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CHANGE OF LIFESTYLE THROUGH A CONCRETE CHOSEN EXAMPLE OF EDUCATION

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Abstract: *The authors designed the article to discuss the teacher's possibilities of influencing the students´ awareness of lifestyle. According to these changes people should prefer health values. Emphasised health values in contrast to drug addiction. Searching of possibilities and forms how the chosen literature and way of realisation can inspire and iniciate change of living style and forming of value spectra is presented. Motivation by enjoinment and entering into the spirit of the role lead to active attachment and applying own creativity impulse of students to the thought so on shape of role as on resulting negative their own health effect.*

Keywords: *upbringing; smoking; health; prevalence; process; motivation*

Introduction

School should not be just a tool for transmitting information and obtaining knowledge, qualifications and skills. It should also be able to influence the perception of an individual, it should be a life-guide and not just a thread showing one's way; it should be a helping hand giving support at the managing of difficult challenges. Many may object saying that this is mainly a task of the parents, as the parents are responsible for the entrusted child and the education is their obligation. It may not be surprising to say that parents and teachers toss their educators´ roles like a hot potato. No optimum solution has been found so far and it is not possible to explicitly determine if children are more influenced by the authority of the school or the family. There are neither winners nor losers in this struggle. If in a class there is a couple of fidgety troublesome "scoundrels", the teacher must make more efforts to discipline these, wasting thus time of those classmates who show interest and desire to learn something new. In many situations the parents do not even realise that they should educate their children, as this is "the task of the school". Is this a vicious circle? Where this problem really begins? Does it begin with the parents, who are with their child since s/he takes her/his first breath? Or does it begin with the teachers who should do it, as this is a part of their job description? Not all children's dreams are permissible, which is why there should be at least one person who

would be interested in the way the children have decided to turn, correcting reasonably their wishes. It has been proven that if a person does not begin to smoke at a young age, s/he will not succumb to this bad habit at older age. We should make effort at discouraging young people from smoking. The best thing for them is never to try and begin to smoke. This is a very difficult task, as in this period of life, one feels an urge to discover new things, oppose authorities in a rebel-like manner, and become adult soon…

The objective of this work is to present a proposal of how to make use of biology lessons to discourage students from smoking, how to make them think of the negative effects of smoking. Cigarettes, water pipes and tobacco do not match with a healthy lifestyle.

1. Lifestyle

1.1 Situation in the Czech Republic

Many people still think that human health is mostly influenced by health care, environment and inherent dispositions or diseases. They try to reassure themselves with such thinking, transferring the responsibility to others: to doctors, hospitals, health care system and pharmacies and medicine and other preparations available. Studies have been performed demonstrating the fact that the state of health is most seriously influenced by nourishment, physical exercise, smoking, alcoholic drink consumption and stress overload. Such lifestyle factors cause especially cardiovascular, oncogenous and metabolic diseases. According to the Institute of Health Information and Statistics of the Czech Republic, the highest number of inhabitants of the Czech Republic die from circulatory diseases (approximately 51%). This number is quite high as compared to other European states (approximately 35%). Among cardiovascular diseases, such diseases belong as ischaemic heart disease, arterial lipoidosis, acute myocardial infarction or cerebrovascular accidents. During the nineties, positive changes occurred. An important role is played by the individual approach towards one's health, values and attitudes of the individual, and what is interesting, also education. It has been proven that people with university education live longer and healthier lives. Such people do sports and they do not suffer from overweight or obesity, they smoke less, eat healthier food, consume less alcohol. It can be said that their approach towards their health is more responsible. Diet composition is important for health, and to a certain grade, it is influenced by climate characteristics, geographical location and eating habits of the population of the individual countries. The Czech Republic belongs among countries with a high number of obese people; such a problem is related to a sedentary lifestyle. In this country, there is also a large prevalence of hypertension and cholesterolaemia.

2. The Importance of a Play in Teaching

2.1. What is a Reality?

Nowadays, young people are surrounded by a world of "illusions"; we have been living in a secondary world of intermediated impressions. Do our personal experiences fade out? How much are we influenced by media devices? Do I have to really leave my home to survive? After all, the whole world will come to me through the Internet. If I immerse myself in a world of virtual reality, I can communicate with people from

almost all parts of the world in real time, being thus able to get and arrange all necessary things. If I exaggerate a little, I may say that a person could be able to live a completely "normal" life from her/his living room. For such a purpose, s/he would need just a computer with the Internet connection, a cell phone and financial means. For how long can we feel happy with such a passive entertainment? It depends on each individual. What is the reason for the fact that people have shifted their focus of interest to be closer to a consumption-oriented way of life, getting away from the Nature with which they have been bound since time immemorial? Are large towns to be blamed, full of housing estates with their temptations? Tower buildings become physical and especially mental barriers preventing from natural contacts with one's peers. A child thus grows up in a social isolation. It is emotionally burnt out, apathic without any interest; it is unable to socialise with people and it shows aggression, trying to attract attention to itself, etc. The development of science and technology brings about not only progress but also certain negative phenomena reflected in the world of experiences. We experience the majority of feelings only mediated by movies. The view of the death has also changed. We have been used to see that in action movies, a loss of one life is absolutely unimportant. A violent death is perceived as something completely common, painless and natural. Computer games create an illusion of several attempts (Do I fall down from a rock due to my clumsiness? Never mind… I still have another chance; maybe I will succeed in my second attempt…).

2.2. What is a Play?

According to the definition of the Dutch historian Johan Huizinga, which is given in his book *Homo Ludens*[1], play is a free behaviour and occupation which, within an exactly limited time and space and performed in compliance with freely accepted, but unconditionally binding rules, is the objective of itself, bringing about a feeling of thrill and joy and also an awareness of its difference from a common life. A play may be played by an individual or also by a group of people. Its objective is relaxing and entertaining, and such an activity is usually associated with leisure time. Even children try to discover and explore not just the world but also themselves through playing, making thus the human socialisation easier. Every play has its own rules, which make it thrilling. Due to the complexity of rules, the play may evolve; its difficulty increases and the play becomes interesting not only for the small but also for the big ones, and also for those of a superior intelligence. Everybody loves to play, but it is difficult to find time for playing due to other obligations.

The role of the play may be the following:

- Entertainment and instruction (it is used in education in order to enrich traditional lessons);
- Playing of roles (even if we play our role only "as if", we sometimes let ourselves carry away so much that the borderline between the reality and the play fades away; we stop perceiving the surrounding world, becoming completely immersed in the play. Such behaviour is then justifiable. Although the rules are defined unambiguously, everybody understands them in her/his own manner – this is used in simulation games);
- Experience (the participant becomes a co-creator of a new story by means of the

accepting the rules of the play; many activities are then experienced directly and without mediation);
- Objective (at the pre-school and younger school age, the play is natural);
- Simulation (the creation of a certain model of reality – it also brings about a possible danger);
- Knowledge and self-knowledge (for a good teacher, not the outcome but the course of the play should be important, as through observing her/his pupils the teacher may learn lots of new information and compare it with the pupils´ behaviour in the real life);
- Moral challenge (this is related to observing and non-observing of rules; sometimes, situations arise which force the players to negotiate, trade-off, subordinate, etc., demonstrating their real self without realising);
- Freedom and discipline (the play has its own limitations in a form of rules, duration, space and selection of players, but the players participate voluntarily).

3. School in the Process of Education of an Individual towards Health

The education towards health can be understood as one of the dominant target categories of the educative process. If we agree with the WHO definition which says that the health is a complete status of physical, mental and social wellness and not just an absence of illness or defect, then it is important to shape people in all such areas. The objective is the creation of an educated, responsible, tolerant and co-operative individual with positive-value preferences and interests, who considers health to be the highest value of the human existence. The pupil's abilities and capacity, her/his own activity, self-knowledge, personal self-fulfilment, self-presentation and self-reflection are the pillars of the endeavour for the education of such an individual. Although schools try to emphasise the education towards health, they do not succeed in convincing the pupils to transfer such knowledge in their lives and to live by such recommendations. The basic objective of the education is to teach the pupils to be able to sort through information and issues related to the state of health, to adopt a positive way of thinking, to make the right choices beneficial for their health, to use skills enabling an active influence upon the physical and mental condition of the pupils as well as their habits and experience obtained and verified in practical situations of their everyday life.

Health should be an evidence of the quality of life; it is necessary to develop all its components, no matter whether it is biomental, sociocultural or spiritual system. Support and co-operation of the family is also important. The process of education towards health should be a long-term, continuous and systematic activity of all the society component levels. It is impossible to charge such a responsibility only to the school and family; instruction for a healthy lifestyle should be given through media, legislation, health centres, religious movements, youth organisations, insurance companies, citizens´ associations, etc.

In the education process, the school should focus on the following:

- Current local and regional conditions and specifics;
- Support of positive social interaction among pupils – teachers – family – community;
- Positive motivation, support of positive values, self-confidence of pupils and their positive thinking;
- Motivation of pupils towards their school and out-of-school activities supporting health;
- Providing of information related not just to health but also prevention, using for such a purpose all the forms of education and learning;
- Careful selection of suitable teachers and educators, who will be enabled further studies in this area; such teachers and educators should become and set examples of the observance of principles of healthy lifestyle;
- Innovation, support and updating of quality methodology materials, didactic and teaching texts, handbooks, etc.

The teachers should do the following:

- Endeavour after the harmonisation of the development of all the dimensions of health;
- Include education towards health in their lesson preparations;
- Provide information in a reasonable and non-directive manner related to health and drug-abuse prevention; accept and support existing projects related to such a topic, or create new projects and concepts suitable for the conditions of the school;
- Focus on interests and preferences of pupils and use common school or out-of-school activities in a meaningful manner;
- Create favourable environment for teaching, interaction and communication with pupils, applying active approach-based methods, such as brainstorming and physical, didactic, simulation and stimulation games;
- Respect pupils´ personalities, taking into account their experience, interests, necessities and values; differentiate and adapt teaching according to the pupils;
- Support pupils from socially disadvantaged and educationally less challenging environments;
- Develop responsibilities of pupils for themselves and their social environment, support their self-control, guide them towards co-operation, consideration and tolerance;
- Try to involve the parents in the education towards health; co-operate with other organisations;
- Monitor and evaluate the course and results of education.

Practical Part

4. Guideline to the Manner of Convincing

I have chosen the subject of biology, specifically human biology – respiratory system, to cover the topic of presentation of the risks of smoking and the reduction

of number of smokers among secondary-school students. It may seem that at such an age, students cannot be surprised by anything, as they have usually met with the problems of smoking at the primary school, but my goal is at least to guide them to think about their lifestyle, to warn parents-smokers and to agree on a compromise that nobody will smoke at home, as passive smoking is also harmful for the organism. They should start asking questions, such as: For how long have I been smoking? Why? Don't I want to stop? Do I feel excluded when my friends go smoking? Who is stronger: the one who resists the temptation of a cigarette or the one who stands up against prohibitions imposed either by parents or teachers? Do I really need to try everything? The subject matter and the manner of making the pupils change their lifestyle is so broad that it cannot be taught in 1 or 2 lessons. The objective is to outline the detrimental impact of such a bad habit on the individual organs. What one can see with her/his own eyes, s/he remembers much better than bare facts. For such a purpose I have created a presentation which is available on CD and which is a part of the seminar work. One part of the presentation is focused on students who are occasional smokers. The topic of the presentation is to teach students to say „NO" to a cigarette. The objective of the other presentation, focused on regular smokers, is the smoking dishabituation. Students should realise that their decision to smoke or not to smoke does not influence their health only at this very moment, but their misconducts are gradually accumulated, and that within 20 or 30 years, they may be sorry for having taken such a decision. The only thing they need is a strong will and motivation. Waterpipe or hookah smoking is very popular among young people. The majority think that smoke treated in such a way is not detrimental to their health, as the volume of inhaled nicotine is insignificant as compared to a comparable number of cigarettes. Water cools the smoke, however it does not filter off all the toxic substances. It is always recommended to use a filter. In order to prevent the transmission of some infectious diseases (such as herpes or mononucleosis), sanitary mouthpiece should be used. If the students feel I am trying to show them only one point of view, their task will be to find information related to the topic of the hookah, and the beginning of the next lesson will be dedicated to a lively discussion. Lessons will thus become more interesting and also the teacher will get lots of interesting knowledge. Main questions for the discussion:

Do you think that hookah is detrimental to health? Why? Why is it so popular among young people? Tearooms and the hookah? Does it match?

Such a discussion should not make the students feel that the teacher represents a prohibiting and moralising authority. The teacher should rather shed light on their own opinions, which sometimes are biased, drawing attention to important issues related to this topic. In order to make the students open and show their ideas, the best solution could be to select a suitable individual among them who will be in charge of the discussion.

A theatre play may be a very interesting activity not only on a stage. I know from my own experience that children easily enter into the spirit of their respective roles and they enjoy creating a story, costumes, selecting suitable music, preparing

the scene, and finally they show their great work to the audience. My idea is to propose the students to rehearse either in groups or all together a short play related to smoking. The only condition is that such a short theatre play must include clear anti-smoking and anti-cigarette ideas. Only the non-smokers may be the winners. In order to prevent them from straying off topic completely, I have prepared several phrases which must be used in the play, otherwise the task assigned would not be fulfilled. Terms or phrases which must be used are as follows: lungs cancer; passive smoking; smoker's melanosis; 9 out of 10 smokers die because of smoking; in cigarettes, there are approximately 103 carcinogenic substances and each cigarette smoked makes one's life shorter by 5 minutes. The students could become motivated by the fact that when they finish the preparation of their theatre play, they may present it to their classmates, teachers or even to the public. If this is the case, the target is set too high, as it is anticipated that the children should do it in their free time. I am aware of the fact that it is impossible to involve all of them in the collective work. Some of them are not interested, some realise they are too shy to participate. Others lack ideas or are not able to assert them… On the other hand, I do believe that some students will be glad to spend their time in such a manner, as it is fun, diversion, a certain form of exhibitionism for them. What is important here is the organisation and arrangement of such an event. A fictitious story the end of which the students create may be another possibility. The plot is based in the resistance of the temptation of a "joint". Basic line of the story: A group of friends left a discotheque as they did not like it enough and now, they are trying to find another club. As the way seems quite long, they light a joint. They are having a good time, and all of a sudden they meet their favourite class mate. Of course they take an advantage and offer him a cigarette. They try to convince him in many ways, however the main character of the story is strong enough to resist… It is important to choose 2 strong personalities of the class. One role represents the resisting character, who is far from let his classmates influence him; the other is the leader of the group. The other members of the group are trying to support their leader and to convince their classmate to smoke. The rest of the class who do not play any role will closely follow the story and at the end they will make a survey, advising the actors on what should have been done differently and what they did not like, what could be done to make the story better. They should define which reasons pro and contra seem to be perfect, which arguments they would also use in real life, etc.

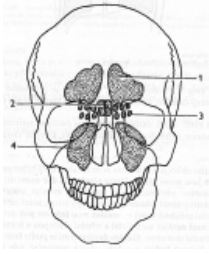
After seeing such a presentation, the students should form their own judgement about cigarettes, which is why it should not be a problem for them to design their own logos for their cups. Such a sign should be focused on the struggle against smoking; it should promote a healthy lifestyle. My idea is that the cup should admonish them about the fact that the decision not to become a smoker or to stop smoking is correct. The rest is up to the individuals. This idea also brings about another motif. The engagement of one's creativity makes a person think; one does not want to present her/himself in a bad light, which is why s/he will do her/his best to reflect her/his typical ideas and new information in the product. If the student follows the established topic, s/he will not take home just a nice cup but also a guide and motivation.

5. Selected Subject Matter

Respiratory System

Function - supplying the blood with oxygen => release of CO_2
Anatomy - airways - upper - nasal cavity, nasopharynx
- lower - larynx, trachea, bronchi
- lungs

Nasal Cavity (cavum nasi)
It starts with nostrils and it opens into the nasopharynx. The nasal cavity is limited by bones and it is divided by the vertical nasal septum into 2 parts of different sizes. On lateral walls, there are 3 outgrows called turbinates (conchae) which divide the cavity in 3 air ducts. The complete nasal cavity is covered with mucous. In the upper part, there is an olfactory mucous with olfactory cells, while in the lower part, there is a very vascularised respiratory mucous lined with ciliated pseudostratified columnar epithelium. Mucus produced by glands in the mucous traps and removes dust and bacteria. Air passing through the cavity is warmed up, humidified and analysed. The nasal cavity is connected to the paranasal sinuses lined with mucous which easily becomes infected; they are filled with air. Paranasal sinuses form developmentally in children at a young age, and at an adult age, their capacity is larger than the capacity of the nasal cavity. Paranasal sinuses are cavities in the frontal bone, sphenoid bone, ethmoid bone and maxillary bone (picture 1).



picture 1

1. *Frontal sinuses (sinus frontalis)*
2. *Sphenoid sinuses (sinus sphenoidalis)*
3. *Ethmoid sinuses (sinus ethmoidales)*
4. *Maxillary sinuses (sinus maxillaris)*

Curiosity: The sense of smell distinguishes among 7 basic stimuli (camphoric, muscat, flower, peppermint and ethereal fragrances and ammoniacal and putrefactive odours).

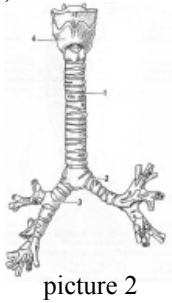
Nasopharynx
In the nasopharynx, respiratory and digestive passages intersect. In the roof of the nasopharynx, nasopharyngeal tonsils are situated. In lateral walls, the Eustachian tube opens which equalises pressures in front of and behind the tympanic membrane.

Larynx
Larynx is a 6-cm tubular organ of a sand-glass shape. It consists of a single thyroid cartilage (connected to the hyoid bone by means of ligaments), cricoid cartilage, epiglottic cartilage (during swallowing, it is forced over the glottis opening, preventing thus swallowed

material from entering the airways) and paired arytenoid cartilages (connected by means of ligaments into a moving flexible whole). The laryngeal cavity has an extended upper part and narrowed middle part, where fixed vestibular folds and true vocal cords are situated between the arytenoid cartilages and the thyroid gland. At expiration, the air hits the tense vocal chords at a high speed and makes them oscillate. Such an oscillation makes the air in the upper airways move and a sound is generated which with the help of the tongue, palate, teeth and lips is transformed in articulated speech and singing.

Trachea

It is approximately a 12 cm long tubular airway, held open by 15-20 C-shaped rings of cartilage, which is connected by means of a ligament to the ring-shaped cartilage of the larynx (picture 2). It is divided into right and left bronchi, which connect to the lungs. The mucous of the trachea and bronchi is lined with a ciliated epithelium. The cilia vibrate outwards the airways, eliminating dust and harmful substances. The cilia of the smokers is immovable => higher liability to diseases (one clears one's throat more often).



picture 2

1. *Trachea (trachea)*
2. *Left bronchus (bronchus principalis sinister)*
3. *Right bronchus (bronchus principalis dexter)*
4. *Larynx (larynx)*

Lungs (pulmo)

The lung is an organ of a spongy texture situated in the thoracic cavity, fitting against the diaphragma. The lungs are separated by fissures into lobes (lobi); the right lung has 3 lobes, the left has 2 lobes. On the surface, there is a thin membrane called visceral pleura, which in the hilum passes into pleura lining the thoracic cavity. Between both membranes, the pleural cavity is situated filled with pleural fluid => it allows the pleurae to slide effortlessly against each other during ventilation. If air penetrates in the pleural cavity due to an injury, the affected lung collapses => pneumothorax.

The colour of children's lungs is pink; in adult people, lungs are black marbled, which is caused by dust particles.

The bronchi entering the lungs are divided into the individual lobar bronchi, segmental and subsegmental bronchi, bronchioles and alveoli.

The alveoli are semicircular canals; their walls are lined with thin epithelial layer surrounded by capillaries. Breathing gases exchange takes place in them.

Physiology of Breathing

Ventilation – exchange of air volume between the external environment and the lungs per time unit;

Inspiration – inhalation – the diaphragm is contracted towards the abdominal cavity;

the external intercostal muscles push the ribs upwards => thoracic cavity extends;

Expiration – exhalation – the diaphragm moves back (working as a piston), the internal intercostal muscles draw the ribs down => the thorax shrinks;

Tidal volume – approximately 0.5 litre of air breathed in or out during normal respiration = breath;

Respiratory rate – number of breaths per 1 minute (adult 14-18 breaths, child 26 breaths, newborn 40 breaths), number of breaths increases with physical strain;

Respiratory minute volume – tidal volume multiplied by respiratory rate (7-9 litres when no extra effort is applied; when extra effort is applied, up to 150 litres);

Vital capacity of lungs – when no extra effort is applied, only a small capacity of lungs is used and there is still a large reserve. It is the maximum amount of air a person can expel from the lungs after a maximum inspiration. The value depends on sex, height, weight, chest structure, physical condition (mean values - women: 3-3.5 litre; men: approximately 5 litres). It is measured by a spirometer.

Residual volume of lungs – volume of air which cannot be breathed out from the lungs (0.5-1 litre)

Respiratory Gas Exchange in the Lungs and Tissues

External respiration – the exchange of O_2 and CO_2 between tissues and blood. In the lungs, exchange of O_2 between the alveoli air and the blood takes place, and CO_2 is transferred from blood to the alveoli air. Such an exchange passes in a direction of a pressure gradient.

Internal respiration – exchange of gases between cells and surrounding environment

Expelled air contains 4% of CO_2 and 16% of O_2. Arterial blood enters in the capillaries from tissues. Tissues contain less O_2 and more CO_2. That is why O_2 is transferred from blood in capillaries to tissues and CO_2 from tissues to blood. From tissues, oxygenated blood travels back to the lungs. The solubility of oxygen in fluids is low => in animals, a protein has developed which is able to chemically bind oxygen. It is the blood pigment haemoglobin (in 100 ml of water, 0.5 ml of O_2 can dissolve; in 100 ml of haemolymph, 5 ml of O_2 can dissolve, and in 100 ml of blood, 20 ml of O_2 can dissolve – almost the same quantity as in the air).

For the transmitting of CO_2 there are no carriers in the blood, because it is dissolved in the blood and it is transmitted in a form of hydrogencarbonate bound to blood plasma proteins in blood:

$$CO_2 + H_2O \rightarrow H_2CO_3 \qquad H_2CO_3 \rightarrow H^+ + HCO_3^-$$

$$\text{in lungs: } H^+ + HCO_3^- \rightarrow H_2CO_3 \qquad H_2CO_3 \rightarrow CO_2 + H_2O$$

(diffusion to the alveolar air)

Respiration Control

The depth and frequency of respiration is adjusted according to the metabolic necessities of the organism. The action of respiratory muscles is accurately controlled by the central nervous system. It is possible to deliberately hold or accelerate one's respiration; however, it cannot be stopped. The respiratory centre is situated in medulla

oblongata; centripetal respiratory neurons from the lungs and blood vessels enter there; these neurons register the volume of O_2 and CO_2 in blood. From the medulla oblongata, centrifugal neurons pass to respiratory muscles. A superior respiratory centre is situated in grey matter.

Withdrawal reflexes (leading towards the elimination of harmful substances) at the stimulation of

- *Nasal mucous membrane => sneezing*
- *Mucous of the larynx, trachea, bronchi => cough*

Diseases of the Respiratory System:
Bacterial and viral diseases:

- *Pharyngitis;*
- *Laryngitis;*
- *Tonsillitis;*

Pneumonia – alveoli are filled with mucus, considerable worsening of the exchange of gases;

Tuberculosis (TBC) –Mycobakterium tuberkulosis (Koch's bacillus) is the causal organism; bacilli attack not only the lungs, but also other organs; vaccination is necessary;

Asthma – lumen of the bronchi is reduced.

Conclusion

The objective of this work is to outline a manner of convincing students to change their lifestyle. For such a purpose, I have recommended a play (short theatre play is also possible), lively discussions and creative activities. At the end of the complete "long distance run against smoking", the students could create their own cup with their own logo. No works of art are expected to be produced and displayed in galleries; the purpose of such a picture, sign or a combination of both is the survey of information obtained (mostly from the presentation prepared) and the manifestation of the conclusion that smoking is really detrimental to health This work should inspire the reader; I am wishing to all the readers to become active, creative and eager when working with their students.

ZMĚNA ŽIVOTNÍHO STYLU NA KONKRÉTNÍM PŘÍKLADU ZVOLENÉHO UČIVA

Abstrakt: Autoři měli záměr metodicky přiblížit možnosti pedagoga působit na povědomí studenta, směřující ke změnám životního stylu v rámci upřednostnění pozitivních hodnot týkajících se zdraví člověka. Zvýraznění hodnoty zdraví na pozadí drogových excesů a získaných návyků. Hledání možností a forem, jak zvolené učivo a způsob realizování může inspirovat a iniciovat ke změně životního stylu a utváření hodnotového spektra vhodnou pozitivní orientací. Motivace prožitkem, vžití se do rolí,

vede k aktivnímu zapojení a uplatnění vlastní kreativity, čímž je donucen jak k zamýšlení nad ztvárněním role, tak nad výsledným pozitivním či negativním efektem pro vlastní zdraví.

Klíčová slova: výchova, kouření, zdraví, prevalence, proces, motivace