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Andrzej MIRSKI

Creativity in Education: managerial and psychological aspects

ANDRZEJ MIRSKI. **Creativity in education: managerial and psychological aspects.** *The main topic of the article is the issue of creativity in education, with the special emphasis of psychological and managerial aspects (can we manage creativity?). The importance of it especially high in the post-industrial era-based on information, knowledge, and creativity. As the goal behind education is the preparation of the student for the world, in which he or she will live and operate, it should aim at the stimulation of the student's creative potential. By nature, the human is a creative individual. The goal of education is the intellectual and individual development of the student, for which reason it should pursue the development of the student's creative potential and creative lifestyle. The four most important aspects of creativity are dispositions, achievements, process, and the environmental pressure. In the process of education, it is most important to concentrate on the development of creativity in the sense of disposition (creative potential). Needed for that is becoming as familiar as possible with the achievements of the great masters of culture, and learning to respect, collect, and register or record own achievements (however modest), mastering the basics of the creative process, and establishment of an environment favoring creativity.*
Keywords: creativity, education, management, information, knowledge, teacher, culture development, personal development.

1. Creativity as a requirement of civilization.

The ultimate goal of education is to prepare the student optimally for the world where he is going to live and act. Education plays its role properly when it correctly prepares the young person to live in the surrounding world, to play his function in the existing society, at the same time empowering him with opportunities for comprehensive development as a human being. According to Kwieciński (1989), education covers all the person-forming influences that lead to the shaping of an individual aware of his own developmental potential, with fixed identity, capable of active self-fulfillment, undertaking supra-personal and distance tasks, and reproductive co-operation in a variety of communities: national, cultural, and global. Twenty first century is a time of great interaction of nations, of an enormous exchange of people, goods and ideas. The basic condition for effective and secure life in such a world is a high level of tolerance, cultural openness, empathy, dialog and creativity.

Tolerance is a disposition to be indulgent towards those whose opinion and costumes are different. Cultural openness is a disposition to be not only tolerant, but also to take an active and lively interest in other cultures. Empathy means the experience of understanding and the emotional and intellectual sharing of another person's situations, thinking of feelings. Dialog means the ability to share ideas, thoughts, feelings with another people, to understand another's point of view and to reach the common and rational opinions. Creativity is everything that causes of a new, beneficial state of things, everything that causes development or progress. These basic values of our time are closely interconnected.

Currently, we live in a post-industrial period based on information, knowledge, and creativity, with an especially important role being played by those who create this knowledge, and effectively transform and enrich information. Thus, the key feature that allows the individual to meet these goals is creativity. Thanks to this, we can adjust in the most effective manner to the environment, shaping it at the same time. Creativity is the most precious resource and a requirement of today's civilization, providing at the same time the greatest opportunity to develop one's own potential. By nature, a human is a creative individual. It is only in creativity that the human can fully realize his human potential and experience the sense of fulfillment. *Homo sapiens* is the *homo creator*, we are all creators in the sense of private creation, and the opportunity of appearing in the public space increases, naturally with the appropriate workload and effort.

2. Creativity in the era of information technology.

Currently, we live in the era of information technology, called also as post-industrialism, whose characteristic feature is the knowledge revolution. In these period of time, creativity seems to be the most valuable trait in human society. It is the most important factor of productivity. The value of various mental activities has changed with time accordingly to civilization changes

As far as in the agrarian era, before the first revolution, land was the most crucial thing, the most important factor of production. At that time, memory was praised highest, as it was the only available - and later one of the cheapest - means of storing and keeping information. For that reason, early educational programmes were most keen on the memorising of knowledge. Currently, memory storage is increasingly cheap, therefore this type of mental activity plays no more than an accessory role.

Later, due to the Industrial Revolution, it was the processual activity of the mind that became most important: performing calculations, and data analysis and processing. Even in the days of our childhood there was the profession of counting clerk, while in the 19th century hordes of them were employed everywhere.

The next great revolution - in information technology - resulted in a change in the need for the type of work of the human mind. In the field of counting, calculators and computers are incomparably quicker, more efficient, and more foolproof than the work of the human mind. There is, however, a specific field of mental work, which so far no computer system, machine, or modern robot can satisfy - a need that is in a growing demand - namely, creativity.

Creativity it is also an essential trait in modern times. The essence of modernity (modernism in its broadest sense) is based on the value of progress: the permanent development of culture by the person. This is possible thanks to the positive value of novelty in culture and the positive value of the autonomous subjectivity of the person. Ever more often it is believed that the beginning of modernity lies in the 14th century, in the appearance of Wilhelm Ockham's nominalist revolution. Understood in this way, modernity is definitely far from over, as postmodernists erroneously understood; just the opposite: it is undergoing an ever stronger intensification.

The 21st century will first and foremost be the era of primary economic and civilizational importance of creativity. If the school is really to prepare for the contemporary world, it should above all stimulate the

students' creativity. The most important civilizational requirement of our time is creativity.

3. Creativity as a goal in personal development.

The task of the school is not only to adjust students to the conditions and requirements of the contemporary civilization, but also to take care of their comprehensive development. As the goal of education is also the personal and intellectual growth of the student, it should aim for development of the student's creative capacity and creative life style. In the agrarian period, the goal was to shape the individual to be entirely subordinate to the tribal and state organization, and unquestioningly loyal to the existing ideology. In the industrial period, the goal was to bring up a productive and disciplined individual. The ideal of self-fulfillment and subjective development - became popular only in the post-industrial era of information technology. Maslow (2006) claimed that, apart from the needs of lack, also the needs of growth - that is self-fulfillment - are very important for human nature. Self-fulfillment, meanwhile, may be fully present only through the assumption of the creative attitude. The author considered this condition to be common for all people: egalitarian and not elitist.

Developing the psychoanalytical concept of primary and secondary processes, he remarked that within properly conducted education, the human should not be closed to primary processes (impulses, instincts, intuition) through fear or conformism; just the opposite: these processes should be reinforced by opening to art, dance, and aesthetic experiences. At the same time, an important role of the school should be to reinforce the secondary processes - intellectual discipline, diligence and orderliness and critical attitude, as integrated creativity can be achieved only thanks to these.

Creativity is treated here rather as a certain state of personality - the highest level of psychological health, and self-fulfillment - rather than just specific products. This is accompanied by such traits of character as daring, courage, spontaneity, expressiveness, integration, and self-acceptance. Thus understood, creativity is simply a goal in the personal development of the person, and in this sense it should be the goal of education understood as a process focused on the complete development of human potential. Today, the continuation of the ideas of humanist psychology is positive psychology, which - even though more advanced in studies and methodology than humanist psychology - arrives at similar conclusions. It believes that the goal of psychology and the humanities

should be to assist the person in achieving wellness, that is the state of the best physical, psychological, and social operation. (In this it coincides with the psychology of health, as according to the WHO health is physical, psychological, and social wellness.) This is achieved not only through well-being but also by the assumption of an active and creative attitude.

4. Definitions of creativity.

The English word comes from the Latin term *creō* to „create, make”. It refers to the phenomenon whereby a person creates something new (a product, a solution, a work of art etc.) which has some kind of value. There are very many scientific definitions of creativity, yet they are relatively coherent when it comes to the two most crucial criteria. These are novelty and usefulness. This is presented in a typical way by the classical definition of Stein (1953), where creativity is a process leading to a new product, which is deemed useful or acceptable for a specific group at a specific time. Similarly, following Edward Nęcka (1987), it is a psychological process as a result of which the subject reaches a new and precious outcome. This does not, however, mean that it is easy to define whether, and to what extent, the given activity is creativity, as the definition of what is new and what is useful also requires certain criteria, and usually most controversies focus on those. A creative work should introduce a novelty, as only then is continuous progress achievable, both in one's own development and development of other people. Yet what is new may be achieved only on the grounds of what has been done in the past. Man cannot be created out of nothing (*ex nihilo*); such a creation is always based on combining the existing elements into new sets, systems, and solutions. This is why the main role of the school is providing students - within education in its broadest terms - with knowledge and good taste, as grounds for their own creativity, which may develop and enrich the past and present culture. It is also to be remembered that novelty need not mean permanent revolution, shocking, and attempting to do something unbelievable and unheard of at any price. Novelty in culture is introduced by every case of precious uniqueness: it is, therefore, sufficient to be authentic and true to make a new work, precious for culture, when one has at one's disposal knowledge and skills. Lack of novelty leads to stagnation. Koziński (1997) divides human behaviours into adaptive and transgressive. Adaptive actions are only adjustment of the human to the environment. Creativity is a transgressive activity, thanks to which we can change the environment and actively influence the world. Today, such an attitude is beneficial both for the human and for his environment,

remembering of course that it is not only the change that is creative, but valuable change. The creative adaptation means continuous changing of oneself and one's environment for the better. Usefulness is connected to the satisfaction of one's own needs and those of others, and these are in fact satisfied effectively only when they are based on values. Actually precious products may be achieved by falling back upon the cultural heritage accumulated in the past, which can be creatively transformed and improved.

5. The most important ways of understanding creativity.

The notion of creativity encompasses a number of different phenomena. What we call creativity is a certain psychological disposition (creative potential, creative skill, creative personality), a certain process (making, writing, composing), and creative oeuvre (for example, the works of Mickiewicz, Mozart, etc.) Mooney summed up these numerous ways of interpreting the word "creativity" in his concept of 4xP: (person, process, product, press). In the sense of the "person", creativity is perceived as a disposition (the resource aspect), in the sense of the "process" - as the processual aspect (the act of creation), in the sense of the "product" - as the result - oeuvre, and finally in the sense of the "press" - as stimulation from the environment. Thus, there are four most important aspects of creativity: disposition, output, process, and the pressure of the environment. In the process of education the most important thing is concentration on the development of creativity in the sense of disposition (creative potential). To achieve this it is necessary also to become acquainted - in the broadest possible scope - with the achievements of the great shapers of culture; learning to respect, collect, and register one's own, even modest achievements; learning the basics of the creative process; and developing an environment conducive to creativity.

This division of various aspects of creativity is of profound practical importance, which can be used in the work of the school as well. Creativity in the sense of creative disposition is of profound educational significance. Students are primarily the future creators, which is why it is most important to shape them towards future creativity. School may trigger in a student his creative potential, which will later come to fruition throughout his adult life. Creativity understood as the oeuvre covers in fact the majority of the entire school curriculum. All the subjects taught at schools acquaint the students with the achievements of humanity in individual fields of knowledge or culture. This knowledge is especially important in preparation for future creativity in the public realm, primarily because by definition creativity is

what is new and useful. For this reason, one needs profound knowledge so as not to preach to the converted. There is a well-known case of an amateur coming to the famous mathematician, Hugo Steinhaus, and announcing that he has just discovered the mathematical law stating that the total sum of angles in each triangle amounts to 180° (Koziński, 1997). Beyond any doubt, he achieved this through creative activity, yet at the same time he proved a major lack of knowledge. For that reason, his discovery was not one on the public scale. Secondly, becoming acquainted with the works of former creators provides inspiration, knowledge, and skills to continue creation in the given field, and sometimes also inspiration to be active in other fields.

Creativity understood as a process, on the other hand, gives the opportunity to acquaint the student with the techniques of creative work. Unfortunately, one learns relatively little about the principles and procedures of creative work at school. The most important revolution in the transformation from informing school to the creative one should take place in this very scope. Instead of making the students acquainted only with the results of the creative work of scientists and artists, it is extremely important to make them familiar with the technique of the scientific, literary, visual, musical, etc. work. Although the student acquires the fundamentals of creative work (language and principles of its use, scientific notions) at school, he still very rarely receives the rules for putting these elements together in an act of creation.

Finally, the understanding of creativity in the sense of confinement is also of great importance. In this sense, the word "creativity" is rarely used in Polish. Nonetheless, it goes without saying that the factor of the environment is crucial. Creativity is a certain transformation of the data coming from the environment and transforming them into a form that is attractive for that environment: new and useful at the same time. The environment may encourage creativity, inspire it, and support it. It can also block or even punish for the creative attitude. Evaluating the impact of the environment on creativity, one should take into account the following three aspects:

- the richness of the stimuli provided
- the value of the creativity (values and novelties in the given environment)
- the degree of encouragement from that environment.

In the first case, the environment may be rich or poor. It is important that the school ensures a rich environment, providing the greatest possible

number of stimuli necessary for intellectual and emotional development. In the second case, we may deal with an environment that praises creativity or discourages it. Of special importance here is the attitude to novelty (is this an environment that appreciates novelty?): innovative, or vice versa, reluctant towards it and conservative. It is important that the school is an institution that praises not only creativity in the sense of the cultural heritage already shared, but also as the ever replenishing source of new ideas, inspirations, and potential: that it encourages an active attitude that supports searches and pursuit. Finally, it is not enough to worship the innovativeness of the recognized creators who are already active, but the young people must also be encouraged to make such discoveries. In this sense, the environment demonstrating an egalitarian attitude is more efficient, as it encourages everyone to be creative, rather than promoting only the creativity of the intellectual elites.

6. Author's definition of creativity

The author also proposes here a number of definitions which do not change the sense of understanding creativity, and which can finally boil down to the criteria mentioned above, yet which allow a slightly broader look at the question of creativity.

Primarily - in the most general sense - creativity is the causing of a new, beneficial state of things. It is always connected with some kind of change, with emergence of something new, but this "something" should be beneficial for people and culture.

Secondly, everything that causes development or progress is creativity. Creativity causes development of man, both creator and receivers (clients), development of culture and society.

Thirdly, creativity is the formulation of new representations and products on the grounds of current or past ones. Creativity is primarily a process of thinking, imagination, and activity, but secondly it leads to changes in material world.

Finally, creativity is "the leadership form of communication, actualized primarily in the symbolic form". Creator is always some kind of leader, in his or her special domain, who finds and proposes new ways, new methods, new products. In cognitive psychology, creativity is understood primarily as a heuristic process, in opposition to the algorithmic approach, or as an effective way of employing the cognitive patterns, as in Schank and Abelson (1977).

To put it more precisely, "creativity is the transformation of information and matter leading to the development of a useful, valuable, new, and original product".

To sum up, author of the article defines creativity as a transaction between the resources and means owned, and the requirements of the environment within which these resources are transformed in a way that brings about a new quality capable of satisfying these needs and requirements.

Creativity always requires specific skills and competences. According to author's point of view, creative skills can be divided into hard and soft. The hard creative skills are intelligence, imagination, and special talents connected with the future field of creation. The soft creative dispositions are primarily the creative personality, attitude, sensitivity, emotionality, motivation, courage, individuality, self-management, and self-organising skills, as well as (especially today) social competence. Creative competences can also be divided into hard (intellectual) and soft (emotional, motivational, self-regulational, and personality-related).

7. The egalitarian and universal approaches

The egalitarian concept of creation is far more justified than the elitist one. Traditional education supports, nevertheless, the elitist vision of creativity, presenting eminent creators as "geniuses" so great and exceptional that living up to them is to be believed unattainable by the student. Promoting the egalitarian vision of creativity, the school may stimulate creativity among all its students.

The elitist approach to creativity has so far been highly popular. This means that creativity was perceived as a phenomenon limited to a fairly small circle of eminent persons. The character of school education intensified this approach even further, for example by a far greater emphasis on the presentation of creativity as an achievement rather than a process. As a result, creators are presented to students as geniuses, celebrities of culture: people unmatched in their creative potential. Yet the notion of genius is useless from the point of view of psychology, as it does not explain the mechanism of creating a work. Furthermore, it discourages other people, as they seem to be too small to try it themselves. As a result of the educational process, many students believe that composing, painting, or writing literary works remain absolutely inaccessible. In fact, making music and drawing can be taught to everyone, while composition of music, painting and creative writing are not as difficult as the uninitiated person may believe. Naturally, there is a great difference in the levels of creativity here, but one must begin somewhere. This phenomenon is seen in the development of the graduates of courses of drawing, who initially do not believe that they could learn to draw at all, while - having acquired some

technique - they look at their drawings in amazement and with disbelief, seeing in them great artistic merit. What is visible here is moving between the extremities. It is not true that one may not immediately learn to draw (or play, compose, write creatively) well, but nor does one become an artist immediately after correctly mastering the first techniques. There are a few reasons why the traditional school - consciously or not - prefers the consumerist attitude to the creative one towards culture (teaching how to consume works rather than how to create them). The first is an expectation of an excessive level of creativity, achieved in most cases after a very long individual education in special educational facilities by the persons who were previously deemed to be specially talented. An average school does not actually take care of them; they enter a special, elitist artistic path. This approach is mistaken, as it often results in the loss of plenty of potential talents on the way. Besides the highest class of public creativity (cultural and canonical), creativity for the needs of one's own expression (private creativity), and neighbourhood creativity (creativity for the use of the close social circle: peers, friends, family, etc.) are also extremely precious.

The emergence of the Internet introduces a major revolution in the realm of creativity. So far, the creative activity - private and local - may acquire the dimension of global communication without the major costs of production connected with past and present high creativity. A creative piece of work originates when a psychologically sensitive person has something important to say, and communicates it by the appropriate language (literary, visual, musical). The formal and technical aspect is only a language used to express the precious thoughts and emotions. Plenty of people have not become artists, despite a very interesting inner life, as they have failed to master that language, and vice versa: many people with a mediocre inner life complete formal artistic education thanks to purely technical talents acquired early and quite randomly (which specialists later deem fitting to develop). Finally, our education strongly overestimates the importance of specialization, which is a 19th-century tradition that still lingers on. Naturally, some specialization in life is necessary. Moreover, one can be creative practically in all the fields of activity, and not only in the artistic one. It is important that the young person finds his or her own path of the quickest and most effective growth. Yet also some factors must be taken into account. A superficial education may lose the path of the quickest growth (for example one could really become a great composer, writer, actor, scientist), but not

be helped by anyone (including school) to find that path. Secondly, there is a certain multidisciplinary character possible, which results from the fact that an interesting inner life can be expressed through a number of languages (scientific, musical, visual, etc.) This can be a professional multidisciplinary character or semi-professional (a physician by profession plays the piano beautifully for himself and friends). Finally, of key importance here is the meaning of transfer. Namely, creativity in one field can be successfully transferred into other fields (children educated in music learn mathematics quicker, and can find there a greater passion, the skillful fingers of the pianist do come in handy in the profession of the surgeon, the visual thinking developed in drawing will later become useful in the profession of the engineer). Finally and most importantly, it is not the only goal of the school to prepare for a certain profession. What should be its most important goal is the full development of the human potential, giving an opportunity for a life that is full, creative, and happy. To sum up, the egalitarian perception of creativity is today far more modern, educational, and humanistic, while the triggering of creativity is to be considered an extremely important role of the school.

8. Types and functions of creativity

Assuming the egalitarian concept of creativity, one must, however, single out different levels of creativity. First of all, private creativity must be distinguished from the public kind. As far as the basic definition of creativity is the same in both cases, and means the potential to originate something new and valuable, the criteria of novelty and value will be different here: in private creation this is going to be something new and valuable for the individual, while in the public realm it will be something that is valuable for the broad notion of the environment of the individual.

In the scope of private creativity, we are all creators, even if we do not know that ourselves. Each of us develops our own representation of the world, which in its foundations is always "personal". Each of us - in a personal, individual manner - creates his or her own life. Each of us is new and different from others, and ever continues to become new. The role of the school is to help the individual to develop a valuable, adequate, and adaptive representation of the world, and help him to effectively and valuably shape his own life. Private creativity is always the starting point for the public kind. If a given person has an interesting, original picture of the world, he will be able to express it in appropriate language, best adjusted to his skills. Such an individual will also be able to shape himself and his own life in a productive and creative direction.

Public creation requires proportionally larger skills and appropriately broader knowledge. This is the case as it is to provide what is new and valuable not only for oneself, but also for the group to which it is addressed. I suggest that we distinguish here the three most important forms of public creativity: a) local creativity, b) publicized creativity, and c) canonical creativity. The first of these is addressed to the circle of the persons nearest to the creator, school, peers, family, and friends. The creativity of this type a) does not have to define new trends or carry an exceptional quality, and is in most cases still of an amateur type. Yet in the given local realm, it appears something of importance, it is less significant that someone creates, represents or interprets things that are known - it is important that it is our man who has got something important and interesting to communicate to us in the language of art (or science or journalism, etc.) Such creativity is definitely to be supported and stimulated in the school environment. This might be in the form of school newsletters, performances at school gatherings, declamations, concerts and recitals, and presentation of students' work in school corridors. Peer creativity is also to be supported, including student performances in their own milieu, their local, school works even if - at times - they may be critical or satirical towards the teachers. Moreover, the operation and development of school theatres and cabarets should be strongly supported. Worth remembering too are special interest groups and learned societies, which can help to develop local scientific creativity among the students. School newsletters in turn help to develop local journalistic creativity. Local creativity is the first, extremely important step between private creativity and the publicised form. It is a step that is very hard to make especially for psychological reasons, as strong mental barriers must be overcome here: shyness, fear of rejection, and stage fright. The young frequently write interesting pieces or may have interesting scientific ideas, yet they lack the courage to communicate them to others, or frequently there is no opportunity to do so.

Publicised creativity is already something that - via different channels of distribution - may reach a very broad circle of recipients, also ones that are unknown to the author. Today the most important role of the mediator is played here by publishing houses and the media (press, radio, and television), as well as organized concerts and exhibitions. Public creativity is far more challenging than the private or local forms. Now the criterion of creativity encompasses what is truly new and valuable for other people. It is not enough what a friend or colleague has to say

or present. The creator is an alien, treated as a professional. In the era of globalization, novelty and value are of a global character. Imitating or copying works of others is condemned and legally prosecuted for the infringement of intellectual property rights. It is therefore evident that this creativity requires a very high level of skills as well as a broad knowledge in a given field (with the need to know what has already been achieved so as not to copy it but to use the technical experience). The achievement of this level in a given field requires many years of intensive work, with specialists speaking even of a minimum of ten years. This level is hardly ever achieved during education, yet this is not impossible in the case of students with special talents when surrounded with appropriate care. Plenty of beginner artists overestimate the obstructive character of this barrier. Even though the requirement of value and novelty in the scale - which is today in fact the world scale - is a stark requirement, it is nevertheless not so very unachievable. First, in any field, there is still the theoretical potential for making the practically infinite number of valuable and new works (the infinitely large number of musical works, paintings or literary works that can be composed, painted, or written).

The basic condition of novelty in the field of art is original quality, while each independent and authentic work is absolutely original and unique on the world scale. Thus the period of education may be a period of measuring up to the public creativity, which may sometimes occur even earlier than one would expect. Yet in most cases this requires a certain high level assessed by professional critics and reviewers before it becomes publicly available. In theory, it is possible to publish a creative work at one's own expense, yet this as a rule entails high costs (ergo risk, with their scope of impact being small). Yet what has appeared in recent years is an entirely new and powerful way of public promotion. This is the Internet. Unlike the former forms of publicized creativity, this requires neither assessments from critics or reviewers, nor the high costs related to one's own publication. This is why the entry barrier is far lower here. On the other hand, the number of recipients is large and ever growing (obviously, with the competition growing in parallel ever more). What emerges here is new forms of creation, for example blogs. As these are highly popular among the young, what is in fact taking place here is the transfer of the past local creation into the public realm. The personal aspect in online creativity is both accepted and appreciated. Students are to be encouraged in this type of promoting creativity as much as possible.

This form prepares them for the higher manners of dissemination in the future. It is not impossible that in the further future, this form will be of key importance and, the more so, the experience gathered now may come to fruition in future.

The highest class of public creativity is canonical creativity, that is the type that makes a lasting entry into the canon of national and world culture. This phenomenon is called by Koziielecki historical transgression. It pertains to such works that introduce a unique and immense contribution to culture, where the factor of value or novelty (or, in the best case, of the two together) is extremely high and significant. Here, the level of entry is the highest, and the mechanism of selection is the most discriminating, with both processes being staged in time. Frequently, the works that used to be highly popular fall into oblivion, and vice versa - creativity that used to be marginal suddenly becomes rediscovered and makes it into the canon of culture (which was the case with Cyprian Norwid's works, for example). Frequently, this is the case with works that in a way were ahead of their time (e.g. the works of Impressionists and Cubists). It is a rare case that works created while receiving education make it into the canonical creativity, but such situations do occur, as in the case of Alfred Jarry's *King Ubu* and Arthur Rimbaud's poetry.

The creative trust on behalf of the teacher means that he always hopes and communicates it to the student that the student's work may once become a part of the heritage of mankind, maybe even earlier than the student expects.

9. Areas of creativity

The essence of the egalitarian approach is to consider that a person can be creative in every field. This does not necessarily have to be only scientific or artistic creativity (even though the role of these fields will be ever-growing in a society based on knowledge with a growing demand for cultural goods). One may be creative in any field of life: economy, law, administration. From this point of view, such a field as entrepreneurship, for instance, is an equally important discipline for creativity to be shaped as mathematics, the national language, and knowledge of culture.

Naturally, in which of the fields we want to shape the young person depends also on the level and character of education. Vocational training may focus on the shaping of a creative member of the technical personnel: a future inventor-at-work, or simply an inventor, a person who will perform his job with a creative action. The comprehensive education followed by higher studies would rather be focused on creativity within

the intellectual field, yet these definitely do not have to be only scientific and/or artistic achievements. Similarly, a physician, lawyer, journalist, and clerk can be creative. Each of them after all undertakes actions that are useful for the community, and in a sense unique and innovative at the same time. From the point of view of different disciplines, creativity can be divided into scientific, artistic, journalist, technical and engineering, therapeutic (medical, psychological, nursing), legal and administrative, entrepreneurship and managerial, didactic and educational, sports, civic, political, spiritual and religious. Indeed, in each field practiced by the individual, one can be creative.

There are two more crucial aspects of creativity: accessory creativity and receptive creativity. The first is participation in the creative work of other people, albeit as a sidekick or subcontractor. The creative reception, in turn, on the one hand is the internalization of the creativity of others, yet it is also a form of private creation. To achieve that, however, the mind must internalize the work in an appropriate manner: it must be ready for it, have an opportunity to meet it, to experience it, to subject it to reflection, and to remember it. Every true experience of the work is, in fact, the only and unrepeatable one. On the other hand, reception of works of culture is the condition necessary for their existence: any inventiveness is after all a form of communication. If, therefore, we want to have inventiveness, we must prepare the public for it.

This task - namely, preparation for the consumption of the work of science, civilization, culture, preparation for its use and dissemination - is also carried out by school.

10. Creative competences.

The essence of creativity lies in having something important to communicate and expressing it in an appropriate, professional language: scientific, technical, literary, musical, visual, etc. What lies at the base of any creative activity are the basic competences that can be divided into general and specialist. The general creative competences are a certain readiness of the mind to be creative within any field. The specialist capacities make it possible to actuate the creative potential in a definite means of communication. The role of general education is primarily to stimulate the general creative potential and to learn the basic means of creativity and their specific characteristics, while vocational education, artistic schools, and higher education should focus also on the development of special creative competences. The general creative competences can be divided further into hard (intellectual) and soft (emotional,

motivational, self-regulating, and personality-related). The first ones include creative intelligence, general intellectual skills (intelligence, knowledge, imagination), abilities, knowledge and special competences. The soft competences, on the other hand, cover emotional sensitivity and emotionality supporting creativity, empathy, creative motivation, the creative will, self-discipline, self-organisation, creative personality, and creative attitude. The notion of creative attitude was introduced as early as 1947 by Radlińska, who believed that it is a primarily active attitude, as "any creativity must break resistances and barriers", which is moreover connected to responsibility and maturity. Wojnar (1976) sees the creative attitude as "an attitude opened towards the world, things, and people, and at the same time mobile: a movement of thoughts, feelings and imagination with the will and need of transforming activity". According to Dobrołowicz (1995), the necessary constituents of the creative attitude are imagination and creative thinking, capability of producing ideas, flexible character and originality as well as a positive emotional attitude to creation. Popek (1988) believes the creative attitude to be a cognitive and personal property shaped genetically through individual experience that shows a tendency, an attitude or readiness to transform the world of things, phenomena, and also one's own personality. First, it is an active attitude of man to the world and life, finding an expression in the need to get to know, experience, and processing - in a manner aware of the goal, and not of the process - of the encountered reality and the self. The creative attitude consists of the cognitive sphere, dominated by "heuristic behaviors" and the personal sphere dominated by non-conformism. Thus, the creative attitude is not only a positive attitude to creativity, but also an appropriate approach to the world and the self.

11. Management of creativity.

The question is, can we manage creativity and how to manage it? How do you increase efficiency, improve quality, and raise productivity, all while accommodating for the complex and chaotic nature of the creative process? How one can make himself an instrument for creativity? What is the role of the teacher in initiation of intuitive moments in thinking?

First of all, it is important to build the right atmosphere for creativity to flourish. To encourage creativity, it is important to value feeling as much as knowing. Creative people dislike routine, they work best in an atmosphere of freedom—freedom to experiment and to make mistakes. Thus, a favorable, encouraging environment and the proper style of supervision are critical to creative people's success. It is impossible to

separate creative people from the environment in which they operate. The right physical environment also creates energy.

Furthermore, in order for managers to create an environment that is conducive to creativity, they must be extremely careful about criticizing. Criticism must be in the form of feedback that a creative person views as an attempt to help, to teach, and not in the form of anything approaching personal criticism. Feedback of a critical nature must be done in a constructive, encouraging, coaching manner.

Teresa Amabile (1983) in her ground-breaking work on creativity, *The Social Psychology of Creativity*, writes that "Criticism and imparting feelings of failure will destroy creativity—avoiding them are the keys to fostering creativity." The author states that the "...work environments most conducive to the fulfillment of creative potential may include a high level of worker responsibility for initiating new activities, a low level of interference from administrative superiors, and a high stability in employment. Teresa Amabile also shows that creative people are motivated from within and respond much better to intrinsic rewards than to extrinsic ones.

Mihaly Csikszentmihalyi (1996) at Claremont Graduate University in California has documented the factors that generate creativity and its positive effects on organizations, advancing the concept of "flow"—the feeling people get when their activities require focus and concentration but are also incredibly enjoyable and rewarding.

It is also very important to teach pupils how to manage its own creativity. For this purpose, it would be very helpful to introduce creativity training in schools. It is also necessary to help them to find the area, in which they have already some skills and abilities and in which they could develop its own creativity.

12. The teacher as a creator.

The most important factor in creative stimulation at school is the teacher himself, his creative attitude and personality, inspirational activity, giving an example, and staking out the roads and horizons for the student's creative activity.

The teacher is always a creator, owing to the mission of this profession, as the teacher shapes and co-constructs the psyche of the young person - his student. Yet the crucial problem is whether this is a conscious creativity, yielding positive effects, or an unconscious one that rather moves the student in the inappropriate direction. Characteristic of good creativity is the fact that it builds a certain positive developmental potential, which

means that as a result the student progresses in his intellectual, social, personal, and spiritual development. This developmental potential of the student is not, however, detached from the external environment of a social and cultural nature that surrounds him. The creative impulse will come only if the values passed to the students in themselves have the external creative value, and therefore will introduce new and original values into the surrounding world. Only then can they actively inspire the development of the student.

Four levels of creative impact of the teacher can be named:

didactic: the teacher has the student acquainted in a professional manner with the achievements of other creators who have brought something precious into culture, thanks to which the student progresses in personal development;

didactic, and supporting creation: the teacher not only provides the knowledge important for the development but also shapes specific special skills and the creative attitude, and encourages the student to create valuable pieces of work, as a result of which the student may create valuable works himself;

personally creative - didactic: by making the student acquainted with all the works, achievements, and/or research or artistic work, the teacher stimulates student development;

personally creative and supporting creation: by acquainting the student with his own works, and own research or artistic achievements, and also with his own technique, the teacher shapes specific special skills and a creative attitude, encouraging the student to create valuable pieces of work, as a result of which the student can himself create valuable works. The teacher may consider this last form of impact to be the most valuable and creative. This is the highest level - mastery - thanks to which the greatest works of culture can originate.

This is why one should support personal artistic and scientific creation of teachers, as only then it is possible to achieve this highest and most precious form of creative influence. Encountering the achievements of his master, the student is encouraged through the personal example to undertake creative attempts himself. At school and in general perception, scientific or artistic creation is only too often considered something elitist, which the student will not even dare try. The example given by the teacher that one should dare to create is exceptionally important; moreover, only then can a student truly learn a technique, when he sees its valuable and original results. Moreover, this personal artistic or scientific creation of the

teacher enriches the social and cultural milieu, which in turn is the best path for student development and an impulse that he too begins creatively influencing that environment. Creativity may be manifested in every field of people's life and work. For this reason each type of education, including professional development, should care for the stimulation of creativity. The higher the level of education, the more important such a pressure should be. School may and should teach the modernity of thinking, love for civilizational progress, simultaneously with the acquaintance of the vastness of the cultural heritage of humanity. Despite the vastness of this heritage, novelty is still viable thanks to the uniqueness of every individual, on the condition of the individual's authenticity and originality.

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The Author

Andrzej Mirski
*Doctor of Psychology, Professor,
Academia Krakowska
im. Andrzej Fritsch Modzhevsky, Krakow, Poland
E-mail: artmir@o2.pl*

Abstracts

АНДЖЕЙ МІРСКИЙ. Креативність в освіті: управлінські та психологічні аспекти. Основною темою статті є питання креативності в освіті, з особливим наголосом на психологічних та управлінських аспектах (чи можна керувати креативністю?). Важливість цього особливо висока в постіндустріальну епоху, засновану на інформації, знаннях і творчості. Оскільки метою навчання є підготовка учня до світу, в якому він чи вона житиме та діятиме, воно має бути спрямоване на стимулювання творчого потенціалу учня. За своєю природою людина є творчою особистістю. Метою навчання є інтелектуальний та індивідуальний розвиток учня, тому воно має спрямовуватися на розвиток творчого потенціалу учня та творчого способу життя. Чотири найважливіші аспекти творчості - це

схильності, досягнення, процес і тиск навколишнього середовища. У процесі навчання найважливіше зосередитися на розвитку креативності в сенсі схильності (творчого потенціалу). Для цього потрібне якнайбільше ознайомлення з досягненнями великих майстрів культури, навчитися поважати, збирати та реєструвати чи фіксувати власні досягнення (хоч і скромні), опанувати ази творчого процесу, створити середовище прихильності до творчості.

Ключові слова: творчість, освіта, управління, інформація, знання, учитель, розвиток культури, особистісний розвиток.

АНДЖЕЙ МИРСКИ. Креативность в образовании: управленческие и психологические аспекты. Основной темой статьи является проблема творчества в образовании, с особым акцентом на психологические и управленческие аспекты (можно ли управлять творчеством?). Значение его особенно велико в постиндустриальную эпоху, основанную на информации, знаниях и творчестве. Поскольку целью образования является подготовка учащегося к миру, в котором он будет жить и действовать, оно должно быть направлено на стимулирование творческого потенциала учащегося. По своей природе человек – творческая личность. Целью образования является интеллектуальное и индивидуальное развитие учащегося, поэтому оно должно преследовать развитие творческого потенциала и творческого образа жизни учащегося. Четыре наиболее важных аспекта творчества — это предрасположенность, достижения, процесс и давление окружающей среды. В процессе обучения наиболее важно сосредоточить внимание на развитии творчества в смысле предрасположенности (творческого потенциала). Для этого необходимо максимально приобщиться к достижениям великих мастеров культуры, научиться уважать, собирать и регистрировать или фиксировать собственные достижения (какими бы скромными они ни были), овладение основами творческого процесса, создание среды. благоприятствую творчеству.

Ключевые слова: творчество, образование, управление, информация, знания, педагог, развитие культуры, личностное развитие.

ANDRZEJ MIRSKI. Kreatywność w edukacji: aspekty menedżerskie i psychologiczne. Tematem przewodnim artykułu jest problematyka kreatywności w edukacji, ze szczególnym uwzględnieniem aspektów psychologicznych i menedżerskich (czy potrafimy zarządzać kreatywnością?). Jej znaczenie jest szczególnie duże w epoce

postindustrialnej opartej na informacji, wiedzy i kreatywności. Ponieważ celem edukacji jest przygotowanie ucznia do świata, w którym będzie żył i funkcjonował, powinna ona zmierzać do pobudzenia potencjału twórczego ucznia. Z natury człowiek jest twórczą jednostką. Celem edukacji jest rozwój intelektualny i indywidualny ucznia, dlatego też powinno się dążyć do rozwoju potencjału twórczego ucznia i twórczego stylu życia. Cztery najważniejsze aspekty kreatywności to dyspozycje, osiągnięcia, proces i presja otoczenia. W procesie edukacji najważniejsza jest koncentracja na rozwijaniu twórczości w sensie dyspozycji (potencjału twórczego). Potrzebne jest do tego jak najpełniejsze zapoznanie się z dorobkiem wielkich mistrzów kultury, nauczenie się szanowania, gromadzenia i rejestrowania czy utrwalania własnego (choćby skromnego) dorobku, opanowanie podstaw procesu twórczego, stworzenie środowiska sprzyjające kreatywności.

Słowa kluczowe: *kreatywność, edukacja, zarządzanie, informacja, wiedza, nauczyciel, rozwój kultury, rozwój osobisty.*