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Creative management techniques and methods as a part of the management education: analytical study on students' perceptions

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Abstract

Dynamic social and economic changes have created the need for the application of innovative teaching and learning techniques and approaches that would develop students' divergent thinking (problem solving ability) and mobilize their creative potential. Creativity becomes one of the basic managerial competencies. Therefore, managerial (higher) education is oriented to the creativity integration into teaching practice. The aim of this study is to examine students' perception of creativity enhancing activities, games and techniques applied on the on the course "Creative methods in management and managerial games (CMM&MG)" (part of the Master's curriculum at the Faculty of Management, University of Presov) which is primarily focused on the creative methods and techniques applicable in management practice. Primary data collection was conducted through a questionnaire survey among students attending the course in four consecutive academic years. Factor analysis was used for reduction of large set of observed variables. In the context of reduced factors, the attention was focused on the extracted factor "attractiveness of management techniques applied on the CMM&MG course". We found a strong correlation between items/variables within a factor of "attractiveness of management techniques applied on the CMM&MG course". Whereas the results showed a positive perception of the creative methods and techniques applied on the CMM&MG course, we consider the current setting of course to be correct and we believe that courses (developing creativity, divergent and convergent thinking) designed in this way are useful.

Keywords: creativity; management education; creative techniques, creative teaching

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1. Introduction

The world and reality is becoming more complicated and creativity helps to solve complex problems that we are facing. In simple terms, creativity is the "production of novel, appropriate ideas in any realm of human activity, from science, to the arts, to education, to business, to everyday life" states known and respected author in the field of creativity Theresa Amabile (1997). These ideas must be novel i.e. different from what was made before, but they can't be only bizarre. The ideas must be appropriate to the problem or opportunity presented. Creativity means "production of something appropriate yet or rare that is valued and accepted in the world (Cohen, 2011, p. 10). Very common definition of creativity is Guliford's (as cited in Cohen, 2011, p. 9) definition of divergent thinking that "involves production of ideas from given information, with an emphasis on variety and quantity of output involving fluency, flexibility, originality and elaboration."

Creativity is the first step in innovation (it means the successful implementation of those novel, appropriate ideas) which is essential for long-term organizational success (Amabile, 1997). According Sternberg (2006) creativity is a conflux of six distinct but interrelated resources: (1) intellectual abilities, (2) knowledge, (3) thinking styles, (4) personality, (5) motivation, and (6) environment; according Gilford (as cited in Hossieni-Khalili, 2011, p. 1307) it is a collection of individual characters and abilities and means thinking in different dimensions. Bilton (2007) mentions two aspects of creativity – novelty and difference (a deviation from conventional tools and perspectives) and freedom given to individuals i.e. freedom to express individual talent or vision. Creativity means to make something new or a new combination of existing elements. But the novelty alone is not enough because the idea must also be useful or valuable (Bilton, 2007).

Creativity is not a panacea for all "diseases" of the world and does not guarantee solutions to all problems, but for some certainly do. Creative people are able and willing to think and act differently, bring innovative and original ideas and improvements, refuse limitations, change status quo. As aptly noted by Alfonso Montuori (in Bocchi et al., 2014, p. 338) "creative thought is characterized by an active search for phenomena that destabilize order, that confound cognitive schemes, and that cannot be immediately understood and above all, immediately categorized. Creative thought avoids premature definitions and categorizations. It implies an on-going process of organization, disorganization and re-organization. It implies an active break with presuppositions, with all that is accepted, with traditions, pushing back boundaries and eschewing comfort zones."

Considerable emphasis on creativity in organizations is linked to the fact that it has impact on the innovation performance and success of companies (Sirkova et al., 2014). Creativity leads to innovation that together with entrepreneurship enables business compete in global market (Ng'ang'a & Otii, 2013). Creativity is essential to surviving and thriving, and "economists are now seeing creativity as a form or capital, and thus as an engine of economic growth and social dynamism" (McWilliam & Dawson, 2008, p. 635). Whereas creativity is seen as an economic growth stimulator there is an urgent need for "creative thinkers in every field" (Gustina & Sweet 2014, p. 47) i.e. in all disciplines and fields of the economy, including management. Given the increasing volume and importance of the creative industries (culture, arts, architecture, design, film, fashion etc.) it is not surprising that there is an increasing demand for graduates with imagination and creativity. Universities should respond to this by appropriate curriculum that involves the development of creativity.

2. Creativity in the context of higher/university education

Higher education has a pivotal role to play in creativity enhancement of young generations, our students which is confirmed by Gustina and Sweet (2014, p. 47) who argue that "the current calls for more creative output throughout the economy acknowledge education as the most promising locus for developing creativity", because citing Craft (as cited in Gustina and Sweet, 2014, p. 49) "education has a dynamic relationship with this shifting world of employment and the wider economy" and the view of "what is considered significant in terms of educational achievement is changing. For it is no longer sufficient to have merely excellence in depth and grasp of knowledge. Creativity is critical to surviving and thriving."

It must be said that the situation is not ideal and "models of creativity or of creative teaching in universities are sparse" (Craft et al., 2014). Rampersad and Patel (2014) point out that although a wide range of graduate attributes listed, categorized and prioritized by higher education institutions, creativity (as one attribute) is still less visible in

the literature and the attribute of creativity has been given less attention in higher education. Moreover, the education sector has been increasingly criticized for its failure in effectively generating creative people (and creative leaders).

"Traditional" teacher-centred and teacher-directed forms of teaching still dominate in our universities and as argue Montuori (in Bocchi et al., 2014, p. 338) „educational systems are designed to develop conformity, black-and-white thinking, and a preference for simple answers" in contrast to creativity that requires independence of judgment, tolerance of ambiguity and a preference for complexity. In this regard, Larry Livingston (2010) points out that traditional pedagogies and courses of study leave little or no room for new experiences. According Hossieni (2011) traditional methods of teaching „emphasize direct transmission of knowledge and maintain these processes through inflexible structures which limit the engagement of learners in innovation, discovery and mental growth. Problem-solving and inquiry oriented approaches on the other hand, offer opportunities for exploring and discovering complexities, involving learners with the process of learning, and enhancing internal motivation." Creative learning and teaching include, establish and maintain those processes (Hossieni, 2011). In order to foster creativity the learning processes "must develop self-efficacy, encourage risk taking in safe environments and help students to engage with mess/complex and unpredictable situations where there are no right and wrong answer" (Sadeghi & Ofoghi, 2011, p. 264). Hossieni and Khalili (2011, p. 1311) argue that "educational curriculum and content should be on the base of problem-solving" and flexible, variable and plural (postmodern) curriculum related with factual problems in life can be the opportunity for creativity and innovation.

Ronald A. Beghetto and James C. Kaufman (2013) stated that „creativity has become a hot topic in education" and there are many voices (media, government officials, education policymakers etc.) calling for including student creativity in the curriculum. To achieve this goal is essential clear understanding of the nature of creativity itself. Authors present five fundamental insights that can help/guide educators in their endeavour to integrate student creativity into the everyday curriculum: (1) creativity takes more than originality: creativity combines both originality and task appropriateness and those teachers and educators who understand this are in a better position to integrate student creativity into the everyday curriculum; (2) there are different levels of creativity: some instances of creativity occur every day, other instances of creativity redefine the way things are done or even transform history; (3) context matters: certain contexts can curtail and suppress creativity; (4) creativity comes at a cost: part of encouraging creativity includes helping students become aware of the potential costs and benefits associated with creative expression – it will help them to determine whether the risk is worth it; (5) there's a time and a place for creativity: accomplished creators know when to be creative that is why teachers/lecturers need to teach how to read a situation and determine whether and how to express one's creative ideas, insights, and behaviours.

To enhance the quality of teaching and learning process experiential, non-traditional and innovative strategies should be utilized. In education, as in other areas, it is possible to apply Rohnke's (also known as Tuson's) model of comfort – stretch/learning – panic zones. Using traditional (classical) teaching methods keep students in comfort zone for which is typical that a person work only on the basis of previous experience and knowledge, use skills and solve tasks that has mastered, has no need or motivation to change anything. Getting students out from comfort zone into the stretch (learning) zone is not very comfortable, but it is stimulating. In this zone students do/try "new" things, gain new experience, they are motivated, and (as added value) there is often a good atmosphere and fun on seminars and lectures. Using creative teaching methods and approaches are effective in moving students into learning zone.

Jennifer Rinkevich (2011, p. 2019) defines creative teaching as a „unique, customized, and meaningful exchange of knowledge among all individuals in a learning context" and more creative way of teaching subjects diminish students' dislike for them. Mayer (as cited in Cardoso de Sousa 2011, p. 9-10) defines creative teaching as follows: "creative teaching refers to instructional techniques that are intended to help the students learn new material in ways that will enable them to transfer what they learned to new problems." Morris (2006, p. 4-5) in the context of creative teaching points out that "creative teaching may be defined in two ways: firstly, teaching creatively and secondly, teaching for creativity" and adds that "teaching for creativity must involve creative teaching. Teachers cannot develop the creative abilities of their students if their own creative abilities are undiscovered or suppressed." Similarly, Cardoso de Sousa (2011) emphasizes the necessity of the distinction between the creative person who happens to be a teacher, and the act of teaching in a creative way.

As notes Cimermanova (2013) the students' creativity depends on creativity of teacher, on how creative task is and mainly how much creativity does the teacher allows and/or accepts. One of the problems (barriers) of the more intensive use of creativity in education (as well as teaching) is the unwillingness of teachers/lecturers accept the students' creativity. In this regard, Plucker et al. (2011) point out that ideal student in the eyes of many teachers does not have creative characteristics, many teachers prefer and appreciate students' qualities such as consistency in doing tasks/work on time, courteousness or good nature (characteristics that are not very typical for creative people).

3. Creativity and its place in education of managers

Modern managers need creativity due to the rapidly and unpredictably changing world, intensifying competition and new technologies. Managers often face a situation in which strategic questions, leadership issues and complex organizational situations are not manageable in a routine manner, which according Reckhenrich et al. (2009) raises the need for creative solutions. The more unusual (i.e. not allowing draw upon experience or established routines) the situation, the greater the need for creative solutions. In that sense, creativity is seen almost as a prerequisite to manage change and renewal, it is a key skill for leaders and organizations, not only in order to adapt to change, but also to proactively shape industries and markets (Reckhenrich et al., 2009). This contributed to the fact the concepts of "creative management" and "creative manager" are becoming increasingly popular. Creative management can be defined as "the study and practice of management, drawing on the theories of creative processes and their application at individual, group, organizational and cultural levels" or as 5th stage of management theory it represents "globalized efforts achieve better diffused and integrated knowledge transfer of creative theories and practices" (Xu and Rickards, 2007, p. 217, 218).

Range of competencies necessary to fulfill responsible roles in the management of companies and organizations is becoming wider. One of the important skills of the modern manager is creativity, ability to solve problems and think "out of the box" (Ali Taha et al., 2014). Research focused on identification of managerial and communication capabilities required of a graduate for business practice showed that the most frequently required capabilities are communication capabilities (communicativeness, written communication, the ability to present) and managerial capabilities one of which is the ability to manage and solve problems (Ferencova, 2012).

University graduates - future employees and eventually managers of enterprises and firms are expected to have creative abilities which they can exploit in the working life and therefore cause change in the work environment (Ng'ang'a & Otii, 2013). Kerr and Lloyd (2008, p. 487) argue that creative capabilities (imagination, inventiveness, improvisation, insight, intuition, and curiosity) are sought after by business for long-term success. Authors suggest that "management education must follow suit in providing artful learning experiences to assist with developing creative habits". These aspects should necessarily reflect in the education of future managers - they should be able to "manage" the creativity of employees, and they themselves must be creative and innovative and thus prepared for sudden changes in the business environment and within the organization (Ali Taha et al., 2014). Based on the assumption that everybody has creative capacities and potential, we believe that the use of "right" techniques (brainstorming, role-playing, mind mapping, fishbone etc.) and teaching procedures can foster and develop students' creativity.

4. Methodology

The "Creative methods in management and managerial games" (CMM&MG) course is a part of Faculty of Management curriculum since academic year 2009/2010. Its inclusion in the curriculum was a logical response to the need for development of curricula and exercises that enhance students' creative thinking and problem solving and fosters students' active participation in the learning process.

On this course students are acquainted with selected creative methods and technique (applicable/used in management). On seminars students apply acquired knowledge through computer simulation supported by ICT (management economic simulation exercise on the principle of entrepreneurship of production companies in the same market that allow students to become familiar with simulated market environment of business on national and international level or in the field of banking) and practice individual creative techniques and methods such as:

- the techniques aimed at generating ideas and solving problems (brainstorming/brainwriting, reverse brainstorming, , case study or "lotus blossom" technique);
- self-discovery methods e.g. self-image and "animal family" (methods adapted from psychology);
- methods of team development (teambuilding exercises, "team ship" drawing);
- role-playing games;
- visualization of possible problems causes through the Fishbone diagram (cause and effect diagram);
- games/activities for the creativity development and testing (the dot puzzle, indirect associations, alternative use, etc.).

An important part of the educational process evaluation on the CMM&MG course is feedback evaluation. The feedback is detected at the end (last week) of the semester - after the students gained experience with various techniques, methods and simulation. The cognition of students' opinions is particularly important because it allows us (teachers/lecturers) to focus on teaching techniques that students perceive very positively and thus continuously enhance educational process. The advantage is that authors of this article taught this course from the very beginning that allows them to investigate how students (over time) perceive the course in different academic years. Questionnaire used in the survey also includes questions regarding attitudes, perceptions and satisfaction with teaching methods and pedagogical approaches in general while studying at university, which allows us to critically evaluate education.

5. Research design and sample

The primary data were collected through survey in the form of self-coined and self-administered questionnaires. Research sample consists of students of Faculty of Management, University of Prešov enrolled in a two-year (full-time study) master's degree program and attending a course CMM&MG (which is included in the second year of study). Although this course is designed for both full-time and part-time students, our attention was focused on the full-time students on the ground that part-time students (due to the limited number of lectures) do not practice full set of creative techniques and methods applied on a given course. We used a total population study - the entire group of full-time students who attend the course were surveyed. More than 80% of the population participated on survey and this number is sufficient in terms of reliability and validity. Data was collected in four academic years: 2010/2011, 2011/2012, 2012/2013, 2013/2014. Total number of respondents (students) participated in the survey is 579.

The questionnaire contained 21 items that were scaled on five-point Likert scale (1 - strongly agree, 2 - agree, 3 – neutral (neither agree nor disagree), 4 - disagree, 5 - strongly disagree) on which respondents expressed agreement with the (positively formulated) statements/sentences. Item 5 was considered separately because it included investigation of the popularity of the various methods and techniques applied on course among students.

6. Findings

The use of factor analysis helped us to reduce large set of variables and detect structure in the relationships between them.

Table 1 Kaiser-Meyer-Olkin and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,823
Bartlett's Test of Sphericity	Approx. Chi-Square	2133,527
	df	190
	Sig.	,000

The value of KMO greater than 0.8 indicate the use factor analysis is justified. Significance level of Bartlett's Test Sig. = 0.000 confirms that the data matrix is not zero and useful for factor analysis.

Table 2 Eigenvalue extraction

Value	Eigenvalue Extraction: Main components			
	Eigenvalue	% of Total Variance	Cumulat. Eigenvalue	Cumulat. %
1	4,743502	23,71751	4,74350	23,71751
2	3,016755	15,08378	7,76026	38,80129
3	1,573729	7,86864	9,33399	46,66993
4	1,431959	7,15980	10,76595	53,82973

Factors with eigenvalues equal or higher than 1 retain. Using the Varimax Rotation method four factors were extracted. These factors explain (account for) 53.8% of the total variance.

Table 3 Extracted factors

Variable	Factor load (Varimax normaliz.) Extraction: Main Components			
	Factor 1	Factor 2	Factor 3	Factor 4
v1	0,017099	0,032318	0,103122	**0,752965**
v2	0,143949	0,077555	-0,069988	**0,761650**
v3	0,137596	0,146185	-0,059567	**0,814742**
v4	0,072633	0,018561	0,477849	0,249705
v6	-0,061493	**0,804429**	0,043979	0,133864
v7	-0,050587	**0,804914**	-0,017281	0,108523
v8	-0,080940	**0,833611**	0,036934	0,072810
v9	-0,010707	**0,712882**	-0,044481	0,080646
v10	-0,227549	**0,651985**	0,150523	-0,030894
v11	0,150818	-0,148843	**0,785044**	-0,001827
v12	-0,315352	0,229123	**0,667111**	-0,127547
v13	-0,277762	**0,541078**	-0,074017	-0,072258
v14	**0,573417**	-0,380492	0,097340	-0,021610
v15	**0,687594**	-0,199002	0,084978	0,140298
v16	**0,679626**	-0,092920	-0,137473	0,032868
v17	**0,772478**	-0,097627	-0,194147	-0,031846
v18	**0,765778**	-0,096247	-0,073431	0,194050
v19	**0,667690**	-0,098033	0,000271	0,019858
v20	**0,549663**	0,043602	0,040737	0,122565
v21	0,241600	-0,017690	-0,415905	0,228892

Table 3 shows the results of factor analysis summarizing all four academic years (in which the survey was conducted).

Within the extracted factors our attention will be focused on the factor 4 "*Attractiveness of management techniques applied on the CMM&MG course.*" Three variables are associated to the factor 4, namely:

- Variable 1 (v1) called "*Novelty of methods and techniques applied on the CMM&MG course*" represents the questionnaire item (statement) "Management (creative) methods and techniques applied on the CMM&MG course was something new for me."

- Variable 2 (v2) called *"Methods and techniques applied on the CMM&MG course as a subject of interest"* represents the questionnaire item (statement): "Management (creative) methods and techniques applied on the CMM&MG course were interesting to me."
- Variable 3 (v3) called *"Methods and techniques applied on the CMM&MG course as a motivator"* represents the questionnaire item (statement): "Management (creative) methods and techniques applied on the CMM&MG course were motivating for me."

Factor analysis was also performed separately in different academic years. Results of the statistical processing show that factor 4 "Attractiveness of management techniques applied on the CMM&MG course" is represented by all three variables i.e. "Novelty of methods and techniques applied on the CMM&MG course" (v1), "Methods and techniques applied on the CMM&MG course as a subject of interest" (v2) and "Methods and techniques applied on the CMM&MG course as a motivator" (v3) in all academic years (2010/2011, 2011/2012, 2012/1013 and 2013/2014).

Best rating factor achieved the factor in the first academic year, which was, in our opinion, due to the absolute "novelty" of pedagogical approaches and creative techniques used and positive "surprise" of students. Almost as positive assessment is also in last the last year under review, so that the views of respondents does not significantly change over time.

Median is of 33% (growing from 27% in the first academic year) and is very stable, relatively low which indicates a permanent attractiveness of techniques and methods applied on the CMM&MG course. These results also show that teachers estimate the correct composition (quality and quantity) of the creative techniques and methods. Stable median margin during the period means the same level of popularity of creative techniques in teaching future managers.

Correspondence analysis of two-dimensional table:
a) Academic year and Variable 1 "Novelty of methods and techniques applied on the CMM&MG course":
   Tot. chi-square = 14,9302; sv = 12; p = ,2453
b) Academic year and Variable 2 "Methods and techniques applied on the CMM&MG course as a subject of interest":
   Tot. chi-square = 12,6700; sv = 9; p = ,1782
c) Academic year and Variable 3 "Methods and techniques applied on the CMM&MG course as a motivator":
   Tot. chi-square = 28,6758; sv = 12; p = ,0044

If the p-value is less than 0.05 there is a significant relationship between the item and the academic year. The p-value = 0.0044 of the chi-square test shows significant relationship between the variable 3 "Methods and techniques applied on the CMM&MG course as a motivator" and academic year. Despite the relative consensus/convergence of views, we can see some heterogeneity. Student community in each academic year has its own specifics and characteristics (the number of students studying in a given year, gender structure, size of the study group (which may vary), the number of leaders, etc.).

7. Conclusion

Although creativity and ability to think "outside the box" is becoming critical to the success of students (future managers) in the labour market, "traditional" (teacher-centred and passive-receptive) pedagogical approaches still dominate and in the existing structure of the curriculum there is a lack of courses supporting or "giving enough space" for creativity. We can conclude that introduction of CMM&MG course into the curriculum as part of the teaching and development of students' creativity was the right step. Unlike the majority of courses with predominant "traditional" and "passive" learning methods the CMM&MG course is seen as interesting for students and valuable in developing their creativity. Most of the students in the survey claim that CMMaMG course was something "new" and interesting for them and these opinions during the four academic years did not substantially differ. In discussions with students is evident that many of them would like to see more interactive, experiential and creative forms/ methods of teaching and more interactivity in the learning process. Likewise authors' experiences in teaching other

courses (Cross-cultural Management, International Management and Risk and Crisis Management) show that active learning pedagogy is the right choice. We are inclined to the view of Robyn Gibson (2010) that by fostering creativity in our students, we ultimately become more creative teachers.

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