider that the basis of national security ensuring is a purposeful activity of a state on making the necessary conditions for encouraging the competitive advantage of national economy leading branches in external markets during strategically long period at the expense of the permanent forward development of economic activity preferred directions.

The notion “economic security” is part of the national security with ecological, defense, intellectual, information, demographic, psychological security and other. The complex of national interests is implemented by all components of national security; at the same time each component has its specifics depending on solved tasks and used means and methods for this purpose (Kovalchuk T., Varnalyi Z., Feschenko V., 2001).

Economic security characterizes the state of national economy which provides protection of national interests as well as interests of both certain citizens of a country and the society in whole. Economic security is directed to ensure proportional and continuous economic growth, inflation and unemployment decrease, formation of an efficient economy structure and a developed stock market, reduction of a budget deficit and national debt, social protection ensuring and life quality rise of a population and national currency stability keeping etc (Burdina O., 2006).
The start of economic security development in Ukraine is closely connected with an active work of National Security and Defense Council of Ukraine; within its frameworks the national strategy of economic security was formed and represented by Ukraine’s Law “On Ukraine’s National Security basics” №964-IV dated June 19, 2003. This council defined the most important measures for implementation of governmental documents’ expertise from the point of economic security. It also determines threshold values of economic security. Overstepping them a country is under a threat of political independence loss and it becomes economically and socially vulnerable (The Law of Ukraine “On Ukraine’s National Security basics”, 2003). Unfortunately, it turns out that the majority of measures are not carried out; many governmental documents do not undergo the necessary expertise form the point of economic security. Despite the formed contours of economic security strategy the works in this sphere are insufficient.

A state plays the most important role in building and changing of institutional economy structure of any country. It can contribute to the efficient market institutions creating and, on the contrary, it can create an institutional structure which does not allow competition advantages to be developed due to a monopoly authority and other factors that lead to transaction costs. Everything depends on certain historical conditions and comparative efficiency under these conditions in some or other system of the economic coordination. Although namely a state is a necessary attribute of the progressive economic activity, the generated institutions might not encourage efficiency increase but prevent it.

The comprehension of constitutional state democracy is possible via relatively (and absolute) conflict agreement “principal-agent” among electorate and their managers (representatives). The principals are voters (citizens) who are true owners of supreme authority (sovereignty). They authorize some compatriots to govern sovereignty through a voting procedure. As a result they are agents who implement self-governing and the same time they are those who return a state the right to limit the personal liberty and also dictate principals what to do. This is absolutely different from private relations “principal-agent”.

Theoretically, the same problem can be observed in transaction cost economics: there is an asymmetry of information before and after making an agreement. This situation is a result of opportunism a priori and a posteriori as specific investment of a voter assists some or other candidate. But this information is divided not only asymmetrically, it also most unlikely to define what will happen in the future. Thus, decisions made by law-makers, government, and state administration bodies and judges can not be perfectly limited with rules. It leaves some freedom for non-obligatory actions of agents who principals (electorate) have to trust. Therefore, the problem of government power to inspire confidence is its duty in front of voters.

The other compulsory problem sphere is that political exchange is carried out among representatives of different groups of society interests. This exchange of voters or deputies is project general support of each other; the voting is by the principle “you vote for my project, I vote for yours”. Like at economic exchange it is necessary to build electorate confidence for the purpose of creating convenient institutional arrangement.
In both cases the relations “principal-agent” among electorate and politicians, from one part, and political exchange among interests of different groups, from the other part, are approaching to transaction cost application. But nowadays there is a limited rationality of legislators, imperfection of legal pressure and opportunism (rule-breaker).

Institutional arrangement affects greatly the capacity of agents to make political obligations confidential that allows a state to build economic security more efficiently. For example, clause 41 of Ukraine’s Constitution states: “Everyone has the right to own, use and dispose of his or her property, and the results of his or her intellectual and creative activity. The right of private property is acquired by the procedure determined by law. In order to satisfy their needs, citizens may use the objects of the right of state and communal property in accordance with the law. No one shall be unlawfully deprived of the right of property. The right of private property is inviolable. The expropriation of objects of the right of private property may be applied only as an exception for reasons of social necessity, on the grounds of and by the procedure established by law, and on the condition of advance and complete compensation of their value. The expropriation of such objects with subsequent complete compensation of their value is permitted only under conditions of martial law or a state of emergency. Confiscation of property may be applied only pursuant to a court decision, in the cases, in the extent and by the procedure established by law. The use of property shall not cause harm to the rights, freedoms and dignity of citizens, the interests of society, aggravate the ecological situation and the natural qualities of land” (Constitution of Ukraine, 2006). This acts to ensure security for private property owners against the government stealing.

4. Conclusions

Therefore, for economic security building the political institutions have to build, in the first place, the electorate confidence. Voters appoint responsible ones for their security building and transfer the parts of their liberty to a state. Due to this the role of a state in economic security ensuring is essentially increasing. The participation of a state is carried out through the above-mentioned functions of a state in the economic security sphere. It is possible to improve the quality and efficiency of their implementation by updating the corresponding normative legal documents and raising the level of specialist qualification in these kinds of activity.

The solution of the national development problems requires not only the state authority consolidation but building more confidence in its institutions as well as rationalization tools of decision making and economic policy building. At the same time, transferring from the conventional vertical public administration scheme it is necessary to ensure vertical inter-functional relations at Ukraine’s economic security building. Thereby, there is a further need in scientific investigations.
References


3. Patent Specification №76556. Ukraine, A23N5/00/ The device for decorticating and crushing the grain/ Yalpachyk F., Fuchadzhi N., Gvozdeva T. Published 15.08.2006, Bul. №8, - p.4

4. Patent Specification №86897. Ukraine, A23N5/00/ The device for decorticating and crushing the grain./ Yalpachyk F., Shiganovych T., Gvozdev O. Published 25.05.2009; Bul. №10, - p.4


6. Shpiganovych T. The direct stroke grain crusher with the system of separating grain and graining products. Shpiganovych T., Yalpachyk O. Machinery and technologies of agro industrial complex, №12. 7-10.

Psychological aspects in education concerning on-job-safety and professional employees selection on the highly hazardous agricultural objects.

Yurii Rogach *

Tavria State Agrotechnological University, Melitopol, Ukraine

ARTICLE INFO

A B S T R A C T

The safety work is largely influenced by the individual qualities of an employee (physiological, social, industrial). Among the psycho physiological traits should be allocated as follows: lack of capacity for the distribution and concentration, thinking, low quality care, observation, intelligence, judgment, lack of setting to work, excessive criticism to the leadership and less to ourselves, pride, arrogance, disrespect for other and so on. The basic social qualities of employees to consider when creating a safe working environment are: attitude to work, contacts with colleagues, managers and others, socio-political, socio-economic and personal factors, the level of communication, education and culture, health status, the level of satisfaction with their work, and others. The most important production qualifications of employees that affect the work safety, is the length of service and work experience. The length of service is generally related to the age of the employee. Based on the analysis of various studies concluded: the most significant impact on safety of work gives the length of service, but not the age of the employee. Secure employee actions, the creation of dangerous situations may be due to the lack of knowledge, work but not as a specialist, a change in the nature or conditions well known for many professions. To reduce the action of psycho physiological factors of danger in the workplace must be considered as a working individual, because the errors in production, and accidents are the result of the collision human qualities specific to that particular profession. To improve the safety and health of employees at work should be carried out professional psychophysiological selection for a wide range of professions. This paper considers the problem of certain categories of employees in obtaining knowledge on safety. Analysis of the psychological aspects regarding the admission staff to work with high risk is made.

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* Corresponding author at: Tavria State Agrotechnological University, Faculty of Agricultural Technologies and Ecology, 18 B. Khmelnytskii Ave, Melitopol, Zaporizhzhia obl., 72310, Ukraine.
Tel.: +380 619 421438.
E-mail addresses: flakon89@mail.ru (Y. Rogach).

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1. Introduction

There is an idea of activity approach on the basis of teaching process characteristics. It is developed in the native pedagogy and psychology.

Teaching is a system of cognitive activities of learners aimed at solving the educational problems.

Modern psychology based on the philosophical thesis about the role of labor in human formation, claims that material activity changes the type of behavior. However, along with material activity, a man is also characterized by the internal mental activity that is carried out by means of oral, numerical and other symbols. This activity leads to the mental development of a man and his/her personality.

Employees’ knowledge of on-job-safety training and testing, take place during the process of training, further training, learning new professional skills and qualification improvement.

An employee training for hazardous work or for work that requires special professional selection is conducted only in the educational establishments.

In the production, at least once a year, these workers take specific character and knowledge testing concerning on-job-safety, depending on the specificity of production and taking into account the requirements of norms, regulations and safety rules for specific works with highly hazardous level. Such teaching and knowledge testing is compulsory for all workers, including technical engineers employed in all above mentioned jobs.

To improve the educational process on on-job-safety psychological aspects and individual characteristics of each member of staff must be taken into account.

2. Analysis of publications

Basing on L. S. Vygotsky studies, native and soviet psychologists O. M. Leont'ev, P. Y. Galperin, D. B. Ef'konin, V. V. Davydov, L. V. Zankov, N. O. Merchyns'ka and others have developed the theoretical teaching principles, which have particularly beneficial effect on the development of intellectual, volitional, emotional and motivational spheres and also provide all-round education of a person.


The process and types of teaching, training and knowledge testing concerning the problem of on-job-safety for all workers is laid down by NLALP 0.00-4.12-05 “Regulations on teaching and knowledge testing of on-job-safety”.
The purpose of the article is to analyze psychological aspects during teaching on-job-safety and to substantiate the purpose for dangerous job performance for workers of a certain temperament type.

3. The main part

The development of scientific and technological revolution led to practical application of psychological knowledge. Labor psychology formulates theoretical problems. In order to solve them the scientific substantiation of practical conclusions should be found. The most important of them are the psychological regularity of forming labor activity specific form and human attitude to labor, regularity of professional skills mastering, the laws of labor skills forms restructuring, laws of change of professionally important person’s peculiarities.

Mathematical psychology is very important in terms of risk theory. A wide range of experts in risk psychology believe that the share of leaders who can act in dangerous situations is no more than 0.5%. Therefore, selection, training and support of workers psychological form at the dangerous objects is an important applied problem. Statistical theory of teaching gives great opportunities in this field. The dependence of errors number on the study process time is represented by decreased exponent, the probability of correct identification approaching to saturation.

Nevertheless, dependence exists while obtaining more complex skills. When multiple jumps with saturation appeared in the case of operator’s work, this means a transition from supervising individual devices to the ability in quickly assessing the state of functional blocks.

That is why during the selection of candidates for risky professions that requires obtaining special skills it is necessary to have time not just for learning simple skills but for achieving a qualitative leap as well.

Obtaining new skills is not less important than a person’s emotional state. In an "operator-machine" system a man is more important factor which determines the reliability of these systems. From time to time, there are situations, which require human interference in a process of work with complex systems. That is why in this case psychological characteristics of the operator have an important role, whereas individuality of a person is determined by its temperament.

According to the type of temperament there are 4 types of people: choleric, sanguine, phlegmatic, melancholic. If it is possible to form a student group according to the type of temperament, subsequently it is better to use such approaches (Luschenkov V., Luschenkov V., Butko D., Rogach Y, Petrov V., 2002):

1. "Trust but check", for the reason that sanguine has such advantages as: cheerfulness, enthusiasm, sensitivity, etc. But his disadvantages include: the tendency to conceit, the absence of concentration, frivolity, superficiality, unreliability, a tendency to make a promise without keeping it. He requires control;
2. "No minute of rest", since choleric has the following pros: energy, enthusiasm, passion, mobility, purposeful; alongside with such cons as: hot temper, aggression, lack of restraint, impatience, conflict, the ability to demoralize a team;

3. "Do not hurry up" because phlegmatic has the following pluses: stability, constancy, activity, patience, self-control, reliability; although his cons are: slow down activity, indifference, thick-skinned, lack of emotions in relations. Don’t hurry him, he controls time on his own and makes everything in time;

4. "Do no harm" knowing that melancholic’s pros are: high sensitivity, humanity, kindness, an ability to compassion; while his cons are: low efficiency, suspicion, detachment, shyness. Do not scream or make a pressure on him, don’t give different instructions.

During the staff selection for risky jobs it is essential to consider such psychological characteristics of a human as:

1. A nervous (but coward) man can work when fast reaction is necessary (it means ability to make decisions quickly but not a physiological reaction). Nervous person is good in situations when certain variants of behavior in case of danger are strictly set, if not the operator begins to make thoughtless decisions (further these decisions may be inadequate to the specified situation). In such case the nervous man may be less useful;

2. A man of mood, who is not nervous, must be extremely careful in order to take effective action in case of danger. Carelessness (the absence of fear even when there is a need to avoid danger) is unexcused for such person and can lead to inertia;

3. Responsible man (man of action). His carelessness doesn’t particularly prevent from doing his duty at the first stage, when removing danger actions haven’t begun to reveal results yet. This is because the impact of emotions on informational performance (the intensity of labor) of "responsible man" is weak. However, at the second stage, especially when emotional situation is stabilized, careless man loses to careful man. The difference in informational performance between the man of mood and the man of action disappears at the second stage (during the successful operation on danger removal) when emotional situation is stabilized;

4. Careful phlegmatic is mostly needed to remove long-term menace. Probably management of operations on long-term dangers removal should be entrusted to such person.

In order to react on hazard opportunely and correctly and to prevent dangerous situations, it is not enough to have necessary emotional parameters for operator to solve this problem. He also must obtain all indispensable knowledge about the way of action in case of threat.

Thus the problem of the optimal organization of teaching process of complex systems management (for objects with high danger level) arises.

Based on the studies (Venda N., 1980) it is possible to conclude that: 1. to get a hundred percent reliability of performed work, it is not necessary a hundred percent memorizing of material, if new
knowledge is based on others; 2. the increasing number of ways for teaching course helps in reducing significantly the quantity of material that should be mechanically memorized.

That is, it helps to reduce the number of repetitions during the training and in this way to increase the productivity of operator who is learning. In this case the volume of work connected with training also decreases.

It should be stressed that time which is necessary to achieve the “leap of understanding” should be taken as one of the main criteria for employees’ selection and assessment of their trainings results. A person that has the ability to make this “leap” quickly, can quickly fill the gaps in his/her education, and well adapt to changing technologies and methods.

4. Conclusions

According to the NLALP 0.00-4.12-05 the access to work is prohibited for the person, who hasn’t passed training, instruction and testing on on-job-safety. In this context and taking into account the individual nervous system peculiarities of every employee it is compulsory to carry out deep analysis of individual’s suitability for a work with high risk of danger and his ability to cope with training on-job-safety. For that reason, it is necessary to develop and implement the approaches given above.

References


4. Regulations in on-job-safety 0.00-4.12-05 “Typical principle concerning studying and checking out knowledge in on-job-safety”.

Influence of the mechanisms of interaction between Orthodox Church, society and school on moral education of youth in Ukraine

Anna Yermak *

Melitopol State Pedagogical University named after Bohdan Khmelnytskyi, Melitopol, Ukraine

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ABSTRACT

The article deals with the characteristics of the systems of the younger generation's moral education, which are represented in historical retrospective, on the territory of modern Ukraine. The author researches a system of moral education, functioning until 1917. It was characterized by the existence of well-established mechanisms of the interaction between representatives of the society, the Orthodox Church, and schools. The article shows that after the year of 1917, with the emergence of the Soviet state, this interaction was broken according to the legislative acts of the Soviet government, which separated church from the state and school – from the church. The researcher offers the analysis of a list of Ukrainian documents, which came into existence after 1991. They regulated the possibility of solving the problems of the younger generation's moral education in connection with the spiritual formation of the personality. The article proves that nowadays there are no effective mechanisms of the interaction, promoting the creation of appropriate conditions for the education of a personality with a solid spiritual and moral values. The author makes a conclusion that the research of the experience of interaction between such educational establishments as schools, the Orthodox Church, and the society in the process of school education of the students is not only of scientific but also of a practical interest for the modern system of moral education of youth. The perspectives for further research are viewed in the analysis of the interaction between society, church, school, and its gradual implementation in the system of education.

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1. Introduction

The problem of spiritual and moral education of children and youth is one of the key challenges to the society and state. Nowadays, Ukraine faces difficulties in spiritual and moral education of the younger generation. Among the reasons of mentioned above situation, the following ones have to be emphasized:

* Corresponding author at: Melitopol State Pedagogical University named after Bohdan Khmelnytskyi,
20, Lenina Street, Melitopol, Zaporizhzhia region, 72312, Ukraine
Tel: +38 0619 440464; fax: +38 0619 440360
E-mail address: zamer2002@yandex.ru (A. Yermak), rektorat@mdpu.org.ua
A lack of clear moral guidelines for the younger generation, a rapid degradation of morality in the society, a decline of cultural and leisure work with children and young people. In order to solve this problem, it is necessary to refer to the cultural heritage of the Ukrainian people, to the wisdom of the traditional Christian ideology. It has to be said that the nation, which does not know the history and culture of its ancestors, is doomed to the spiritual degeneration.

2. Objectives

This article deals with the research of the interaction between educational establishments, representatives of the society and the Orthodox clergy in the field of moral education of young people on the territory of modern Ukraine, taking into account the existing experience in the history of education. All mentioned above factors stand for the main aim of the research.

3. Methods

While carrying out a research, a complex of general and specific methods has been used: a retrospective analysis and systematization of cultural, psychological and educational literature on moral education; synthesis of scientific literary resources on ethical and moral problems, in particular, their religious aspects; induction, deduction, synthesis, comparison and confrontation of the ideas and concepts.

4. Results

In the late 19th early 20th century on the territory of modern Ukraine moral education of students was closely connected with the Orthodox Church, as a representative of the dominant religion of that time. With the emergence of Rules for parochial schools, in which the government obliged the clergy "to establish the orthodox doctrine of the Christian religion and morality among people, and to initiate the primary useful knowledge" as well as "inseparably from the church to inspire children with a love and worship of the church" (The highest approved Rules of parochial schools 1884). This interaction received official support from the state. The process of young people's moral education under the patronage of the clergy took place not only in the religious, but also in secular educational establishments. As the church was inseparable from the state, therefore, all public educational establishments: the church, the school and the family had one goal – the education of youth in the spirit of the Orthodox faith and patriotism. Thus, we can state that there existed well-established mechanisms of the interaction between church leaders, representatives of the society and educational establishments in the sphere of moral education of the younger generation.

Since the abdication of Emperor Nicholas II and the emergence of the decrees of Provisional Government, radical change of the priorities in the system of moral education had taken its place. With
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the adoption of the law *On Freedom of Conscience* 14th July, 1917, a long-term connection of the church and society had been broken. This document proclaimed a freedom of religious self-determination of a person from the age of fourteen. By means of this document the Ministry of Education tried to minimize the moral influence of the Orthodox clergy on the young people, as well as to make the Law of God subject an elective course, or completely remove it from the curriculum (Tsipin 1997). After the October Revolution of 1917, a new relationship between state and church was established. This situation was stimulated by such decrees of Soviet government as: *On the transfer of education and training from the spiritual ministry to the People’s Commissariat of Education* December, 1917, *On Freedom of Conscience of Church and Religious Organizations* 20th January, 1918. These documents proclaimed a complete separation of church from the state and school from the church. A ban on the teaching religion was introduced, and also the right to be an atheist was given. Thus, the interaction between representatives of the Orthodox Church and the society in the sphere of moral education of students has become totally impossible, being a necessary attribute of a secular state at that time.

Thus, the fact that there was no division between secular morality and the morality of faith had become characteristic feature of the educational system till 1917. In this historical period there existed a well-established system of interaction between society and religious organizations. The emphasis was put on the execution of the biblical instructions and commandments. All public educational establishments, such as church, school, and family, had to take part in this process.

After Ukraine has proclaimed its independence in 1991, the government abolished the persecution of the church as an important spiritual public institution, thus taking a new course in the sphere of moral education of youth. At that time, Ukraine became the successor of the political regime, where the moral education of the younger generation had been based on the communist morality. Thus, the system of Soviet education considered this kind of education as the key one, therefore, the destruction of the existing at that time communist morality had led to a moral vacuum in society. There appeared an urgent need for updated approaches to the moral education of the students. Teachers and administrators of schools considered the emergence of mechanisms of interaction between educational institutions and religious organizations a new reason for moral education of students.

Nowadays, there exists a number of documents, regulating the possibility of solving the problems of moral education, combined with the spiritual formation of the personality.

Thus, the right of everyone "for freedom of thought and religion" is specified in the second section of the Constitution of Ukraine, in Article 35 (Constitution of Ukraine 1996). According to the article this right includes a freedom to practice any religion or no religion, to freely alone or collectively perform religious cults and rituals, and to carry out religious activity. However, this article stated the fact that the church and other religious organizations are separate from the state, and school – from the church.

One of the main tasks of the law of Ukraine *On Freedom of Conscience and Religious Organizations* was to create favorable conditions for the development of public morality and humanity, regardless to the ideology or religion of a person. This document proves that parents have the right to educate their
children in accordance with their personal beliefs and attitudes towards religion. It should be also noted that this law also states that the public educational system in Ukraine is a secular one.

National Doctrine of Education Development in Ukraine emphasizes that "national education is aimed at the citizens' involvement into the deep layers of the national culture and spirituality, at the formation of children’s and youth’s national ideological positions, ideas, opinions, and beliefs, which are based on the values of national and world culture" (National Doctrine 2002).

The aspects of cooperation between teachers and representatives of religious organizations were partially revealed in the document On studying ethics courses in educational establishments. In particular, it was pointed out that these courses should be developed in cooperation with representatives of religious organizations. However, this document does not specify how the process of cooperation should be carried out, what kind of procedural aspects should be fulfilled.

The Concept of a Higher Spiritual Education of the Ukrainian Orthodox Church indicates that an important area of the research of the Educational Committee of the Holy Synod of the Ukrainian Orthodox Church is to create conditions for public recognition of the higher religious education's importance, and social integration of theological schools' graduates. The solution of the mentioned above problem is provided, in particular, by the development of the principles of joint system of higher religious education and national secular higher educational system. Regarding the educational process in religious schools, it was pointed out to the fact that the educational process in religious educational establishments is complex, it covers all aspects of the students' life, including their spiritual growth. "A personal example of the teacher and his relationship with the students occupy an important place in education. Teaching the rules of Christian piety should be carried out by the teachers who have a living faith and efficient sincere, and selfless love for God and people" (The Concept 2013). But this document hasn't specified the effective mechanisms of the interaction between Orthodox Church leaders and representatives of the society in the sphere of moral education of students.

So, we have found the implemented principle of consistency of the spiritual and secular education systems in the concept of a higher spiritual education of the Ukrainian Orthodox Church. The areas of the activity and pedagogical requirements for a teacher, who is involved in the spiritual and moral education, are also mentioned. But, at the same time, this concept does not define the peculiarities of the process of moral education through the interaction of the public, teachers and religious leaders.

According to the Constitution of Ukraine, the church is separated from the state, and the school – from the church. So, mentioned above documents are mainly secular. They do not clearly define a nature of the interaction between the Orthodox Church leaders and representatives of the society in the sphere of younger generation’s moral education. But at the same time, almost all the documents acutely call for the creation of the appropriate conditions for the education of a person with strong spiritual and moral values.
Serious problems in the system of moral education of the youth in modern Ukraine have stimulated a necessity of scientific knowledge integration and activation of the mechanisms of the interaction between the society and religious organizations.

Thus, such Ukrainian scientists as Vasyl Zhukovsky and Ludmyla Moskalyova emphasize that modern Ukraine is characterized by a spiritual crisis of culture and society, its moral and ethical standards are far from traditional Christian norms. "The very Christian values stand for the principles that will lead the Ukrainian nation to a new level of economic and social life, on condition of a radical replacement of social standards and stereotypes, inherited from the communist atheistic system" (Zhukovsky and Moskalyova 2013). The authors consider the underdeveloped mechanisms of the interaction between teachers, society and the state a reason for a lack of effective means of the national education of the younger generation. According to Vasyl Zhukovsky, due to a lack of activity of the church and passivity of the society, the school and teachers should take on the function of spiritual and moral education of youth. Author proposes to fulfill this task with the help of such optional courses as Basics of Christian Ethics, Ethics: spiritual principles, Christian Ethics in Ukrainian culture, Biblical history and Christian ethics, which were firstly introduced in the regions of Western Ukraine and now have spread all over Ukraine.

Thus, these authors have revealed the mechanisms of the interaction between teachers and schools in the field of moral education of the younger generation, which is realized in the systematic and purposeful pedagogical work with students, in inculcation of values and norms, based on Christian morality.

Ekaterina Nikitskaya has researched such social institution as a Sunday school, which plays a significant role in the religious and moral education of the students. The opportunity to revive the Sunday schools, as centers of moral education, had appeared only at the beginning of the 1990s. However, while developing this activity, Orthodox Church has faced several challenges, including a lack of correspondently trained teachers. According to Ekaterina Nikitskaya, Department of Religious Education and Catechesis was created in early 90-ies. Its main task was to develop the necessary normative, methodological and informational base for Sunday schools' activity. This scientist considered the interaction between the family, church, orthodox and secular organizations, as an inseparable part of the educational system, a vital condition of moral education of children and young people. Author views family as a natural environment for spiritual and moral education of the younger generation. She calls it a "small Church", which potential is aimed at the development of the spiritual and value orientation of the personality, at the creation of the conditions for successive transmission of national traditions (Nikitskaya 2012). Such forms of education as a joint prayer, reading spiritual literature, participation in worship, pilgrimages, and personal example of family members, which stands for the most important thing, contribute to the development of primary forms of moral education and Orthodox religious education. According to the author a temple, as a special place for the person's communication with God, is the second most important environment for the Orthodox education. This place certainly has a pedagogical influence, teaches people positive moral qualities, such as self-sacrifice, gratitude, love for one's fellow
creature. The third component is represented by educational establishments, cultural and educational centers, Orthodox clubs, youth organizations, sisterhood and brotherhood, Sunday schools, and others. These types of organizations are of great educational value, as they contribute to the formation of the younger generation’s moral Christian qualities.

It can be said that this author researches the mechanism of the interaction between family, society and church in the field of child’s morality formation. She also emphasizes a positive influence of the religious factor on the moral formation of personality. However, these mechanisms deal only with the organization of pedagogical work of Sunday schools, as educational establishments, which function only in the limits of parish activities.

5. Discussion

The matter of dispute, concerning the mechanism of the interaction between the educational establishments, church, and society in the field of moral education of students, is partially represented in recent researches (Kolyada 2004, Mishchishin 1998, Nikitskaya 2012, Stepanenko 2002, Zhukovsky and Moskalyova 2013).

At present day the process of moral education of young people is a complex and controversial one, as there exists an urgent need for educational ideals and values (Stepanenko 2002, Kolyada 2004). Education has become a trivial one, as the emphasis is put on its technical side, but not on ethical aspects, as a result, the moral and spiritual alienation among people take place. Nowadays, the political, social, cultural status is more important than a moral transformation, moral or aesthetic development (Purpel and McLaurin 2004). It should be noted that the formation of personality and its moral qualities is influenced by many factors, and religion stands for one of the main ones (Mishchishin 1998, Nikitskaya 2012). Despite the fact that nowadays the church is separated from the state, it is not separated from the society. However, there are no effective mechanisms of cooperation between representatives of church, schools and society (Zhukovsky and Moskalyova 2013). The research of spiritual traditions in the historical or contemporary context is realized in the fact that a person feels the relationship between the generations, which forms the moral principles, being the main pedagogical goal of education (K. Erriker and J. Erriker 2012). There exists a need to understand the basics of traditional folk culture, a millennial experience of cultural space’s exploration, mechanisms of its transfer to future generations, the revival of the national character.

6. Conclusions

Nowadays, while solving the mentioned above problems, there exists a need for close cooperation and the development of the effective mechanisms of interaction between religious organizations, educational system, and representatives of the society. As a result, there is a need to fill comprehensive
knowledge with a spiritual and moral context. Close cooperation between schools and churches, as important educational establishments, enhances the moral component in the school system. Giving knowledge on the religious culture plays an important role not only in expanding the educational horizons of the children and young people, but also will contribute to the formation of a worthy personality, ready for intercultural and interconfessional dialogue.

References

7. The highest approved Rules of parochial schools: the highest report of Chief Prosecutor of the Holy Synod on June 13, 1884 № 2318 (1884)
The problems in pre-profile training of secondary school students in Ukrainian teachers' innovational activities during totalitarian lawlessness

Ludmyla Moskalyova*, Yuri Shevchenko, Oksana Kirilina

Mellitopol state pedagogical University named after Bohdan Khmelnytsky,  Mellitopol, Ukraine

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ABSTRACT

The manuscript deals with the problems of pre-profile education at the beginning of the Soviet Union. It shows the system of education in labor schools, their curriculum, subjects and the main principles of professional education. In the article it is considered the great experience of a scientist and a teacher S. Siropolko. Also it gives the main principles of pre-profile education in Ukraine during 1920-1940 and uncovers the shortage of the system of students' preparation. Based on the archive materials and scientific works the article shows that nowadays it is impossible to involve school to political and economical affairs not taking into account the traditions of Ukrainian people. Since curricula and textbooks are becoming distorted students cannot apprehend the sense of given information for their personal development and future vital functioning.

The authors make a conclusion that the process of pre-profile education of secondary school students should be based on educational principles and be directed to students’ educational achievements, their harmonious development and be adapted to their individual capabilities and skills. The following conclusions about the system of pre-profile education are widely discovered.

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* Corresponding author at: Mellitopol State Pedagogical University named after Bohdan Khmelnytsky, 20, Lenina Street, Mellitopol, Zaporizhzhia region, 72312, Ukraine
Tel: +38 0619 440464; fax: +38 0619 440360
E-mail address: moskaleva_lu@bk.ru (L. Moskalyova), rectorat@mdpu.org.ua
1. Introduction

Today the interest to the historical and pedagogical issues in academic and teaching community greatly increased due to several reasons. These are the discovery of the confidential archival data, emancipation of the scientists' opinions, review and new interpretation of the traditional problems of the modern school, opening possibilities for unbiased coverage of historical and educational facts, events, phenomena, for ideological reasons, which weren’t be able to be the subject of research in the Soviet times. Modern educators understand that a comprehensive understanding of emerging issues related to the choice of the profile of further education school students (pre-profile training) is necessary to understand the progressive ideas of the past in today's terms, as these issues are brought to the teaching of science and the practice of the early schools’ opening. The history of education in recent years is rather innovative, since it has been creating a solid foundation for the educational theory’s development, the formation of pedagogical thinking of future generations. Since changing, the goals of the historical-educational science, as well as the needed forbidden or forgotten investigations are more accessible, then we can establish the scientists and educators and practitioners’ great steps to more understanding the overall picture of the issue of pre-profile training of the school students to historical and pedagogical process.

2. Objectives

Systematization, analysis and synthesis of innovative activity of Ukrainian teachers as S. Siropolko and V. Durdukivsky, whose work in the Soviet era were banned.

3. Methods

For the investigation we used a set of general and specific methods such as retrospective analysis and systematization of archival sources, educational literature on pre-profile training in the educational practices of Ukrainian people, summarizing the scientific literature on the choice of profile education secondary school students, induction, deduction, synthesis, comparison and confrontation of ideas, concepts, pedagogical theories and so on.

4. Results

The works of Stephan Anisimovich Siropolko (1872-1959) during the totalitarian tyranny were not known in Ukraine, and that is why they were not included into the academic circulation, are currently of
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major interest, in particular, interesting challenges of his ideas concerning organizational and pedagogical conditions for the development of students according to their future professional interests. For example, in the work “Education in the Soviet Ukraine”, which was published in Warsaw (1934), it was considered the official materials that provided the most important information about the school system after the revolution in 1917. Also, the famous scientist admitted that the Ukrainian government that arose from the 10th day of June 1917 on the basis of the first universal of Ukrainian Central Rada immediately started to develop a unified school, as they planned a new system of school education in Ukraine. S. Siropolko referred to the key documents, which were dealing with the school system, that was “The Unified Labor School”, which was adopted in September 12, 1918 the All-Russian Central Executive Committee (Shapoval 2001), “Advisor Social Education” (1921), “Temporary regulations on child care social education in the USSR” (1922) (Siropolko 2001). As the main goal of social education of the children was the collection, protection and security (it was approximately about a million homeless children or semi-orphans in Ukraine), but the same character of organization of education was different than in the Soviet educational system. The social school education in the educational system was a scheme, where, according to the project of G. Grinko, the labor seven-year school was divided into two grades: the 1st four-year grade is from 8 to 12 years and the 2nd three-year grade is from 12 to 15 years (Siropolko 2001).

Considering the topic of our research we will focus on the main ideas and positions that were formulated by S. Siropolko according to the second three years grade of seven years labor school (students’ age is 12-15 years old). The famous scientist traced out that the main school system had been supplemented variously all the time because of the appearance of the new types of schools such as worker-peasant education (workers’ faculties, factory schools, peasant youth schools, etc.).

Also the scientist proved that since 1920 it was a discussion for the organization of the labor school in Ukraine. Thus, representatives of the USSR People’s Commissariat of Education claimed that there could not be any labor in common, so there could be only the specific one, that is why it was necessary to build a school career not on the basis of secondary but vocational schools. With the help of statistics, S. Siropolko showed that in schools of that time there were different problems. In particular, he pointed out that the seven grade school urban children were much more privileged, rather than those who lived in rural areas, more than a third seven-grade school students of urban schools were the children of employees and members of the so-called free professions, not the worker-peasant class, parents who at the time belonged to the “bourgeois” and “kulaks” groups, had to forge documents just to obtain a place for their children in school, which was officially declared compulsory and free of charge, but the fee was still for 122,598 students (statistics for 1928).

After a day of NEP (reconstructive day), the People’s Commissariat of Education moved differentiation seven-grade schools. School students in cities began to acquire an industrial skills, and in rural areas – agricultural ones. Reorganization of the seven-grade schools to the factory seven grade schools, and then, to the factory ten grade schools, according to S. Siropolko, in 1929 took the character of “shock”
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task (Siropolko 2001). Also the scientist mentioned about another type of labor school – the school of peasant youth. But they are not part of the review of the subject of our investigation, because these schools were aimed to educate peasant youth from 15 to 18 years old.

S. Siropolko sharply criticized so-called “complex method” when instead of real subjects the People’s Commissariat of Education proclaimed only a set of concrete objects and phenomena linked organically to meet the needs of life study of the topic. Under this method, in which the population negatively reacted because the children could not digest and acquire formal knowledge, it was declared the other “the so-called method of projects”, which generally led to a decline in schools (Siropolko 2001). Also scientist criticized brigade-laboratory method when a separate theme is learned by a number of students (5-10 people), leading to distortions in the form of depersonalization in the classroom, to reduce the role of the teacher and student neglecting.

S. Siropolko also highlighted the following problems:

1) involving schools in political and economic affairs without traditions of the Ukrainian people through distorted curricula and textbooks revolutionary proletarian and communist internationalist spirit and their adaptation to the plan of collectivization of agriculture;

2) lack of quality education in many schools, which caused great dissatisfaction of the workers and peasants;

3) hesitation in the meaning between professionalism and polytechnic, the lack of a clear definition of the term “polytechnics”;

4) production in schools and enterprises were not adapted to the characteristics of the local region;

5) lack of equipment in school workshops, which is why the idea of the school polytechnics came to applications, sewing, weaving, which was made with the same samples and of course that situation didn’t allow to develop schools;

6) “polytechnics” came to acquainting children with the practical skills, and most of the studying had been instructed just using the words “without any demonstration or exercise, being the same verbal school, as the pre-revolutionary one” (Shapoval 2001);

7) organization of the separate housing for students in the barracks from their families, deepening military and defense work in schools, involving children from 10 to 15 years of communist children’s movement (“komdyt ruh” – command children movement), etc.

In addition to these imperfections related to organizational and pedagogical conditions of the students of the labor schools, we can add S. Siropolko’s expressions of ill-treatment to students by the organizers of education, as they regarded these children, as the working force. Thus, the scientist quoted the facts that some schools even joined tobacco factories, breweries; practical training of students of some urban schools came to wipe locomotives with oakum, rural schools children had to prepare food for pigs, to bring slops from the camp kitchen, etc. (Siropolko 2001)

The new school curriculum for 1930/31 year for the second concern had such subjects as social studies, geography, Ukrainian language and literature, Russian language and literature, chemistry,
physics, science, mathematics, German, graphic chart, music education, physical education, social and political work, collective farming, work in the studio, working in agriculture. In addition to, the school children of the second group had to take part in such clubs as political, literary, natural scientific, dramatic, musical and vocal arts, cooperative, sports, and military. However, S. Siropolko concluded that the largest number of clubs at the time accounted more students in the dramatic and musical, sports and political clubs as that time the military clubs took the last place.

S. Siropolko supported the returning recognition of some subjects in the educational system in Ukraine, and also the value of formal and general knowledge, as well as introducing the idea of productive labor, which had a children’s tendency to this or that profession. But, as he pointed out these changes had the contradictions with the principle of polytechnic in schools “polytechnics must run through all the sciences, it has to influence the choice of materials in such subjects as physics, chemistry, natural sciences and social sciences” (Siropolko 2001). Polytechnic school, in the opinion of S. Siropolko, had to rebuild the educational process, as one of the key points raising the production surroundings such as factories plants and collective farms. But the process which had to start as an organic link of schools with life and reality, had, as we have seen, lots of the shortcomings listed above.

The director of the first Ukrainian school in London, and later-labor school named after Taras Shevchenko, a famous Ukrainian scientist Vladimir Fedorovich Durdukivsky (1874-1937) emphasized that his school was the first Ukrainian institution that provided secondary education. It had selected teaching staff, which instilled the value of education principles, including history, culture, art and traditions of the Ukrainian people, ideology, labor, collective orientation, were subordinated to the main problem of youth – its fulfillment. New rules for the time activities and educational technologies were innovative. They include children self-government, science club with dozens of clubs, children cooperative (school as self-financing institution), children rooms, children art museum, etc. Teaching pupils, their research work were based on the following methods of the educational process as complex, laboratory, brigade (chainable) project methods. The main ideas implemented in V. Durdukivsky’s school represented a significant saturation of national, ideologically shaping the process of learning content itself, education of all the skills and abilities of students (social, physical, intellectual, aesthetic, etc.), formation of a new content and methods of work in school, its approach to the outside life, development of the initiatives, activities and creativity of children through their involvement in universal ideals. School had humanitarian incline, the organization of physical education and music was quite new, there was exemplary children’s choir.

Modern scientists who were engaged in the detailed investigation of the issues related to the name of the leader, pointed out that his work were under taboo until recent times (Danilenko and Kravchenko 2000, Suhomlynska 2005). Thus, O. Suhomlynska pointed out that after 1937 in pedagogical manuscripts an outstanding teacher had never been mentioned even in the negative context (Suhomlynska 2005). Consequently, his organizational and teaching activities were not supported by the Bolsheviks, but only
aggression. This aggression resulted in his involvement in the trial of the “Union for the Liberation of Ukraine”.

Thus, according to contemporary historian U. Shapoval, who worked with archival documents, which aren’t available to the public, aggressive behavior was dictated by Stalin’s Kremlin strategic position not only in Ukraine but also to a great extent by the resistance to the Communist regime, which in different ways was demonstrated by Ukrainians, not only physical but also mental potential, which at any moment could be used (and frequently used) against Moscow’s political, economic and spiritual dictates (Shapoval 2001). For participating in the trial, which intention was to caution the interpretation of Ukrainian intellectuals “Ukrainianization” as “increasing autonomy from Moscow” there were selected 45 people. From archival documents it is known that the dock were a former chairman of the Socialist-Federalist member of the Presidium UAS (Ukrainian Academy of Sciences) Sergiy Efremov, Kiyvan professor Vsevolod Gantsov, the former Prime Minister of UNR (Ukrainian National Republic) Andriy Nikovsky, the former Prime Minister of Directory of UNR Vladimir Chekhivsky and his brother priest Nicholas Chekhivsky, a writer Lyudmila Starytska-Chernjakhivska and the director of the labor school #1 Vladimir Durdukivsky. As V. Durdukivsky came from the family of priest, his sentence was significantly degraded as a person who was considered “socially uncertain” (Scientific and Documentary magazine 2005).

Thus, V. Durdukivsky opposed school work by transient political slogans on labor school, and defended the idea of immutable principles of teaching, increasing the success of educational work of students, their harmonious development, effort and ability.

5. Discussion

Modern scholars differ in opinion interpretation of the term “pre-profile training” that affects most content and the learning process of students in high school. This term is considered as a system of specific activities that help students to choose subjects for further studying and profession (Kravtsov 2007, Krivich and Bukin 2008, Pushkina 2009). Other authors, such as R. Hera (Gera 2008), considering the pre-profile training as a process carried out under professional socialization, while E. Vyazemsky – how to prepare a comprehensive selection of education (Vyazemsky 2007). We provide a definition of pre-profile training as a process that aims at the formation of values and personal qualities of specific competences of students in the second stage, the development of a strategic vision for the future of life from the beginning of differentiation of their interests, aptitudes and personal opportunities. This process is included in the system of specific activities of the older generation and is aimed at a conscious choice to future generations the profile of training and qualifications that are needed for all areas of society.
6. Conclusions

The issue of pre-profile training of students in the heritage of S. Siropolko and V. Durdukivsky are currently in significant interest. Updating their heritage in this area allows us to get to the following conclusions:

- school involvement in political and economic affairs without traditions of the Ukrainian people is unacceptable because curricula and textbooks become distortive, and the students can catch the different sense of knowledge for their personal development and future life, the development of society, etc.;
- lack of technical support for pre-profile training of students leads to a purely theoretical style of teaching in the school (verbal school), because of lack of the new tools that could greatly enliven the learning process and generate interest to working professions;
- the process of preparing pre-profile high school students should be based on educational principles and aims to improve educational achievement of students, their harmonious development, leading to their individual capabilities, skills, giving the prospects of regional and national development.

References

Influence of the ideas of Kyiv-Mohyla academy’s leaders on spiritual and moral education in the process of christian ethics teachers’ training

Irina Yakovenko *

Melitopol State Pedagogical University named after Bohdan Khmelnitskiy, Melitopol, Ukraine

ABSTRACT

The article deals with a problem of a human being's spiritual and moral education on the example of the pedagogical heritage of Kyiv-Mohyla Academy's prominent personalities. The author emphasizes a need to introduce a special course "Christian Ethics in Pedagogical Heritage of Kyiv-Mohyla Academy's Leaders" for the students, specializing in Social Pedagogy with additional qualification of Christian ethics teacher. The problematic and thematic field of the suggested special course was formed according to the perspective direction of Christian ethics, that combines the spiritual values of Christian culture, religious ethos, religious imperative and believer’s ideals. The author offers the following perspectives for further research: the analysis of the impact of Kyiv-Mohyla Academy’s religious and secular leaders on the ideological and theoretical foundations of spiritual and moral education of the personality, the research of the role of human being’s Christian and moral development with the aim to improve the relations in the society.

1. Introduction

The revival of the Ukrainian nation at the present stage of its development is characterized by a tendency to realize the importance of revaluation of previous generations’ gains, to study Ukrainian

* Corresponding author at: Melitopol State Pedagogical University named after Bohdan Khmelnitskiy, 20, Lenina Street, Melitopol, Zaporizhzhia region, 72312, Ukraine
Tel: +38 0619 440464; fax: +38 0619 440360
E-mail address: sirees@mail.ru (I. Yakovenko), rectorat@mdpu.org.ua

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people’s historical experience, sources of spiritual culture and religion. Without delaying the solution of this problem, the government makes decisive steps to improve morality in society. It has to be said that according to National Strategy of Education’s Development in Ukraine for 2012-2021, the spirituality is considered the base for the educational system’s reformation. The document runs: “Implementation of National Strategy will guarantee the improvement of education’s quality, its innovative development in accordance with the international standards, which will significantly increase the intellectual, cultural, spiritual and moral potential of both personality and society” (National Strategy of Education’s Development in Ukraine 2011). The state realizes the importance of the favorable spiritual and moral environment’s formation in order to establish and develop a personality at present stage. This fact is reflected in the following regulatory documents: Decrees of President of Ukraine “On urgent additional measures to strengthen morality in society and to promote healthy lifestyles” (On urgent additional measures 2002), “On urgent measures to enrich and develop the culture and spirituality of the Ukrainian society (with the changes, initiated by Presidential Decree № 160/2006 (160/2006) of 28.02.2006)” (On urgent measures 2005).

2. Objectives

The article is aimed at the solution of the following tasks:
- to analyze the pedagogical heritage of Kyiv-Mohyla Academy’s prominent personalities in order to identify the foundations of Christian ethics;
- theoretically reconstruct educational heritage of Kyiv-Mohyla Academy’s leaders, which includes the principles and foundations of Christian ethics.

3. Methods

The main methods of the mentioned above scientific problems’ research include specifically historical method, method of theoretical (historical) reconstruction, analytical and deductive methods, and others.

4. Results

The problem of spiritual and moral education was of current interest throughout the history of the humanity, and nowadays its solution stands for a guaranty of the stability and harmonious development of the society. According to O. Kanarova modern parents pay much attention to the spiritual and moral aspect of their child’s education. The researcher proves that the main qualities that need to be formed in a child are: honesty, truthfulness, love, respect. O. Kanarova emphasizes that education of a child has to
be carried out on the basis of the traditional values, on which our country was based for a long time (Kanarova 2012). The same opinion is expressed by V. Zhukovsky and L. Moskalyova in their text-book "Theory and methodology of teaching subjects of spiritual and moral direction". The researchers point out to the need to look for a new educational ideal of a personality, guided by Christian and moral virtues (Zhukovsky and Moskalyova 2013). This reorientation of views, concerning the changes in the educational process, is justified. This fact is proved by an increase of researches, devoted to the solution of the given problem: "The spiritual education of younger adolescents by means of Christian Ethics" (Sannikova 2007), "The spiritual values of Christian Anthropology of the 20th century" (Yakovenko 2007), "Christian ethics in the context of traditional moral culture" (Tsymbal 2008), "The ideas of Christian humanism in Ukrainian religious philosophy of the first half of the 20th century" (Lishchinska-Mylyan 2001), "The development of the theory and practice of the education of the children, based on the orthodox morality in the history of education of Ukraine" (Tkhorzhevskva 2006), "Educational values in pedagogical heritage of the members of Academy of Priests (the end of the18th - early 19th cent.)" (Skorobahatska 2006), and others.

The changes that have taken place in the minds and beliefs of the state authorities, concerning the necessity of studying subjects of spiritual and moral direction, such as "Christian ethics", are also of great importance. The following orders of the Department of Education and Science of Kyiv Municipal State Administration as "On the implementation of Christian Ethics project in Ukrainian culture" (On the implementation of the project 2006), "On the organization of the pedagogical experiment of teaching the course "Christian Ethics" for the 1st grade students, serve as a proof of all mentioned above factors" (On the organization of the pedagogical experiment 2006). The introduction of all-Ukrainian student contest of young social scientists "Crystal Owl" is also a necessary and important step in the development of the students' spiritual and moral education. Apart from the importance of social subjects study, the aim of this contest also includes a need to improve students' knowledge on Christian Ethics (All-Ukrainian student contest 2012). It has to be said that despite significant advances in the personality's spiritual and moral education, this problem remains to be vital and unsolved. The society faces a need to circle out from the chaotic current of the educational achievements of the past the very ideas, that help the personality to become fully developed. The ideas of Kyiv-Mohyla Academy's prominent figures (17th-18th cent.) have to be included in the mentioned above range of spiritual and moral features of the personality's development. At this exact period the secular culture was being formed and the gradual shift from the theology to scientific knowledge of ethical guidelines took place. In individual's mind only the Christian moral virtues, necessary for the harmonious existence in the society, are fished out of the theological knowledge base. The regulatory acts of our country, including "Constitution of Ukraine" (Constitution of Ukraine 1996) and "Law of Ukraine on Freedom of Conscience and Religious Organizations" (Law of Ukraine on Freedom of Conscience 1991) prove mentioned above facts. These legal documents show
the orientation of the personality for a secular perception of the world with Christian ethical orientation in the educational process, characteristic for the Ukrainian society.

In order to update the experience and ideas of the spiritual and moral education of Kyiv-Mohyla Academy’s leaders we have developed a special course “Christian Ethics in the educational heritage of Kyiv-Mohyla Academy”. The course is based on standard of higher education, developed in Melitopol State Bogdan Khmelnitsky Pedagogical University. It includes Educational qualification characteristics, Bachelor’s educational and vocational training program with a variable component of “Christian ethics”. This program was made up for the students, specializing in Social Pedagogy with additional qualification of Christian ethics teacher. In 2013 the Standard was developed and correspondently legislated by a team of authors (L. Moskalyova, I. Ryabko, D. Vasyanovych, V. Molodychenko, T. Troitskaya, G. Shevchenko). The main content line of mentioned above special course is aimed at the improvement of the quality of Christian ethics teachers’ training, at the increase of their level of professional competence in the personality’s spiritual and moral development by means of using the guiding ideas of Kyiv-Mohyla Academy’s leaders (17th-18th cent.). It is two-credit ECTS special course (72 hours), which is delivered in the following way: 30 hours of classroom work (16 hours of lectures, 14 hours of seminars) and 42 hours of the students’ independent work. Special course is designed for the 3rd year students, future teachers of Christian ethics. Special course “Christian Ethics in the educational heritage of Kyiv-Mohyla Academy” is divided into two content modules, which are aimed at the formation of the following competencies:

- general academic competence, which includes knowledge of Christian ethics, understanding of cause-effect relationships of the personality’s spiritual and moral development in the society’s social environment and the ability to use them in the professional, social and educational activities);
- the knowledge of fundamental sections of Christian pedagogy, biblical history, the history of Ukrainian Christian culture in the amount, which is enough for mastering the methodological apparatus while teaching Christian ethics and courses of spiritual and moral direction, the ability to educate a personality);
- instrumental competence (an ability for effective communication, mastering written and oral state and native languages, ability to read and understand a variety of moral and ethical texts, understanding the strategies and goals of ethical texts in education and training);
- moral and ethical competencies (a skill and ability to distinguish elitarny and mass culture, to emphasize their peculiarities, emotional excitement of moral feelings);
- special and professional competencies (knowledge of Christian symbolism, of different types of ethical texts in Christian literature (sermons, tales, stories, parables, etc.), sacred music, iconography and architecture, awareness of their main function in the work with children and youth) (Standard).
Thus, considering the first section of the course "Christian ethics in human life", it is important to look up the definition of such concepts as "ethics", "religious ethics", "Christian ethics" both in modern pedagogical and philosophical dictionaries, and in the works of prominent Ukrainian and foreign researchers (G. Abdygalieva, X. Vegas, J. Daurma, L. Moskalyova, V. Ogirko, I. Prekup, T. Rayan, N. Rotchenkova, D. Hollinger, and others). The similarities and significant differences between these terms should also be noted. It is important to point out that in human life the ethics stands for an actual expression of moral principles, norms and rules of the behavior in the society. Religious ethics interprets the same standards of moral behavior, but through the prism of religion (serves as a theoretical understanding of the person’s relation to God), Christian ethics includes Christian morality, religious ethos, religious imperative and the believer’s ideals. The categories of Christian ethics should also be examined in detail: content, purpose, conditions of its existence, functions and final result the person is oriented at.

In the next section of the course "Prerequisites of the formation of Christian ethics leading ideas in the minds of Kyiv-Mohyla Academy’s leaders (17th-18th cent.)" the attention should be paid to the historical stages of Christian ethics’ formation: since the Christianization of Kievan Rus till the formation of the fraternal movement in Ukraine. The students can be acquainted with the following table, which represents the main stages of the creation and development of Christian ethics in the historical and pedagogical process of Ukraine. They became the base of the philosophical and educational thoughts of Kyiv Mohyla Academy’s leaders.

<table>
<thead>
<tr>
<th>Epoch</th>
<th>Main ideas of Christian ethics</th>
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<tbody>
<tr>
<td>9-13th centuries (Kievan Rus)</td>
<td>This period is characterized by a growth and development of Christian ideas, combined with pagan beliefs. The ideas of nationalism, patriotism, as well as the spread of the idea that the achievement of the Christian ideal depends of the mind, take place. The person is viewed in two aspects: spiritual and corporal ones.</td>
</tr>
<tr>
<td>13th-14th centuries (Ukraine's accession to the Grand Duchy of Lithuania)</td>
<td>This period is known as a time of stagnation of ideas in Ukrainian Christian ethics (the distribution and republication of the Byzantine works of the last period).</td>
</tr>
<tr>
<td>The second half of the 15th-16th centuries (the emergence of the independent political groups of Cossacks, the appearance of fraternities)</td>
<td>The ideas of reformation and humanism penetrate into Christian development; the secular knowledge is spread, tolerance becomes more evident in matters of faith and nation; there appear the ideas of natural rights, of freedom of conscience and religion. The role of science in human life is fully supported; the idea of statement of God as a primary source of the world, Its neutrality to the present is spread out.</td>
</tr>
</tbody>
</table>
From 80ies of the 16th century (the activity of Ostrog Academy) till 1632 (the establishment of Kyiv Mohyla Academy) This period is characterized by the fact that the nation sticks to the traditions of Kievan Rus, by the desire for closure of Ukrainian cultural space for the protection of Ukrainian culture from foreign influences. The desire to spread awareness among the population, resulting in moral improvement of the society, takes place. The human soul is recognized as a supreme value.

It should be also noted that in the 16th century due to the activity of Ostrog Slavic-Greek-Latin School and fraternity movement, Ukrainian society became ready to create a new ideal of a person. It has to be explained to the students that the idea of indissoluble combination of earthly and heavenly parts in a person was established on the base of Christian humanism, which recognized a person as the most perfect creation of God. Apart from the medieval person, who longed for the improvement of his own spiritual sphere, being frightened by God's punishment, the new Renaissance person took the same care of both spiritual and earthly parts of his life. During this period the interest not only to the spiritual, but also to the earthly life increased. Renaissance person believed that the mind, given by God, had to be developed. In the sphere of culture there was an increase of interest to the ancient spiritual heritage in combination with the advanced achievements of Ukrainian spirituality, traditions and faith.

While studying the section "Kyiv-Mohyla Academy as a Fortress of Ukrainian Education and Spirituality", the students need to focus on three eras in the historical life of the Academy, identified by Archpriest Fedor Titov. The students should also be shown the main object of this period’s research – a person of two worlds (earthy and heavenly). While carrying out a detailed analysis of the creative works of Kyiv-Mohyla Academy’s Professors, it is necessary to emphasize that there are two main areas of pedagogical thought: educational and ethical-anthropological.

Section 4 "I. Gizel as a representative of ethical-anthropological research in Kyiv-Mohyla Academy" acquaints the students with thinker’s tractate "Peace with God to a man". It is considered as a source of renewal of Christian ethical views on the human mind’s importance (its hevenly aspect) in individual and social life, and the natural human desire for kindness, spiritual and moral education. It is advisable to give students author’s interpretation of the concepts of "freedom", "sin", "grace" on the example of Ivan Gizel’s "Peace with God to a man". The students should pay attention to the main purpose and reason of writing this piece. The innovative style of the author in "Peace with God to a man" should also be emphasized.

While lecturing, it is advisable to give the quotes from the work of I. Gizel, concerning the importance of proper formation of the relationships in social and family life. It should be said that according to I. Gizel, earthly world is considered a sinful one and the main purpose of a human being is to struggle with the existing vices. A free will of a person stands for a specific weapon in this fighting, which directs him to good deeds, intelligence, education and development. To make the strategy of the ethical text "Peace with God to a man" more understandable, to feel its educational and ethical goals, to improve speaking
Influence of the ideas of Kyiv-Mohyla academy's leaders on spiritual and moral education in the process of Christian ethics teachers' training

skills and the ability to properly understand the meaning of what is being read, we offer to organize seminars in the form of discussion.

The following section "Dmitry Tuptalo as a carrier of Christian-ethical views on personality's education" is devoted to the characteristics of the personality of Metropolitan Rostovskiy, given by A. Videneeva and M. Grudtsyna. The researchers emphasize the life credo and the ideal of the education of the thinker's personality. In order to properly understand the positions and views of Dmitry Tuptalo, the attention of the students should be paid to "Daily Notes (Diarush)", written by this author. While analyzing the work "Spiritual Treatment", it is worth focusing on its humanistic orientation. It should be emphasized that D. Tuptalo in his "Spiritual Treatment" pays considerable attention to the understanding of human behavior, and offers to heal sins, that have been made. Analyzing the essay "Spiritual Alphabet", we think that it is important to acquaint the students with the opinion of Y. Iustin on the ethical value of the literary piece. In the author's opinion the practical application of Christian ethical virtues in everyday life should take place.

The following section of the course "Educational system of Simeon Polotsky" provides the students with key criteria of Christian and moral education of a person, on the example of the best creative works by Kyiv-Mohyla Academy's leaders. While lecturing, it is reasonable to define the meanings of such notions as "sermon", "preaching" in order to provide the students with a deeper understanding of ethical texts in Christian literature. Analyzing the compilation of sermons by S. Polotsky, such as "Soulful Dinner" and "Soulful Lunch", it is important to note that these works represent the main fundamentals of philosopher's educational system. In order to give more detailed analysis of Simeon Polotsky's works on Christian-ethical improvement of the personality, it is vital to provide the students with the characteristics of the educational, spiritual and moral state of the society of that historical period.

Section 6 under the title "Stefan Yavorsky, Mikhailo Kozachynsky, and Grigory Konitsky as fighters for the Christian and moral virtues' establishment in the society" deals with the review of the main works of these authors. The attention of students should be paid to the explanation of the historical and political premises that made S. Yavorsky write "Rock of Faith", the work of religious and ethical orientation. It should be also noted that work of M. Kozachynsky "Image of This World' Passions" and literary piece of G. Konitsky "Resurrection of the Dead" are characterized by the similar motives of the Christian-ethical virtues' introduction in person's everyday life. It has to be emphasized that the main content of M. Kozachynsky's and G. Konitsky's dramas is aimed at the description of the spiritual world and the relationships of various population groups in the person's individual and social life.

Section 7 "Ethics in the lecture courses of Kyiv-Mohyla Academy's leaders" provides review of ethical courses of Feofan Prokopovich, Stefan Kalinovsky, Silvester Kulebyako, Mikhailo Kozachynsky, Grigory Konitsky. The students' attention should be paid to the fact that at the beginning of the 18th century the interest to ethics courses teaching increased, despite the fact that they were not compulsory philosophical courses in Kyiv-Mohyla Academy. Characterizing the ethics courses, it is important to note that while
making up their philosophical ethics courses, S. Kalinovsky, M. Kozachynsky, and G. Konitsky gave the ethics second position after the logic. It has to be mentioned that ethics in the lecture courses of Kyiv-Mohyla Academy’s leaders contained both a theoretical and practical part. Theoretical part shows the place that a person occupies in the world, raises the questions, concerning the meaning of life, the importance of free will and responsibility for one’s own actions. The practical part deals with the possible ways to achieve happiness in earthy life. It is important to emphasize that the content of the ethics courses of Kyiv-Mohyla Academy’s leaders became the base of a certain educational system of Christian-ethical education of a personality. In order to develop the ability to read and understand a variety of texts of moral and ethical themes, to understand the strategy of ethical texts, their aims and educational significance, we offer to organize seminars in the form of discussion.

The lecture 8 “Grigory Skovoroda as the brightest representative of the ethical and anthropological scientists of Kyiv-Mohyla Academy” is devoted to the philosopher’s piece of work "Catechism or the primary doors to the Christian virtues". It is reasonable to distinguish the main purpose of the literary work – a need to realize a true purpose of a human being’s life. A brief description of the concept of the world’s perception by means of heart in G. Skovoroda’s doctrine of self-knowledge, should be given. To present a more detailed explanation of the scientist’s basic philosophical concept, the analysis of the 81st and 94th letters of the philosopher, which show fundamental thoughts of G. Skovoroda on the meaning of soul and heart in human’s life, has to be done.

5. Conclusions

While analyzing the pedagogical heritage of Kyiv-Mohyla Academy’s prominent personalities, the key ideas of Christian ethics of the 17th-18th centuries, which are relevant to modern society, have been circled out. The problematic and thematic field of the suggested special course was formed according to the perspective direction of Christian ethics, that combines the spiritual values of Christian culture, religious ethos, religious imperative and believer’s ideals. The given research does not explain all aspects of the problem and doesn’t claim to give a comprehensive solution of the problem of Christian-ethical pedagogical system of Kyiv-Mohyla Academy’s prominent personalities. The author offers the following perspectives for further research: the analysis of the impact of Kyiv-Mohyla Academy’s religious and secular leaders on the ideological and theoretical foundations of spiritual and moral education of the personality, the research of the role of human being’s Christian and moral development with the aim to improve the relations in the society.
References


The role of political institutions in national economic security building

Liudmyla Iefimenko *

Zaporizhzhya Institute of Economics and Information Technologies Melitopol Independent Branch, Melitopol, Ukraine

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ABSTRACT

In the article the essence of economic security is specified, the role of political institutions in the process of state economic security development and implementation is determined. The role of a state in the process of economic security building is of a great significance under the terms of market economy. The market relationship building, the ownership pattern change, the methods of public administration, the openness of national and regional economies define the necessity of economy sustainable development ensuring and permanent monitoring over social-economic processes. Economic security characterizes the state of national economy which provides protection of national interests as well as interests of both certain citizens of a country and the society in whole. A state plays the most important role in building and changing of institutional economy structure of any country. The comprehension of constitutional state democracy is possible via relatively (and absolute) conflict agreement "principal-agent" among electorate and their managers (representatives). Transferring from the conventional vertical public administration scheme it is necessary to ensure vertical inter-functional relations at Ukraine’s economic security building.

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1. Introduction

It is impossible to form economic processes without an active participation of such political institution as a state. Involving a great number of participants and different kinds of activity at all the levels of a...
national economy, a state policy affect directly the level of business activity and the national activity scale. Finally, it defines an opportunity of its dynamic and balanced development ensuring economic security of a national economy. The need in protection against not desired external influences and overall internal changes, in other words, the need in security is a basic need for a certain person and different unions of people including a society and a state. The role of a state in the process of economic security building is of a great significance under the terms of market economy (Golovinov O., 2007). The characteristics of market economy are a distributive type of the property transformation, the change of socio-economic process management forms and subjects, the rise of interest conflict of socio-political groups etc. The problem availability in the sphere of the national economic security ensuring causes the necessity of scientific studies, first of all, on the role of a state in this process.

2. Analysis of recent research

The problems of economic security as a priority of the national policy were investigated in numerous theoretical researches and summaries of the native scholars, in particular Baranovskiy A., Boyko V., Heyets V., Hoychuk O., Hubskiy B., Varnaliy Z., Zhaililo Ya., Korets’kiy M., Muntiyan V., Paskhaver V., Pakhomov Yu., Sabluk P., Skydan O., Shlemko V., Yaremko L. and others. However, some aspects of the national strategy of economic security ensuring need to be further investigated.

Statement of research objectives
- to specify the essence of economic security;
- define the role of political institutions in the national security development and implementation process.

3. Results

The market relationship building, the ownership pattern change, the methods of public administration, the openness of national and regional economies define the necessity of economy sustainable development ensuring and permanent monitoring over social-economic processes. Many scholars consider that the basis of national security ensuring is a purposeful activity of a state on making the necessary conditions for encouraging the competitive advantage of national economy leading branches in external markets during strategically long period at the expense of the permanent forward development of economic activity preferred directions.

The notion “economic security” is part of the national security with ecological, defense, intellectual, information, demographic, psychological security and other. The complex of national
interests is implemented by all components of national security; at the same time each component has its specifics depending on solved tasks and used means and methods for this purpose (Kovalchuk T., Varnały Z., Feschenko V., 2001).

Economic security characterizes the state of national economy which provides protection of national interests as well as interests of both certain citizens of a country and the society in whole. Economic security is directed to ensure proportional and continuous economic growth, inflation and unemployment decrease, formation of an efficient economy structure and a developed stock market, reduction of a budget deficit and national debt, social protection ensuring and life quality rise of a population and national currency stability keeping etc (Burdina O., 2006).

The start of economic security development in Ukraine is closely connected with an active work of National Security and Defense Council of Ukraine; within its frameworks the national strategy of economic security was formed and represented by Ukraine’s Law “On Ukraine’s National Security basics” №964-IV dated June 19, 2003. This council defined the most important measures for implementation of governmental documents’ expertise from the point of economic security. It also determines threshold values of economic security. Overstepping them a country is under a threat of political independence loss and it becomes economically and socially vulnerable (The Law of Ukraine "On Ukraine’s National Security basics", 2003). Unfortunately, it turns out that the majority of measures are not carried out; many governmental documents do not undergo the necessary expertise form the point of economic security. Despite the formed contours of economic security strategy the works in this sphere are insufficient.

A state plays the most important role in building and changing of institutional economy structure of any country. It can contribute to the efficient market institutions creating and, on the contrary, it can create an institutional structure which does not allow competition advantages to be developed due to a monopoly authority and other factors that lead to transaction costs. Everything depends on certain historical conditions and comparative efficiency under these conditions in some or other system of the economic coordination. Although namely a state is a necessary attribute of the progressive economic activity, the generated institutions might not encourage efficiency increase but prevent it.

The comprehension of constitutional state democracy is possible via relatively (and absolute) conflict agreement “principal-agent” among electorate and their managers (representatives). The principals are voters (citizens) who are true owners of supreme authority (sovereignty). They authorize some compatriots to govern sovereignty through a voting procedure. As a result they are agents who implement self-governing and the same time they are those who return a state the right to limit the personal liberty and also dictate principals what to do. This is absolutely different from private relations "principal-agent".

Theoretically, the same problem can be observed in transaction cost economics: there is an asymmetry of information before and after making an agreement. This situation is a result of opportunism a priori and a posteriori as specific investment of a voter assists some or other candidate. But this information is divided not only asymmetrically, it also most unlikely to define what will happen in the
future. Thus, decisions made by law-makers, government, and state administration bodies and judges can not be perfectly limited with rules. It leaves some freedom for non-obligatory actions of agents who principals (electorate) have to trust. Therefore, the problem of government power to inspire confidence is its duty in front of voters.

The other compulsory problem sphere is that political exchange is carried out among representatives of different groups of society interests. This exchange of voters or deputies is project general support of each other; the voting is by the principle “you vote for my project, I vote for yours”. Like at economic exchange it is necessary to build electorate confidence for the purpose of creating convenient institutional arrangement.

In both cases the relations “principal-agent” among electorate and politicians, from one part, and political exchange among interests of different groups, from the other part, are approaching to transaction cost application. But nowadays there is a limited rationality of legislators, imperfection of legal pressure and opportunism (rule-breaker).

Institutional arrangement affects greatly the capacity of agents to make political obligations confidential that allows a state to build economic security more efficiently. For example, clause 41 of Ukraine’s Constitution states: “Everyone has the right to own, use and dispose of his or her property, and the results of his or her intellectual and creative activity. The right of private property is acquired by the procedure determined by law. In order to satisfy their needs, citizens may use the objects of the right of state and communal property in accordance with the law. No one shall be unlawfully deprived of the right of property. The right of private property is inviolable. The expropriation of objects of the right of private property may be applied only as an exception for reasons of social necessity, on the grounds of and by the procedure established by law, and on the condition of advance and complete compensation of their value. The expropriation of such objects with subsequent complete compensation of their value is permitted only under conditions of martial law or a state of emergency. Confiscation of property may be applied only pursuant to a court decision, in the cases, in the extent and by the procedure established by law. The use of property shall not cause harm to the rights, freedoms and dignity of citizens, the interests of society, aggravate the ecological situation and the natural qualities of land” (Constitution of Ukraine, 2006). This acts to ensure security for private property owners against the government stealing.

4. Conclusions

Therefore, for economic security building the political institutions have to build, in the first place, the electorate confidence. Voters appoint responsible ones for their security building and transfer the parts of their liberty to a state. Due to this the role of a state in economic security ensuring is essentially increasing. The participation of a state is carried out through the above-mentioned functions of a state in the economic security sphere. It is possible to improve the quality and efficiency of their implementation.
by updating the corresponding normative legal documents and raising the level of specialist qualification in these kinds of activity.

The solution of the national development problems requires not only the state authority consolidation but building more confidence in its institutions as well as rationalization tools of decision making and economic policy building. At the same time, transferring from the conventional vertical public administration scheme it is necessary to ensure vertical inter-functional relations at Ukraine’s economic security building. Thereby, there is a further need in scientific investigations.

References


Valentyn Danylenko and Melitopol region: the first steps to the big science

Roman Klochko *
Melitopol museum of local history

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ABSTRACT

The scientist Valentyn Danylenko is the well-known person as both in Ukrainian and in the world archaeology. His monographs have been still important nowadays. But we know nothing about his activity in youth. This work highlights this period of his life and shows the relations between scientist and his native land in his further career. Valentyn Danylenko began his career in Melitopol museum of local history in 1932. Since that time he had been interested in archaeology and participated in many archaeological expeditions in Ukraine, researching many archaeological sites. After World War II he became a researcher at the Institute of Archaeology of the USSR, but he did not interrupt relations with his native land until his death, researching the Stone Grave – the most unique site of nature and archaeology in the world. Valentyn Danylenko made a great contribution to the study of Stone Grave and its emergence as a reserve.

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1. Introduction

The scientific legacy of Valentin Danilenko has been well-known to the public. His monograph devoted to the Neolithic and Eneolithic sites of Ukraine has remain relevant nowadays. However, the first Danilenko’s steps in the archaeological science and their influence on its follow-up has almost become uninvestigated.

The information about Melitopol period of his life is pretty short. There are a very few sources about it. By the 2013 we have only one his biography compiled by his son Miroslav V.Danilenko and presented at

* Corresponding author at: Melitopol museum of local history, 18 K.Marx str, Zaporizhzhia region, 72312, Ukraine.
Tel.: +380 6192 68284, +380 6192 68863
E-mail addresses: roman19_02@ukr.net (R. Klochko).
It expands our knowledge about his life before World War II, but contains a very few information about his scientific activity in Melitopol. Reference books contain even less information about him. For example, article in 2nd volume of the «Encyclopedia of History of Ukraine» have only laconical information such as his place of birth, years of study and work in Melitopol museum of local history (Yurenko, 2004). «Dictionary-reference book of archaeology» informs us only about his work in Institute of Archaeology (Gavrulyuk et al, 1996). Another problem is the aforementioned reference books have no reference to the source. The only reference to an article in one of the issues of the magazine «Soviet archaeology» is incorrect (Soviet archaeology, 1983).

2. Objectives

The purpose of this publication is to highlight the first steps of V.M.Danylenka in archeology while working in Melitopol museum of local history (hereinafter - MMLH) and its future relations with the homeland. Source base of study is based on the order book of MMLH, museum inventory card-file and mentions about research of V.M.Danylenko in Melitopol region in his books and scientific works by other authors.

3. The scientific activity of Valentyn Danylenko

His career began in MMLH November 10, 1932 as head of the Department of Polytechnic when he was 19 years old (The order book, 1941). Director of museum at that time was a local historian I.P.Kurylo-Krymchak, who was just over 10 years old than V. Danilenko. The founder of the institution, equally known local historian and archaeologist D.Ya.Serdyukov had also worked there as a secretary. Perhaps familiarity with such a man, though very short, contributed to his later becoming an archaeologist.

His first coming as a scientist did not stay long. For the next order at number 17 on December 16, 1932 you can find the information that he applied to be released from his duties as head of Polytechnic part (The order book, 1941). Is he retired from the museum at all - is unknown. The next mention about V.Danylenko is in order № 14 of December 5, 1933, indicating he was appointed "as assistant of the museum with the duties of guardian" since December 1, 1933 (The order book, 1941). However, he did not stay long here again. According to order № 1 on January 16, 1934 he was dismissed for "systematic absenteeism and inability to cope with his responsibilities"(The order book, 1941). It seems difficult to say how systematically he violated the labor discipline because other documents of the museum did not survive. As far as order book it shows a fairly strict style of I.Kurylo-Krymchak's management. It is full of orders of dismissal and disciplinary sanctions imposed by director.
After release of I. Kurylo-Krymchak in December 1934 as a "bourgeois nationalist" V. Danylenko reappeared in the museum. In January 1935 he was appointed to the post of head of the department of pre-capitalist formations with the salary of 200 rubles per month (The order book, 1941). This time he worked at the museum for much longer - up to June 1936. There is only one case of violation of labor discipline recorded to the order book. In March 1936 V. M. Danylenko was put on view for "frivolous relation to his responsibilities" and inventing "various experiments with flint and other museum exhibits" (The order book, 1941). Obviously, the administration of the museum simply did not understand the motives of his experiments - it is possible that V. Danylenko engaged those research areas, which are now called experimental archeology. On the whole, records in the order book testifies that new chief treated him with more respect: this shows at least that in May and August 1935 acting director M. I. Sobol, departing on a business trip, left him as a deputy (The order book, 1941).

Direct and indirect information about V. Danylenko’s activities at this time can be found both in his own book "Kam'yana Mohyla", the later reports of other authors and even in Melitopol press 30s. He says the following: "In 1932, this writer, then research worker of Melitopol museum of local history, found a short notice of inspection of Stone Grave by M. I. Veselovsky in the the Archaeological Commission report for 1893 and studying of this site became one of the areas of the museum. By the 1934 about ten places with traces of images and settlements to the east of Stone Grave had already known" (Danylenko, 1986). He led the fieldwork and elsewhere. At newspaper "Soviet steppe" in 1934 reported that on May 19 V. Danylenko on behalf of Local History Society at miskplan and Museum began excavations of the burial ground near the village Voznesenka (now Melitopol district). Burial was family. The previous study of skeletons gave evidence it made about 3,000 years ago (Kruglov, 1934). During 1934-1935 V. M. Danylenko held another excavation - at Novo Pylypyivka village Melitopol district, near the Stone Grave. There were collective burial places, located on the bank of the Molochnaya river. Apparently, it belonged to the Sarmatian time and contained three skeletons: men, women and children also. Funerary equipment included iron arrow heads, bronze bracelets with thick wire biconical bulges at the ends, heshyr, polishes, glass beads, small bronze mirror smooth, silvered bronze cruciform fibula, dagger, four earthen vessels, including zoomorphic jug with handle and linear patterns, quern and bits. These finds persisted in Melitopol museum and died during the German occupation. 1947, based on the information on these excavations provided Danilenko, the employee of the Institute of Archaeology of the Academy of Sciences of the Ukrainian SSR T. H. Obolduyeva conducted a study Sarmatian burial mounds near the Melitopol (Oboldueva, 1947).

Another researcher, B. D. Myhaylov reported about the finds of dilapidated Hun time burial at Kiziyarskiy ravine, researched in the early 1930s in one of his publications. There was found 20 large amber beads, a massive gold ring with cross shield decorated with inlays of agate and ruby, as well as fragments of brown molded receptacle, mixed with fireclay in batter, decorated by circular pockets on the rim. The remains of the vessel resembled a kitchen ceramics of late Zarubinetska culture. He also got information from V. Danylenko (B. D. Myhaylov, 2006).
Order book of MMLH also contains some information about the activities of young researcher. In May 1936 he twice went on a mission "for the study of the land." From 4 to 12th June he was at the conference "Industrial strength of Azov region" in Dnepropetrovsk, and from 12 to 16 June he was sent to the Priazovsky district "for inspection of cemetery found during the excavations of gas parties"(The order book, 1941).

June 20, 1936 V.Danylenko left the museum on his own (The order book, 1941). Notifications of his career in the last prewar years are rather contradictory. Scientist reported that in 1938 he participated in excavations in the Stone Grave as participant of the Azov-Black Sea expedition led by O.M.Bader as an employee of MMLH. Prior to the commencement of work he was able to open a multi-layered settlement located to the south of this site (Danylenko, 1986). As mentioned already the 2nd volume of the "Encyclopedia of History of Ukraine" reported that in 1936-1939 V.Danylenko was an employee of the museum in city of Valday (modern Novgorod region, Russia) (Yurenko, 2004). His son states that V. Danylenko returned to Melitopol from Valday in 1937 and recommenced his work in MMLH. Unfortunately, there were no orders in order book of museum for this period, so his statement cannot be confirmed documentally.

After end of World War II V.Danylenko became a researcher at the Institute of Archaeology of the USSR, where he worked for the rest of his life. However, the relationships between him and the museum, and Melitopol region did not interrupt. Already in 1947, led the Azov expedition he resumed the study of Stone Grave. In 1952, he returned here as participant of Melitopol-Terpinniya expedition led by M.Rudynsky, exploring Mammoth Grotto (Danylenko, 1986).

His good memory enabled him to help his former colleagues from MMLH in the postwar years. During the German occupation of almost the entire museum collection was lost, and the museum had to be created virtually from scratch. However, reading the fund, Danilenko was able to identify some museum objects which survived the war. They were products from Melitopol rural county agricultural exhibition in 1898. These are the entries in the inventory card storage group "Things" by the numbers 551, 552, 553. It is possible that some archaeological finds, such as: stone hammer and pestle of carcass culture, quern of Sarmatian time, stone of Doukhobors, dated 1840s and the sculpture of "Khazar horse" of the 10th century were determined by V.Danylenko as things from the pre-war funds (Timofeev, 2009).

As for the Stone Grave, the study of this monument became to V.M.Danylenko the work of his life. He worked here since 1969 as a chief of Azov expedition of Institute of Archaeology, Academy of Sciences of the Ukrainian SSR. During the work he opened new tips and a few hundred images. The outcome of the researcher was the monograph "Stone Grave" which was published in 1986, after his death (Danylenko, 1986). In this book, he not only analyzes the results of the excavations of monuments and its environs, but also makes proposals for the preservation of Stone Grave and hopes that eventually it will turn into an active reserve. Today we can confidently say that this is an outstanding scientist hopes are embodied in life. National historical-archeological reserve "Stone Grave" became a reality.
4. Conclusions

The studied sources allow us to conclude that scientific activity of V. Danilenko was associated with archaeological sites of Melitopol region since the first years of his career. He was interested in different periods of archaeology but the Stone Grave became the one of major streams of his researches just in that time. The work in Melitopol museum of local history played the important role in his becoming as a scientist.

References

Forms and methods of state regulation of the sphere of higher education

Mykola Koretskiy *

National University of Water Management and Nature, Rivne, Ukraine

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ABSTRACT

The "form" of functioning of higher education is defined. Changes of emphasis in public administration of the educational sphere are grounded. Administrative methods used by the state in the sphere of higher education are researched. Thus, observing changes and trends that take place in the sphere of higher education, and evaluating approaches and methods of administration of this sphere, we have obvious discrepancy of form and content. In terms of philosophical concepts, if form hinders the development of content that is attached to it, then at some stage this form will be "broken" and the new one will come on its place. However, if the form is transformed according to changes in content, then a normal evolutionary process takes place. Today the situation with the development of higher education is that the state, regulating all aspects of the educational process, determines the "shape" of functioning of higher education. Administrative methods used by the state in higher education not only do not meet the challenges of time, but also inhibit the development of this strategic sector. Evident is the need to not only reform and modernize the higher education, but reform and modernize the administration and regulation of this sphere. Only this will enable national high school to gradually become a factor of Ukraine’s competitiveness in the global arena.

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1. Introduction

Comprehensive development of the higher educational institutions needs more attention from the state in the process of modernization of higher education. Nowadays the dependence of the performance of...
the higher educational institutions on economic factors increases, resource capacity of study and research increases too. On the one hand, state amounts of financing are not able to cover increasing needs of the higher educational institutions, on the other hand, it is necessary to elaborate effective and transparent mechanisms of regulation of their activities outside the budget (incomes). Thus, the social nature of relations in the sphere of higher education and growing dependence of higher educational institutions on economic factors require the formation of mechanisms of state regulation that are adequate to market conditions and the development of a new regulatory state education policy, which would have directed the efforts of higher education on the consistent improvement of its competitiveness.

2. Analysis of recent research

Known scientists G. Becker (1964), J. Kendrick (1976) and T. Schultz (1968) paid attention to the problems of state regulation of the education sphere in the overall context of the development of the knowledge economy. In the works of native scholars L. I. Antoshkina (2005), A. I. Butenko (1985), B. M. Danylyshyn (2005), V. G. Kremen (2000), V. I. Kutsenko (2005) and others specific organizational and economic problems of functioning of the higher education system are highlighted. However, market conditions of functioning of the higher education require the elaboration of new mechanisms of the regulatory activity of the state in the sphere of its administration.

3. Statement of research objectives

- to define the "form" of functioning of higher education;
- to justify the changes of emphasis in the state administration of educational sphere;
- to examine the administrative methods used by the state in higher education.

4. Results

The peculiarity of entrepreneurship in modern conditions is, in particular, that it extends from the sphere of material production to education, science, and culture. Nowadays higher educational institutions are gradually transformed into entrepreneurial structures of public sector. As, on the one hand, their activities include satisfaction of public needs on the basis of outside budget funding (in whole or in part), and, on the other hand, higher educational institutions may be considered as commercial enterprises that offer services to individuals, who use education with a personal purpose with the intention of obtaining additional revenue in the future. Such variant has some advantages in the transitional economic
conditions: focus on customer satisfaction, participation in market competition, desire for efficient use of resources.

Numerous allegations of researchers in this field testify for the benefit of that education, market and business are currently closely intertwined with each other, including:

- “Today education is just the same sphere of market relations as industry, construction, finance and credit, and other systems” (Butenko 2003); “In modern society, education is a big business, means of entering the global labor market ...” (Matviyiv 2003);
- “Higher education is a business: in this sphere educational services are produced and provided by a certain price and necessary for such activity factors of production are purchased. Manufacturing activity is determined by technological constraints. Costs and revenues stipulate decision making and determine the viability of the higher educational institutions in the long run” (Wynston 2006);
- “governments of many countries are increasingly moving to the position of neoliberal philosophy, emphasizing the role of the market in all spheres of society. In particular, support for private universities, most of which can be interpreted as entrepreneurial organizations, increases” (Tylak 2005);
- “in Ukraine present difficulties motivate in one way or another to use a lot of means of expansion of the number of sources of financing higher education and improvement of the efficiency of resource use - savings and reductions, permission for a number of areas of entrepreneurship of state higher education institutions, the expansion of paid services and all sectors of paid education, etc.” (Zubko 1999).

The entrepreneurial function is inherent not only to the subjects of education market, which are registered as business entities. If we look at private higher educational institution, it is entrepreneurial organization that operates in the market of educational services. However, state higher educational institutions, in which paid services have become widespread, carry out entrepreneurial activities under market conditions. Under the entrepreneurial activity of the state higher educational institution we should understand the initiative, independent, risky activity that brings profit to the higher educational institution and is directed to address its statutory objectives. Niyazova (2003) believes that entrepreneurial activity of the higher educational institution is relatively independent, provided by the charter of the higher educational institution activity, which complies with the legislation on education, in order to obtain results in the form of profit to ensure educational process (Nyyazova 2003). According to M. Dolishniy and V. Kutsenko, entrepreneurship in education in general and in higher education in particular is innovative economic activity aimed at improving its effectiveness in the conditions of limited capacity of resource support from the state (Dolishniy 2006).

Analysis of existing views on entrepreneurship in education allowed to formulate own definition. Entrepreneurial activity of the higher educational institution (according to the content) can be defined as
innovation-oriented statutory activity in the market conditions, which aims at improving efficiency of the educational process and quality of educational services through motivation of educational institutions for constant improvement and optimization of the use of material and human resources.

Not only private higher educational institutions (as governed by the Laws of Ukraine "On Education" and "On Higher Education" and the Law of Ukraine "On Entrepreneurship") and universities, but also other educational institutions may realize an entrepreneurial function.

Entrepreneurship of the state higher educational institution is the type of economic activity of state higher educational institution, which aims to generate revenue from the provision of educational, scientific services and other activities under the current legislation to cover rising costs, with the aim of increasing the competitiveness of higher educational institutions in the educational services market and its graduates in the labor market. Educational entrepreneurship is a special form of entrepreneurship. As a form of economic activity of educational institutions on the educational services market within the legislative field this type of entrepreneurship is aimed at reception of incomes through meeting the demand of target groups of consumers on the basis of independence, responsibility and innovation. In the exercise of the educational entrepreneurship the combination of individual and social benefits occurs. Moreover, priority should be given to the latter.

At this stage of reforming the education system fundamentally new functions - an innovative and entrepreneurial ones - emerge at the universities along with the traditional functions (teaching, research, professional, educational), which necessitates a continuous search for ideas that allow the universities retaining their status, get a new impulse for development (Emelyanova 2005).

Internal university culture by its nature is defined as non-profit, which is characterized by the fundamentality of knowledge, "scholasticism" of teaching, traditions of scientific schools. The knowledge gained by a student at the University can not be restricted to a particular fixed amount; the value is not this size, but the ability to work with information. We agree with Y. Lotman that "the development mechanism" of an individual is laid during the university studies (Lotman 2004). However, this mechanism has to get space for its operation by the state. The state should regulate the primary labor market so that young professionals would be given the opportunity for self-realization and self-actualization.

Actualization of the entrepreneurial function in the activity led to the concept of entrepreneurial university, which features are:

- constant movement, organizational flexibility, adaptability, dynamic, interactive attitude to society (efforts to best respond to the changing needs of the society);
- competence in both academic and administrative spheres;
- the addition of classical tasks (research and training) with such tasks as technology transfer, postgraduate education, higher educational institution's adaptation to the needs of the labor market;
continuous improvement of the system of management in the areas such as research and teaching personnel, production of new knowledge is a condition of effectiveness, as well as improvement of the competence of both students and workers of the university.

The authors conclude that the defining feature of the entrepreneurial university is a combination of the educational mission with entrepreneurial management in the system of university governance.

Russian scientists talk about innovation and entrepreneurial model of university, in which the university "actually turns into a scientific and educational-industrial complex with academic core and interdisciplinary design-oriented peripherals consisting of many online innovation and high-tech structures and small businesses that actively deal with orders of local authorities, industry, business and society at large" (Sylkyna 2006).

Higher educational institution, gradually acquiring features of a business entity, must generate a specific infrastructure for entrepreneurial activity. Higher educational institution by providing educational and scientific services incurs expenses to be reimbursed. However, the main purpose of higher educational institution’s operation is not profit, which distinguishes them from purely business entities (enterprises, companies, etc.), for which this goal is crucial.

The Ukrainian legislation also treats profit as the main goal of business activity. However, according to O. Kuzhel this definition "does not fully reflect all the diversity of socio-economic and spiritual nature" of entrepreneurship, but displays only "transformation, the initial state of this economic sector and even contradicts the modern theory of the firm" (Kuzhel 2004). As a result of its activity the subject of entrepreneurship receives not only material gain, but also moral and psychological satisfaction, sense of professional and human self-realization.

O.Kuzhel (2004) quotes American economist, Nobel Prize winner H. Simon in the work "Administrative behavior", who identified the company as an adaptive system, formulated a theoretical principle that firms set themselves the goal of not so much maximization of profits, but of making optimal management decisions in the market conditions.

To determine the possible directions of entrepreneurial activity of higher educational institution let us outline the main activity directions of higher educational institution under the market conditions (under paragraph 1 of Article 44 of the Law of Ukraine "On Education"):

- preparation, in accordance with state procurement and contracting relationships with legal and physical persons, of highly qualified specialists of different educational and qualification levels for the national economy, science and sphere of education;
- preparation of scientific and technical personnel of higher qualification - candidates and doctors of sciences;
- qualification upgrading of teaching staff of educational institutions, training and qualification upgrading of other specialists of different industries;
- conducting research and activities related to implementation of their results;
- cultural, educational, methodical, publishing, financial, economic, industrial and commercial activity;
- implementation of external relations.

5. Conclusions

As a result of gradual abandonment of methods of administration, new possibilities are opened to higher educational institutions, especially the budget ones, leading to their functioning as economic entities like manufacturing companies. Therefore, economic development of the higher educational institution as a process of improving quality and structural parameters of financial and economic activities of the higher educational institution reflects their ability to qualitatively improve the basic functions. Economic development of higher educational institution is impossible without increasing the share of allocations earned by it. Thus, more attention should be paid to the problems of complex economic development of higher educational institution, which is not confined only to the problems of funding, in the process of modernization of social and economic development. The state must improve the mechanisms of necessity of achievements of higher educational institution's scientific researches; strengthen the interaction of business, science and education. Given the above, there is a need to rethink the role of educational institutions not only in ensuring economic progress, but also in forming a highly educated specialist and a strong personality, competitive in today's world.

References


Environmental safety of rural areas in Ukraine

Olexandr Datsiy *

Academy of Municipal Management, Kyiv, Ukraine

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ABSTRACT

Substantiates the optimal ratio of production and the environment as a necessary condition for rural development. Certain circumstances environmental problems of rural areas that are characteristic of most villages. Rural areas are very different in natural conditions and types of economic activity. Most pollution of the environment in rural areas is done by the enterprises of mining and manufacturing production. However, agricultural production also generates significant environmental problems, the main factors of which are fertilizers, pesticides, intensive livestock waste. Rural territories have environmental problems that are typical for most rural communities. Society is interested not only in raising the level of food self-reliance of the country and recognition of the importance of agriculture, but also in the preservation of the historic way of life of rural population, environment and nature globally. Given that the overwhelming share of capital investment in agriculture is carried out by the producers themselves, then for the expansion of investment it is necessary to adjust the price, loan and tax state’s mechanisms towards increasing of the solvency of agricultural producers. To provide equipment for the manufacturers with low solvency there is a need to use leasing, clearing operations, and deferred payments. In addition, it is needed to expand the formation of multidisciplinary agricultural service cooperatives.

1. Introduction

The main type of production in rural areas is agricultural production. The agricultural sector performs a number of socially necessary functions. It not only produces, but also ensures the reproduction of socially

* Corresponding author at: Academy of Municipal Management, 33, Ivan Kudrya, Kyiv, 01042, Ukraine.
Tel: +380 044 529 0023, fax: +380 044 529 0516
E-mail address: datsiy@yahoo.com (O.Datsiy).
necessary values, which are not always quantifiable or cost estimate. If certain requirements are met, the agricultural sector makes a significant contribution to the vitality of rural areas, preserving the agricultural landscape, cultural heritage and agrobiologic diversity.

2. Analysis of recent research

Recognized scientists in the research of rural areas' development are Orlatyy M. (2010), Prokop I. (2008), Sabluk P. (2009), Yurchyshyn V. (2009) and other researchers.

3. Statement of research objectives

- to substantiate the optimal ratio of production and the environment as a necessary condition for rural development;
- to identify the environmental conditions of rural areas that are typical for most villages.

4. Results

Agriculture plays a vital role in maintaining soil fertility and protection of land against erosion and other negative effects of natural and man-made disasters. At the same time agriculture is essential for the economy of our country.

Firstly, the agricultural production of Ukraine provides Ukrainian population with food. Lack of food resources the country experienced in 2003 when it was not a harvest year and the country had to buy food resources and borrow them around the world. A similar situation but on a smaller scale took place in 2007. By the way, even presently the shortage of meat of domestic production and corresponding increase in prices on this product lead us to a conclusion that Ukraine has almost no large livestock enterprise commodity, and the country lacks meat resources.

Secondly, agriculture contributes to the development of other sectors of the economy (automobile and agricultural machinery, transport, services and food, fuel and energy sector). In the total volume of trade in the consumer market, the share attributable to food reaches 50%. It supports operational financial arteries of many sectors of the economy of Ukraine. Thus, agriculture is a cartoonist.

Thirdly, agriculture remains the main and sometimes the only economic activity and employment in rural areas, occupying about 2/3 of all land surfaces in Ukraine. Agriculture is the main component of the rural economy, that is, it creates the economic base of government in most rural areas of our country. It should be especially stressed in connection to the increase of the role of local governance in the future.
Agricultural production, which had the greatest potential compared with other sectors in the early 1990s to become the leader of reform, a powerful supplier of food products and raw materials for domestic and international markets, due to prolonged political debate actually had only recently entered a phase of market reforms.

Even after seventeen years of state independence and permanent agrarian reform there are considerable differences of opinion on the development of the economy in general and particularly agricultural production. There is a need to give a deep assessment of the present situation in agriculture sector in order to develop optimal ways of its development.

Agricultural production is under the influence of the crisis, and its material resource potential has decreased almost by half compared with 1991. To illustrate, in 1991 the share of agriculture reached 40.1% of gross domestic product, which was 95 billion rubles in comparable prices.

By this measure agro industrial complex was significantly ahead of metallurgy, engineering, chemical and forest sub complexes, provided 95% of food resources, and 2/3 of the total fund of consumer goods, it employed 7.6 million workers, or 31.5%, and its business assets were estimated at 89 billion rubles, or 30% of their total cost (Sabluk P., 2009).

But the third millennium the agricultural sector entered with such indicators as: 12 billion UAH of debt; the production of gross agricultural output was 48.5% from the percentage level of 1990, and livestock - 44.2%. Livestock and poultry decreased to critical limits. Most farms became unprofitable (in 1998 - 93%) and in general only the production of corn and sunflower remains profitable in Ukraine. Consumption of main foodstuffs has decreased by one third (Ryzhuk S., 2009).

Evaluating these negative trends, the government began to take decisive steps towards taking agriculture out of the crisis. In recent years, joint efforts of all branches of local governance vigorously carried out the change of ownership and active implementation of new organizational forms of management based on market economy. The Decree of the President of Ukraine “On Urgent Measures to Accelerate Agricultural Reform” from the 3rd of December, 1999 played a critical role in it. It launched a comprehensive system of large-scale measures that ensured the privatization of land and former state farms’ property and transformation of collective farms (kolkhoz) into private enterprises of market type.

Despite significant improvements there are many unsolved problems in agriculture in Ukraine. In 2009, agricultural production was only 61.4% of the level of 1990. Cattle stock as of February 1, 2010 was only 22.5% (and in agricultural enterprises - 9.1%) from the level of the end of 1990, respectively: cows - 36.9 (10.9) %, pigs - 34.7 (19.9)%., sheep - 21.7 (4.5)%. One thousand cattle farms were destroyed, and gross production of livestock products in 2009 was 50.2% (in farms only 28.7%) from the level of 1990. In 2009 in crop production total area of crops decreased by 20% (while in sugar beet – in 2.7 times, vineyards – in 1.9, fruit plantations - in 2.9, flax – in almost 7 times) compared with 1990. The relationship between business and personal sectors of agriculture changed significantly: in 1990 it amounted 72% to 28%, and in 2009 - 41% to 59% (Osaulenko O., 2010); (Shiyan D., 2010).
Many unprofitable farms, the lowest wages, the low level of use of agricultural land, relatively weak social protection of farmers compared with other sectors of the economy is present in agricultural sector. An important problem is to update the machine-tractor park, a technological reorientation of modern resource-saving technologies, and production of competitive products.

Economic activity is also done in rural areas, except agricultural enterprises, by the enterprises engaged in forestry and fisheries, mining and manufacturing, transport and construction companies, and recreation institutions. Most of these enterprises are in private ownership.

Reproduction and growth of productive capacity of agricultural sector of the economy is not possible without proper resourcing, so let us analyze in more detailed manner the possibility of reproducing and increasing the logistical capabilities, resources, labor and land.

Material and technical potential of rural areas depends on the level of the inflow of investments. According to the Ministry of Agrarian Policy of Ukraine to revive the agricultural sector of Ukrainian economy there is a need to invest 20-25 billion UAH in it annually. Only to increase the level of mechanization of agriculture, according to the calculations of the Institute of Agricultural Economics NAAN, 10 billion UAH are needed annually, and additionally 2.5 billion UAH for spare parts, repairs and maintenance.

To solve the problem of procurement of agricultural production it is foreseen:
- a partial compensation of agricultural machinery's costs when it is purchased by the agricultural producers;
- the allocation of loans for the purchase of equipment with partial compensation of interest rates for farmers from the state budget;
- an allocation of funds from the state budget to purchase equipment under lease (Luzan Yu., 2010).

Improvement of usage of labor resources in agriculture is possible under the following conditions:
- formation of rational employment in agricultural production to ensure proper performance of work;
- introduction of an effective mechanism to motivate effective work.

Employment rate in agricultural production is currently redundant, with significant hidden unemployment. The volume of agricultural production compared to 1990 decreased almost twice, and the share of population employed in agriculture stabilized at the level of 1/5 of all working-age population (which is several times higher than in developed countries).

Most of the farmers who work in private household farms are not fully loaded with work and therefore do not have sufficient revenues. Sufficient level of revenues can be achieved by extending the land for farming, increasing the amount of loans, improving financial and technical support, logistics, selling agricultural products produced and creating additional job positions not related to agricultural production.

Question of legal registration of employment in the private commercial farms (determining the order of seniority, social security and pensions) also requires solving. For the improvement of the efficiency of
agricultural labor, high-quality reproduction of the labor potential it is necessary to increase the potential wages in this sector. Despite the lowest among other sectors levels of wages in agricultural sector of the economy in Ukraine, it still remains one of the main sources of income for rural residents. To increase the income of rural residents the improvement of the current system of payment for the job done is needed as well as the improvement of the efficiency of the agricultural production. To meet the abovementioned goal it is also needed to restore the parity prices for industrial and agricultural products and to develop new forms of farms.

Potential of land resources in Ukraine may grant our country a chance to take an important place among suppliers of agricultural production in the world food market. However, to achieve this it is necessary to invest money in land protection and restoration of soil fertility. Numbers of measures of legal, environmental, economic, organizational and managerial nature are needed to implement the abovementioned goal.

To establish a stable legal framework for the land use it is necessary to ensure the strengthening of the public administration bodies of land protection, to organize a national system of control over rational use of land and to complete the development and adoption of comprehensive legislation on land protection in Ukraine.

One of the areas of sustainable land use is a gradual withdrawal of degraded lands from cultivation, dangerous plots of land erosion, and steep slopes. In Ukraine the rate of land tilled soil is one of the highest in the world, water erosion extended to the area of 10.6 million hectares of arable land, almost half of the arable land is under the influence of planar erosion (slopes greater than 1 degree) (Ryzhuk S., 2009). On the protection of land and rational use of land (construction of structures against erosion, landslide, avalanche, and for the protection of the coast, the creation of protective forest strips, terracing of steep slopes, reclamation of land) about 35 million UAH are spent annually. In our opinion, it is better and more rational to withdraw part of land from the active cultivation. Depending on its condition it is possible to use this part of land taken out of active cultivation with such alternative methods of their use: conversion to natural feed lands, forestation, creation of ponds, and temporary withdrawal from circulation to improve the quality of land with its further return to the arable land, and so on.

An important problem remains to be the decline of humus content in soils in Ukraine. To improve its content, it is needed to increase the amount of organic fertilizers in the land and to use such technologies that improve humus content in soils. It is also necessary to actively use economic mechanisms for stimulation of the land protection activities among agricultural producers:

- penalties for land degradation;
- exemption of farms from taxes in the amount of money invested in land protection;
- providing government subsidies to agricultural producers for purchasing environment safe techniques and technologies;
concessional loans to enterprises that invest their own funds in the measures for reproduction of land, protection of land, and reclamation of land.

Protection is needed not only to land, but also to air, water, flora and fauna resources, and all environments surrounding a person. The combination of these problems explores ecology.

Ecology is complex of issues related to human interaction with the environment, including economic, legal, engineering, technological, ethical and other aspects of this problem. Ecology is not just a science but also an ideology that permeates all areas of science and human activity. Its main goal is to optimize the interaction between society and nature, which prevents imbalance of natural systems and thus the conditions of society’s vital functions (Baranovski V., 2001).

For humans nature is an environment of life and a source of livelihood. Optimal environment is a normal state of nature with normal operating processes of substances’ turnover and energy flows.

Human activity affects the environment, and this effect increases with the development of society and the increasing weight of substances that are involved in production. Human impact on the environment became so large that it had turned into a threat to breach the existing balance in nature and an obstacle to further development of productive forces.

People have been perceiving nature as an inexhaustible source of material wealth for a long time. But the negative consequences of human impact on nature gradually convinced humanity of the necessity of environmental protection and rational use of its resources, including in respect of rural areas.

5. Conclusions

Rural territories have environmental problems associated with the following circumstances that are typical for most rural communities:

- the human impact on large areas (virtually 100% of areas experience human impact);
- small percentage of forest area and insignificant percentage of area under the meadows;
- high level of soils’ erosion;
- contamination of soil and water reservoirs with fertilizers and pesticides.

It is important to determine the degree of stability of ecological systems to anthropogenic influences. Resistance rises from the sandy soil to clay soil, from alkaline to acidic soils, with an increase of the annual moisture and an increase of the biological productivity of plant communities - both natural and cultural. Destruction of forests increases washed away soil, leads to silting of rivers, reservoirs, and flood arrays. The active migration of chemical elements in ravines of the reservoir leads to pollution of surface waters. And such pollution can be extremely toxic, because elements such as mercury, strontium, lead, cadmium, zinc are the most mobile in most soil types, and therefore are the most dangerous ones.
References


