THE ANALYSIS OF THE CREATIVE FACTORS IN THE FORMATION OF THE STUDY FOR THE MANAGERS OF THE FUTURE

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A good leader is a creative leader. A number of examples from practice show a need to change the way executives think and work—the need for creativity. Success depends on the managers' ability to learn creative thinking. It is not enough just to learn creativity we must become creative people. Research shows that everyone has creative potential that we may not be aware of. Only when the individual is aware of his creativity competencies strengths and weaknesses, can he improve them and become a creative manager. In order to determine whether awareness of creativity components affects individuals in their decision-making, at MLC Ljubljana we have continued last year's pilot survey on the level of our students' creativity competencies. We used a survey. Respondents completed a questionnaire, processed by Epstein methodology; we did the statistical analysis and hi2 tests. The purpose of this research is to raise awareness of the importance of creativity competences in management and law. Knowing the differences between individual creative potential and his actual creativity is an important stepping-stone in the process of improving his creative potential.

INTRODUCTION

With the notion creativity, we usually label a mental process involving the formation of new ideas or new connections between already known ideas. A common definition of creativity does not exist. Some definitions focus on the characteristics of the individual, whose work is creative (What is a creative person?). Others take into account the work itself (What does a creative person do to get creative outcome?).[1]

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[1] V. BARRON, THINKING AND DECIDING, JONATHAN BARON (Cambridge University Press 1988); D. N. Perkins, *Creativity and the Quest for Mechanism*, in THE PSYCHOLOGY OF HUMAN THOUGHT (R. J. Sternberg & E. E. Smith eds., New York: Cambridge University Press 1988); Heilman K. M. et al., *Creative Innovation: Possible Brain Mechanisms*, 9(5) NEUROCASE 369—379 (2003).

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In summing different definitions of creativity, we can see that the creative process is the process of changing ideas into reality and includes reflection, action and realization. Between thinking and realization there must come to action, because otherwise, the individual has a good idea, but an idea itself does not constitute a solution of a specific problem.

Epstein believes that eight managerial creativity competencies play an important role in stimulating creative expression among employees. In his survey, conducted on 1,337 managers in 19 countries, he showed that according to the managers the most important creativity competence is the ability to provide adequate resources (ensure adequate and appropriate resources).[2] In order to be creative, individuals must have certain properties and skills but there must be also suitable conditions for their work.[3]

Experts[4] found that creativity is extremely important driving force of "start-up" companies, but once gained success, certain companies (such as General Motors) inhibit creativity. Managers create an organizational culture with which they can stimulate or inhibit creativity. Certain companies consciously decide to allow employees time to work on their own ideas. Examples are Google and 3M[5]. In the history of business, we can find examples where managers literally push subordinate into innovation. Among the best known is Edison with his "imposed idea quotes" (The employees had to submit a new idea every 10 days and a smaller invention in 6 months. The result was that West Orange laboratory in that time became one of the most successful industrial think tanks).[6] The second great example is BMW with the "sink or swim" strategy (Managers give employees only a rough description of the desired goal, but do not tell them how to get to target; employees are then observed at work. Those who

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[2] R. Epstein et al., *How Is Creativity Best Managed? Some Empirical and Theoretical Guidelines*, 22(4) CREATIVITY AND INNOVATION MANAGEMENT 359—374 (John Wiley & Sons Ltd. 2013).

[3] T. M. Amabile, *The Social Psychology of Creativity: A Componential Conceptualization*, 45 JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY 357—376 (1983); R. Epstein, *Generativity Theory and Creativity*, in THEORIES OF CREATIVITY 116—140 (M. A. Runco & R. S. Albert (eds.), Newbury Park, CA: Sage 1990).

[4] P. F. DRUCKER, INNOVATION AND ENTREPRENEURSHIP (New York: Harper Collins 2006); K. E. Train & C. Winston, *Vehicle Choice Behaviour and the Declining Market Share of US Automakers*, 48 INTERNATIONAL ECONOMIC REVIEW 1469—1496 (2007); P. Cohan, After 101 Years, Why GM Failed. Daily Finance (2009). URL http://www.dailyfin ance.com/ 2009/05/31/after-101-years-why-gm-failed/ [accessed on 28 March 2017].

[5] T. M. Amabile et al., *Leader Behaviours and the Work Environment for Creativity: Perceived Leader Support*, 15 THE LEADERSHIP QUARTERLY 5—32 (2004); C. L. Byrne et al., *Examining the Leaders of Creative Efforts: What Do They Do, and What Do They Think About?*, 18 CREATIVITY AND INNOVATION MANAGEMENT 256—268 (2009); F. Castro et al., *Do Intelligent Leaders Make a Difference? The Effect of a Leader's Emotional Intelligence on Followers' Creativity*, 21 CREATIVITY AND INNOVATION MANAGEMENT 171—182 (2012).

[6] F. L. DYER & T. C. MARTIN, EDISON, HIS LIFE AND INVENTIONS (Public Domain Books 2006).

manage to cope with the imposed responsibility are moving quickly within the company.).[7]

Training for the core competencies of creativity in the business environment, leads to a measurable increase in the number of new ideas. These ideas can bring significant financial benefit to the company.[8] Some companies are aware of that, and give their employees training in their own educational institutions (like Pixar University), award scholarships for study (like Genetech), are not afraid to be exposed to employees' opinions and ideas (such as the former director of BMW Panke).[9]

The purpose of this paper is to demonstrate the importance of creativity competencies for future managers, and to demonstrate competence level of creativity of MLC Ljubljana students. The aim of this paper is to raise awareness of the importance of creativity competences among MLC Ljubljana management and law students. In our work, we have the following hypothesis: teaching creativity is important, but it is also important to monitor the progress of the group. Methods: In order to prove or disprove the posed hypothesis, we conducted two surveys among the MLC Ljubljana students. Survey was designed based on an Epstein creativity competencies questionnaire (ECCI-i)[10].

I. THEORETICAL FRAMEWORK

Creativity, innovation, critical thinking and problem solving are skills that are essential for the future workforce.[11] Future workforce (our students) will be working on a routine search for information and routine problem solving. They will create a new, dynamic relationship and will be able to

[7] A. Van Hooydonk, *An Interview with BMW's Chief Designer*. Business Week, 16 October (2006).
[8] R. Epstein, S. M. Schmidt & R. Warfel, *Measuring and Training Creativity Competencies: Validation of a New Test*, 20 CREATIVITY RESEARCH JOURNAL 7—12 (2008).
[9] C. Tkaczyk, *Genentech: Encouraging Innovation*. CNN (2009). URL http://money.cnn.com/2009/09/29/ technology /genentechbiotech.fortune/index.htm (accessed on 15 March 2017); J. Hempel, *Pixar University: Thinking Outside the Mouse*. SF Gate (2003), http://www.sfgate.com/news/article/Pixar-University-Thinking-Outside-The-Mouse-2611923.php [acessed on 30 March 2017]; G. Edmondson, *The Secret of BMW's Success*. Business Week (2006). URL http://www.b usinessweek.com/magazine/ content/06_42/b4005078.htm (accessed on 18 March 2017).
[10] Epstein Creativity Competencies Inventory for Individuals (ECCI-i) is 23-item Likert-scale inventory (five points labelled Agree and Disagree at the extremes) with which we could assesses our students four core creativity competencies.
[11] K. Kay, *21st Century Skills: Why They Matter, What They Are, and How We Get There*, in J. BELLANCA & R. BRANDT (EDS.), 21ST CENTURY SKILLS: RETHINKING HOW STUDENTS LEARN. (Bloomington, IN: Solution Tree 2010).

tackle new challenges with advanced technology.[12] Gardner[13] emphasizes that the key predisposition, which will mark the future creator, and must be developed early in life, is "strong temperament and personality that fearlessly accept reasonable risk cognitively and physically". The curriculums must be more aggressive in cultivating a culture that enhances the creativity of students. Teachers cannot think for their students, and cannot impose their thoughts.[14] Learning that involves students as collaborators in problem solving is essential.[15] Education of the 21st century should be linked to performance and professionalism in the basic knowledge of the individual subjects, and 21st century competencies that are expected and appreciated outside of the school. These include creativity, which can be understood as the ability and passion of an individual to do new things and to adapt to new situations.[16]

In his Generativity theory, Epstein has identified four core creativity competencies, which, according to him, are the essential characteristics and skills that an individual must learn and develop in order to express his creativity.[17] Individuals can:

- Capture ideas (capturing): this kind of the individuals try to capture and retain ideas that came to their minds in the most original format as possible. Individuals labelled as "creative" have unprecedented ability to capture ideas (Artists carry their sketchbooks, writers' notebooks or recording devices, the inventors sketch on paper napkins or have ideas recorded on the sleeves or even on their skin if they do not have adequate material available; they usually have gadgets at their hand day and night.).
- Look for challenges (challenging): such a person usually deliberately faces challenges and difficult tasks, which requires a high level of skills and knowledge. New ideas emerge when different behaviors compete among them. The easiest way for an individual to find a new solution when the current behavior does not work is to evoke an old behavior used in another situation. One of the most important means of increasing individual creativity is the willingness to learn to cope with failure (and not be afraid of failure).

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[12] S. Williams, *Increasing Employees' Creativity by Training Their Managers*, 33 INDUSTRIAL AND COMMERCIAL TRAINING 63—68 (2001).
[13] H. Gardner, *Five Minds for the Future*, in J. BELLANCA & R. BRANDT (EDS.), 21ST CENTURY SKILLS: RETHINKING HOW STUDENTS LEARN (Bloomington, IN: Solution Tree 2010).
[14] P. FREIRE, PEDAGOGY OF THE OPPRESSED (New York: Continuum 1995).
[15] J. DEWEY, EXPERIENCE AND EDUCATION (New York: Collier Books 1938).
[16] Y. ZHAO, CATCHING UP OR LEADING THE WAY (Alexandria, VA: ASCD 2009).
[17] R. EPSTEIN, THE BIG BOOK OF CREATIVITY GAMES: QUICK, FUN ACTIVITIES FOR JUMPSTARTING INNOVATION (McGraw-Hill Education 2000).

- Broaden the knowledge and skills (broadening): such individuals are looking for training, experience and new knowledge outside their area of expertise. Greater his repertoire of behaviors and skills, more interesting and surprising links he or she is able to produce (he or she can produce more unusual and effective solutions to a single problem).
- Modify physical and social environment (surrounding): an individual regularly changes its physical and social environment, which gives him a different and unusual stimuli. The stillness is the death of the creative process.

Based on the four core creativity competencies we can extract eight creativity competencies important for managers.[18] These competences are:

1. The facilitator of ideas conservation: manager provides employees with new opportunities and resources, and encourages them to maintain new ideas. This also includes the facilitation of appropriate training and the provision of adequate means and equipment.

2. Challenger: managers challenge employees with difficult tasks. These challenges are best if designed in an open format, without any special restrictions.

3. The facilitator of conquering new skills: managers encourage and provide the employees education and training outside their current professional fields.

4. Environment manager that stimulates creativity: managers allow regular change of employees' physical and psychological environment.

5. Team administrator in order to stimulate creativity: team members can switch between them. They also exchange rhythm—for a certain period they can work on a solution as a team and then tackle the problem working independently.

6. The administrator of resources dedicated to creativity: managers ensure that employees have sufficient resources for the development of ideas.

7. Feedback provider: managers are in constant contact with employees in order to stimulate creativity. This means that sometimes they must postpone or withhold judgment in order to encourage the expression of new ideas.

8. The manufacturer of relevant creative and managerial skills: managers set a good example with his or her behavior and skillfully manage his own creativity.

The generativity theory suggests that the individual creative potential is

[18] R. EPSTEIN, THE BIG BOOK OF CREATIVITY GAMES: QUICK, FUN ACTIVITIES FOR JUMPSTARTING INNOVATION (McGraw-Hill Education 2000).

universal and perhaps even unlimited.[19]

Many psychologists understand creativity as a kind of innate ability. Sternberg (2003) believes that creativity is largely a decision. People are especially creative in their decision to go their own way. Individuals make choices to which others lack the will or even courage. For example:

- to be daring,
- to define problems in ways that are different from the ways in which their colleagues define the problems,
- to be able to analyze their ideas in order to be able to discard their weaker ideas,
- to convince people to accept initially rejected ideas,
- to overcome many often difficult obstacles,
- to tolerate ambiguity,
- to be ready for growth even after many years of experience,
- to believe in themselves,
- to recognize that better ideas can be built upon and perhaps even replace these same ideas.

If we believe that in essence, creativity is decision, then we can teach creativity. Creativity is often seen in preschool children, but much harder to trace in adults because their creative potential was suppressed by society.[20] Not only that creativity can be taught, we can learn it very effectively at all levels of education from kindergarten to university.[21]

II. RESEARCH FINDINGS

At the MLC Ljubljana, we are aware that in today's postmodern world the only certain things are changes and therefore creativity is crucial. With this in mind, we have continued last year's pilot study of creativity of MLC Ljubljana students.

This year pilot study involved 50 male and female students, of whom 81% were older than 25 years. 92% of respondents have 5 or more years of work experience. The structure of the respondents is particularly important because respondents have already formed personality, with their own beliefs,

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[19] R. Epstein, S. M. Schmidt & R. Warfel, *Measuring and Training Creativity Competencies: Validation of a New Test*, 20 CREATIVITY RESEARCH JOURNAL 7—12 (2008).
[20] R. J. Sternberg, *The Assessment of Creativity: An Investment-Based Approach*, 24(1) CREATIVITY RESEARCH JOURNAL (Oklahoma State University 2012).
[21] Stouffer et al., *Making The Strange Familiar: Creativity and the Future of Engineering Education*. PROCEEDINGS OF THE 2004 AMERICAN SOCIETY FOR ENGINEERING EDUCATION ANNUAL CONFERENCE & EXPOSITION (Copyright 2004, American Society for Engineering Education 2004), available at http://www.engr.wi sc.edu/cee/faculty/russelljeffrey /004.pdf, 22.12.201.

prejudices and stereotypes, aspirations and skills. There are many beliefs about creativity and our students are not immune to them. Opinions on creativity that mainly dominated were: you must be born creative—creativity is not something you can learn; creativity is a boutique work, arranging flowers ... certainly not for lawyers; and I do not have time for creativity.

Students involved in the research, had to respond to a survey consisting of 23 questions, which are important to a specific argument for each key creativity competency. They agreed or disagreed with each statement. The students were interviewed twice. The first time is imminent before one day seminar on creativity and, the second time, immediately after the creativity seminar. Creativity seminar was the introduction to the basics of creative thinking, creative thinking skills and the levels of the creative process. The purpose of the seminar was to determine whether a better knowledge of the areas would affect the results of the survey—i.e. whether this will show a statistically significant deviation in the individual creativity competency.

According to Epstein[22], individuals can capture new ideas; look for challenges; broaden his knowledge and skills; and modify physical and social environment. For the competency "Capture new ideas" are relevant to the survey questions 1, 2, 5, 10, 11, 13, 16, 18, 19 and 23. For the competence "Look for challenges" are relevant to the survey questions 4, 8, 17 and 20. For competency, "Broaden his knowledge and skills" are relevant to survey questions 3, 12 and 15. For the competency "Modify physical and social environment" are relevant to survey questions 6, 7, 9, 14, 21 and 22.

At the completion of the questionnaire, answers have shown that the distribution is significantly changed, as it is to change the empirical χ^2 = 214.9, limit value for χ^2 (k = 88 and α = 0.01) was 121.8. This is also evident from Chart 1.

[22] R. EPSTEIN, THE BIG BOOK OF CREATIVITY GAMES: QUICK, FUN ACTIVITIES FOR JUMPSTARTING INNOVATION (McGraw-Hill Education 2000).

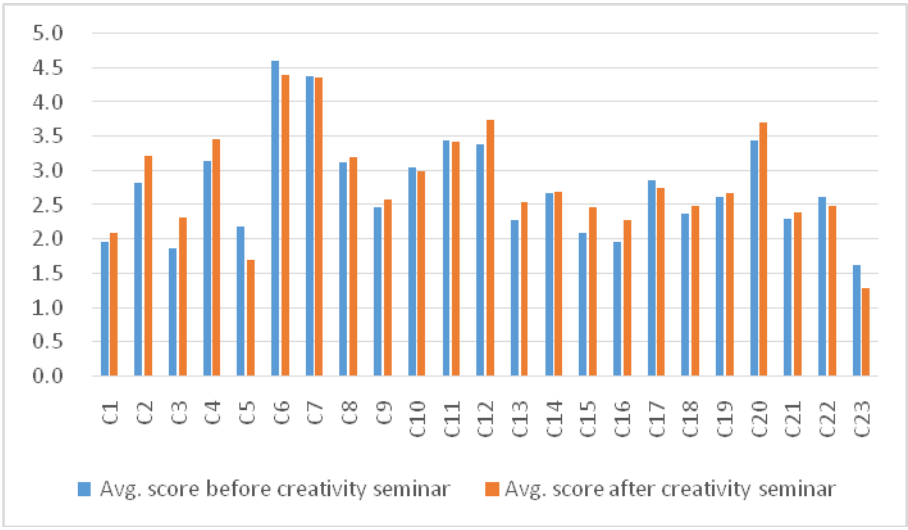

Chart 1 Value of the argument before and after the creativity seminar.
Source: Own-survey results.

Statistically significant differreplies received from claims C2, C3, C6, C12, C15, C16 and C17:

- C2: I do not need to record new ideas to help me remember them.
- C3: I only read books and articles within my area of expertise.
- C6: I enjoy traveling to new places.
- C12: I often read books and articles from areas outside my specialty.
- C15: I only seek training within my specialty.
- C16: Daydreaming is a waste of time.
- C17: I do not like to solve problems that have no solutions.

If we look at individual claims, we find that the greatest deviation is in the allegations, which relate to the competency "Broaden his knowledge and skills", individuals who are looking for training, new experiences and knowledge outside its scope. Because for this competency are relevant only three questions, and in all three was detected change between the first and second measurement, we can assume that respondents changed their opinion about how important this competence is based on the new knowledge gained on the creativity seminar. They found out that this is much more important competence as was their opinion before the seminar. You can see the difference in resaults in Chart 2.

As is apparent from Chart 3, the value of χ^2 in the claims change and:

- at C2 $\chi^2 = 12.92$
- at C3 $\chi^2 = 19.53$
- at C6 $\chi^2 = 21.61$
- at C12 is $\chi^2 = 18.01$,

- at C15 is $\chi^2 = 20.77$,
- inC16 is $\chi^2 = 18.08$, and
- at C17 is $\chi^2 = 17.26$
- the limit value of χ^2 is (k = 4, α = 0.01) = 13.28.

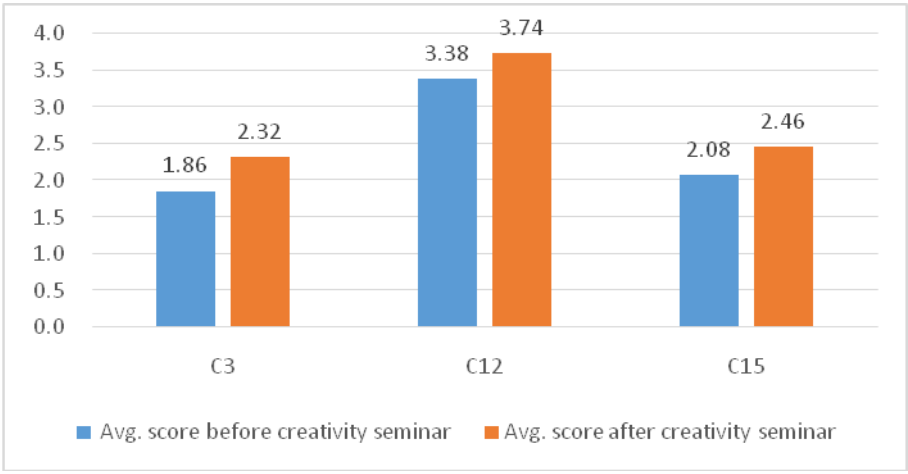

Chart 2 Tolerance for claims relevant to "Broaden his knowledge and skills".
Source: Own-survey results.

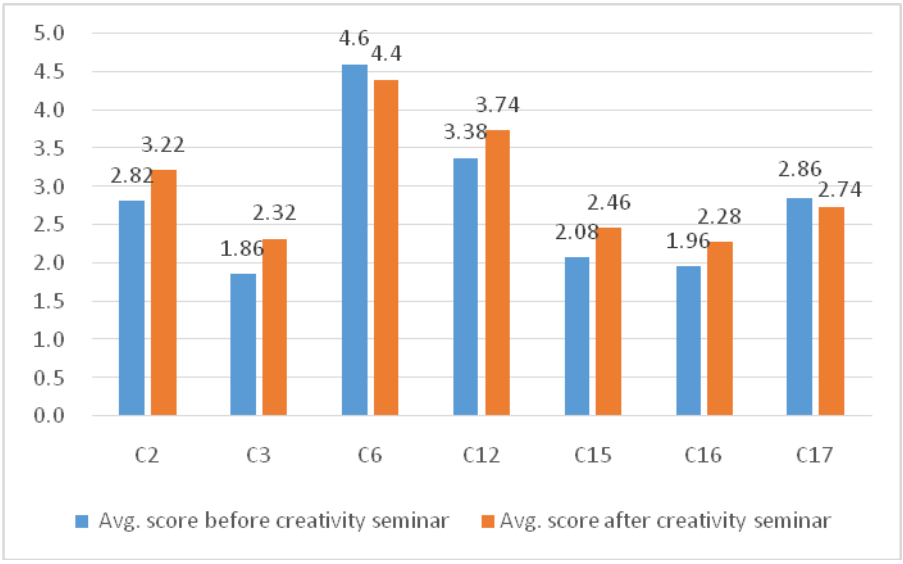

Chart 3 Statistically significant differentiation response in claims T2, T3, T6, T12, T15, T16 and T17.
Source: Own-survey results.

Why is competence "Broaden his knowledge and skills" in our opinion so important? Because it is crucial to the development of other competences. An individual cannot produce links, if he does not have different

behavioural components. Extending their skills and knowledge allows individuals to produce more interesting and surprising connections, which in turn affects the quality and quantity of produced solutions to a problem or challenge. An individual, who does not have enough knowledge, cannot put heavy task and a challenge in front of employees, also cannot ask more open-ended questions, although asking open-ended questions is one of the most effective ways to integrate challenges in the daily activities of the organization.[23] Open questions and unspecified route to the destination can significantly increase the productivity and creativity, sometimes for 50 percent or more, depending on the parameters.[24] The power of imagination is infinite. However, imagination can take us only to a certain point. After that, we need the right materials, tools, people, and time to develop and test ideas. Individuals who do not have enough knowledge and are not interested in anything that does not fall within their area of work and expertise will have a difficult time to understand the needs of creative subordinates.[25]

For a manager who does not understand creativity it is difficult to provide employees with working conditions, which will encourage creativity, as well as organizational culture that will contain creativity elements (for example postponing judgment). According to experts, his lack of knowledge will be most visible in the areas indicated in the management of today most significant resource—time.[26] How will such a manager understand that creativity needs time?

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[23] S. Hemlin & L. Olsson, *Creativity-Stimulating Leadership: A Critical Incident Study of Leaders' Influence on Creativity in Research Groups*, 20 CREATIVITY AND INNOVATION MANAGEMENT 49—58 (2011).

[24] R. Epstein, *Exercises*, in M. A. RUNCO & S. PRITZKER (EDS.), ENCYCLOPEDIA OF CREATIVITY 2ND EDN 480—487 (Academic Press, CA: San Diego 2011).

[25] J. P. J. De Jong & D. N. Den Hartog, *Leadership and Employees' Innovative Behavior*, 10 EUROPEAN JOURNAL OF INNOVATION MANAGEMENT 41—64 (2007); J. ADAIR, LEADERSHIP FOR INNOVATION: HOW TO ORGANIZE TEAM CREATIVITY AND HARVEST IDEAS (Philadelphia, PA: Kogan Page US 2009); C. L. Byrne et al., *Examining the Leaders of Creative Efforts: What Do They Do, and What Do They Think About?*, 18 CREATIVITY AND INNOVATION MANAGEMENT 256—268 (2009).

[26] C. A. Bartlett & A. Mohammed, *3M: Profile of an Innovating Company, Case Study 9-395-016* (Harvard Business School, Boston, MA 1995); M. Gunther, *3M's Innovation Revival*. CNN Money (2010), http://www.money.cnn.com/2010/09/23/news/companies/3m_innovation_revival.fortune/index.htm [accessed on 30 January 2017]; J. ADAIR, LEADERSHIP FOR INNOVATION: HOW TO ORGANIZE TEAM CREATIVITY AND HARVEST IDEAS (Philadelphia, PA: Kogan Page US 2009); L. Rasmussen, *Went Walkabout. Brought Back Google Wave* (2009). Official Google Blog http://googleblog.blogspot.com/2009/ 05/went-walkabout-brought-backgoogle-wave.html [accessed on 12 February 2017]; Arrington, M. (2010). Wave goodbye to Google Wave. Tech Crunch. URL http://techcrunch.com/2010/08/04/wavegoodbye-to-google-wave/ [accessed on 29 March 2017].

CONCLUSION

In today's postmodern era, changes are the only thing we can absolutely confirm. Response to change is creativity. How can teachers "produce" creative students? The only efficient way to develop the creativity competencies that will lead to future changes is to teach students to think creatively.

Epstein[27] puts great emphasis on the management of creativity, which in his opinion should not be left to chance. As a result, measurement and extraction of relevant managerial creativity competencies will give subordinates greater creative output. At the MLC Ljubljana, we believe that teaching creativity is very important. When individuals identify their weaknesses and determine where the areas are that worth developing, we as an educational institution, must make it possible. Even Williams[28] notes that more educated managers in the field of creativity are better for both individuals and businesses.

A pilot study provides evidence that training for the management of creativity brings beneficial results, as the results of the second testing (after the creativity seminar) were better, although the seminar was not only focused on the four core competencies of creativity. With this, our hypothesis—Teaching creativity is important, but it is also important to monitor the progress of the group—is confirmed.

Based on the pilot study at MLC Ljubljana we have decided to approach teaching creativity seriously. To this end, for the next academic year, in the context of professional development we have prepared lectures on creativity.

We will promote creative habits. Structuring education in order to educate creative individuals involves a change in the perception of the roles of both students and teachers. Learning activities will be prepared in order to encourage creativity in students, to raise the role of problem-solvers and expect them to be able to communicate their answers in the appropriate manner. Teachers will transform from "a spring of wisdom" to "problem makers", "problem seeker", the audience, sometimes even the public. If we expect that the students will be able to solve problems the teachers have to do much more than just transfer to them their knowledge and skills. Teachers have to present students with challenges, on which they will work

[27] R. Epstein et al., *How Is Creativity Best Managed? Some Empirical and Theoretical Guidelines*, 22(4) CREATIVITY AND INNOVATION MANAGEMENT 359—374 (John Wiley & Sons Ltd. 2013).
[28] S. Williams, *Increasing Employees' Creativity by Training Their Managers*, 33 INDUSTRIAL AND COMMERCIAL TRAINING 63—68 (2001).

together and adequately resolve.[29]

Teaching Creativity requires the creation of a community in which a good question is just as important as the answer to this question. Building such a climate that is structured around the creative process will provide students with both relevant content and processes with which they will explore and communicate between different learning disciplines. They will learn the general techniques that will allow creative thinking. We will set up the atmosphere which will support creativity in the classroom. [30] Professional development is a subject where students will re-learn to ask questions and where we will encourage creative problem solving, which is not an easy task, since students were taught only to answer questions. Thinking, remembering, knowledge, and understanding (cognitive factors) lead to creativity only if the individual is motivated to find something new, is willing to take the risk due to which he will be mocked, and is able to continue the journey into the unknown (to dive into a new area, instead of remaining in the extent of known). This requires certain personality traits such as courage, openness and self-confidence. We can positively influence these properties in the course of the educational process.

[29] M. CSIKSZENTMIHALYI, CREATIVITY: FLOW AND THE PSYCHOLOGY OF DISCOVERY AND INVENTION (New York: Harper-Collins Publishers 1996).
[30] A. J. Starko, *Creativity in the Classroom: Schools of Curious Delight*. Lawrence Erlbaum Associates Nnc. New Jersey. Taylor and Francis Library (2005).