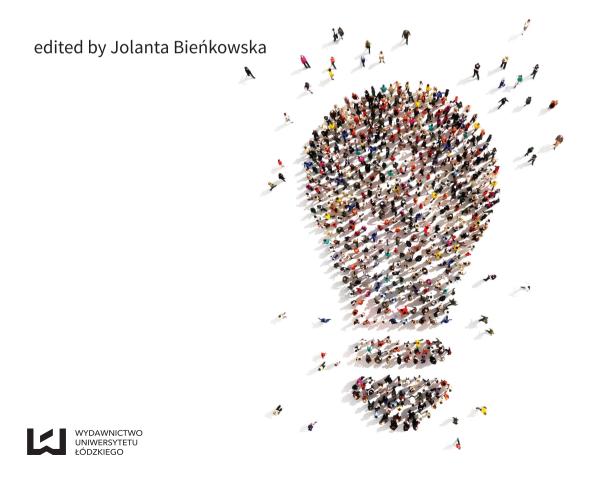
Creativity and Innovation in Business and Education



Anna Magiera* Jolanta Religa**

OPEN BADGES, CREATIVITY AND SUCCESSFUL LEADERSHIP

ABSTRACT

No one would argue that creativity is an incentive to innovation and change which boosts the growth of economy. The question behind this statement is how to direct creativity into success and development of organisations? In the context of research on creativity, this paper aims to introduce the concept of Open Badges – a standard of describing and documenting skills, competences and achievements gained anywhere and anytime. Juxtaposed with the paradox of structure, it is argued that an Open Badge system can be used to support more effective team building, goal setting and thus successful leadership.

Keywords: creativity, creative diversity, structure and leadership, open badges.

1. CREATIVITY – DIFFERENCES AMONG INDIVIDUALS

Back in the 1960s, an US-American educational scientist, Mel Rhodes went in search of an all-encompassing definition of the complex phenomenon of creativity. He reviewed more than 50 definitions from myriad sources but he did not manage to point one. There are plenty of definitions of creativity. Some of them are presented below:

- "Ability to overcome self-imposed constraints" (Ackoff, Vergara 1981: 7);
- "...becoming sensitive to or aware of problems, deficiencies, gaps in knowledge, missing elements, disharmonies and so on; bringing together available information; defining the difficulty or identifying the missing element; searching for solutions, making hypotheses and modifying and retesting them; perfecting them; and finally communicating the results" (Torrance, Torrance 1973: 6);

^{*} Ph.D., Work Pedagogy of Innovative Economy Centre, The Institute for Sustainable Technologies – National Research Institute in Radom.

^{**} Ph.D., Work Pedagogy of Innovative Economy Centre, The Institute for Sustainable Technologies – National Research Institute in Radom, jolanta.religa@itee.radom.pl.

- "Creativity is the process of generating unique products by transformation of existing products. These products, tangible and intangible, must be unique only to the creator, and must meet the criteria of purpose and value established by the creator" (Welsch 1980: 97);
- "Creative activity and problem solving are not essentially different forms of behaviour" (Mel Rhodes 1956: 16);
- Creativity in organisational settings is "typically defined as the generation or production of ideas that are both novel and useful" (George 2007: 441).
 It is worth adding that creativity is considered as a step before innovation and innovation is considered to be the successful implementation of a creative idea (Amabile 1988).

We can conclude, thus, that creativity refers to thinking process which can be characterised by both novelty *and* appropriateness. It is not something magical but the ability to manipulate with the knowledge we already have resulting in a unique product whether tangible or intangible. Studies reveal that people are naturally creative and as they grow up they usually learn to be uncreative (Land, Jarman 1993). Since creative activity and problem solving are not different forms of behavior, it may be concluded that all people are creative as we all face problems every single day and we find our unique ways to tackle them. Therefore, the assumption here is that creativity is different across individuals.

The issue of everyone's innate creative diversity was described by a British psychologist Michael Kirton (2011). He used four variables which seem to encompass individual differences: creative level, creative style, motive, and opportunity.

Creative level is related to mental capacity which is both our potential capacity and manifest capacity. The potential capacity is the scope of things a person can learn and recall whereas the manifest capacity is what the person can actually know at any moment in time. Creative level is measured using things like intelligence, talent, aptitude (the potential factors) and knowledge, skill, expertise and experience (the manifest factors). Everyone's creativity is affected by these forms of level, with people being more creative in areas they are more experienced at or have a special talent for. Creative style is one's preferred way of managing and using all creative levels acquired over time. It's one's innate preference concerning solving problems. Some people have a more structured creative style, while others prefer a less structured approach. The amount of structure one prefers in thinking is the most common factor used in measuring creative style. One particular way to measure it and at the same time one which appears commonly in the literature on creativity is Adaptation-Innovation spectrum proposed by Kirton (2011). The psychologist proposes that a person who is more likely to see merit in improving the prevailing paradigm is an adaptor preferring more structure with which to solve problems, while a person who is more likely to advocate the replacement of the paradigm is an innovator – a person preferring less structure when solving problems. Another variable described by Kirton is a motive. A motive is what pushes people to actions. Creativity is affected by what motivates us and whether that motivation is present. The effort we make in order to achieve something depends on the degree to which we are motivated and that in turn affects our creative contributions. Finally, opportunity is the availability of a problem to solve and how we perceive it. Sometimes, we have access to an opportunity that others do not, or we recognize a situation as an opportunity when others think it is not interesting. Those perceptions affect our creativity and how we think about the environment around us.

2. STRUCTURE AND PROBLEM SOLVING LEADERSHIP

The Paradox of Structure is introduced in the online MOOC¹, "Creativity, Innovation and Change" (Velegol, Jablokow, Matson 2013) offered by Penn State at coursera.org through a very pictorial anecdote. A group of children was observed while playing around a playground in an open space and the same group of children was studied at a later time while playing around a playground that was fenced. The finding was surprising. In the first case, so in an open space, children tended to stay close to the centre whereas in the second case with the presence of clear boundaries, that is the fence, they were much less constrained to the centre. It seemed that in an open space they would avoid roaming off too far as that would not feel safe. In contrast, they explored more territory (in fact, the entire territory within the fence) with more comfort when surrounded by fence. This anecdote clearly pictures that a structure may be enabling and limiting at the same time. Whether that structure is physical (as presented above), mental (an idea, plan), social (a family, a team) or any other, it is a matter of setting the right amount of structure that will help us without hindering us too much as we use our creativity and move our ideas forward.

Referring back to the Kirton's theory on individual's Creative Style and the Adaptation-Innovation Continuum, it seems that providing an appropriate structure will make adaptors work effectively within the limits wanting them to use the structure, trying to expand or strengthen it while the same structure may cause that innovators will see past the limits in order to succeed. The latter brings to mind a notion and a desired phenomenon of "out of the box thinking" which is however not possible to happen without a thorough understanding of the

¹ MOOC – Massive Open Online Course is an online course aimed at unlimited participation and open access via the web. Many MOOCs provide interactive user forums to support community interactions between students, professors, and teaching assistants. MOOCs are a recent and widely researched development in distance education which was first introduced in 2008 and emerged as a popular mode of learning in 2012.

background (the box/the structure) as it is advocated by a distinguished professor of Leadership Education in U.S. Naval Academy, Joe Thomas, who expresses his view in a video lecture "Smart Heretics; Thinking About the Box in Organisations" (2013). All in all, deciding on the right structure in context of Kirton's theory seems to be crucial point as far as managing people is concerned.

From the perspective of organisations, setting limits is the responsibility of leaders. Introducing standards and procedures for project development is necessary for successful leadership. Each reader can probably recollect from their personal experience attending meetings that lacked any agenda, resulting in participation of one or two people and a little group outcome. A clearly focused meeting with a clear structure is much more productive to all the attendees. People can see where, when and how they can contribute and take advantage of that comfort.

Another issue is that there are few problems we can solve alone in today's business innovations. Due to their complexity, no one person has the brainpower to cover the wide range of expertise that is required. Keith Sawyer (2007) an expert on creativity and innovation, writes that the secret to creativity lies in collaboration and major innovative breakthroughs emerge "with small sparks gathering together over time, multiple dead ends, and the reinterpretation of previous ideas" which all "result from an invisible collaborative web..." (Sawyer 2007: 11). Therefore the entire teams need to collaborate to arrive at the right answers. The teams have to include variety of people, ranging from those that refine systems to those that want to restructure them totally. The role of the leader is to manage the teams' level, style and motive and provide them with a balanced structure with limits set far enough to still enable the freedom and productivity. In other words, the leader's role is to "build a fence" which let the team explore a wider territory and even to cross it if they are more innovators.

3. OPEN BADGES – CAPTURING EMPLOYEES' POTENTIAL

This part of the paper first introduces the Open Badge standard and then focuses on presenting it from organizational perspective and aims at showing Open Badges as a "tool" enabling leaders to facilitate employees' creativity towards innovation and change.

The concept of "a badge" as a symbol indicating the achievements of knowledge or skills is not new. Badges can be associated, for example, with a scouts' honour system. In education, "badges" may be compared with diplomas or certificates issued by universities.

An Open Badge is a standard of describing skills and achievements accompanied by their visual representation using dedicated software solution. Open Badges are digital records that allow you to track the history of their awarding. Therefore, it is possible to identify who awarded the badge, what were

the achievements for which the recipient has received it. The Open Badge concept has evolved into a digital record of verified skills and competences, easy to present on the Internet, which contains metadata describing the person/institution/community awarding the badge, the criteria under which it was issued, and the evidence of meeting these criteria.

The technical side was designed in a joint project by Mozilla, HASTAC and the MacArthur Foundation. In March 2013, they released the first version of the Open Badge Infrastructure (OBI) — software with a specification which implements an open technical standard that allows any organization to create and issue validated digital Open Badges. The aim of the system is also to collect Open Badges from different sources and place them anywhere on the Internet (e.g. social profiles, job portals, own websites) for the purposes of employment or lifelong learning. Such a form of data record allows users to present any compilation of their skills and competences in a structured format that is a characteristic feature of an Open Badge (Figure 1).



Figure 1. Data embedded in an Open Badge

Source: own elaboration.

Thanks to Open Badge standard, people are allowed to recognize skills and achievements acquired in the course of formal, informal and non-formal learning. The creators claim that Open Badges may offer plenty of benefits for both individual users and organizations. By using Mozilla's Open Badge Infrastructure (OBI), every institution, business or community may issue Badges to its employees or members based on what they can do or what they have learned. On a click of a mouse, each Badge leads to underlying data showing information about the issuer, the date of issue and the criteria for which it was awarded. Furthermore, it may contain data describing all kinds of achievements, skills and competences

from basic to very complex ones. For example, Badges may be awarded for traditional achievements such as the completion of a course, the mastery of a particular programming language or for smaller achievements such as leaving helpful comments in an online learning environment, for skills such as critical thinking, or for complex skills necessary to implement the project. Therefore, issuing Badges is always connected with precise determination of the criteria. It is worth noting that Badges do not have to come from educational institutions. An employer also may issue Open Badges. Who would not like to have a Badge issued by Disney-Pixar when applying for a job in an advertising industry? Harvard Business Review (Open Badges Blog 2013) called Open Badges a key innovation of 2013 and the accreditation of future. All in all, the OBI is designed to support issuing Open Badges from a variety of independent sources and to present the experience and achievements of a learner in a structured, orderly manner.

Open Badges can be earned if a user provides evidence of their skills/ achievements. Documenting one's skills is a relative value, determined by the issuing organisation. The evidence can constitute positive test results or the outcome of a more complex assessment based on observation, as in the case of apprenticeship. Documenting achievements and skills may be multi-dimensional. In a single teaching programme, a learner may earn a number of Open Badges having completed various tasks leading to the acquisition of a particular competence. Gaining Badges for partial achievements can provide an additional incentive for students to continue their work. Badges can also be earned for specific expertise gained in the course of performing professional duties. In an interview for the magazine "Inside Learning Technologies and Skills" Doug Belshaw (2014), Web Literacy Lead at Mozilla Foundation, noted that the value of Open Badges would depend on the rigor of the criteria set in order to obtain them and how trustworthy, relevant and useful they are to others.

Open Badges can be displayed anywhere on the Internet in an environment that supports their presentation. Thus, depending on the design of application there may be an option of placing Open Badges on external websites, blogs, social networking sites such as LinkedIn and Facebook. In addition, the websites displaying Open Badges validate them ensuring that they belong to a specific user and the meta-data infused into them are still valid.

By giving the example of Totara (http://totaralms.com/about-totara), a popular Learning Management System, enriched with the component supporting Open Badges, the process of placing them can be easily visualized. Once a student receives a notification of receiving a badge, it appears in "My Badges" tab on his/her profile. Then, the student can decide whether or not to share such information with other users by pushing it into a different location in the network, e.g. in his/her e-Portfolio in order to present the most verified information to recent employers.

Learners can therefore capture all their achievements gained in any way – during studying (intentional education) or working (incidental learning) – in the digital form and put them in their virtual CV or on social media profiles. Transferability of Open Badges increases their value. Badge earners themselves may control where to display their Open Badges credentials. The decision with whom to share Badges belongs to their holder.

4. WHO MAY BENEFIT FROM OPEN BADGES?

Universities and other educational organizations can benefit from the badge system as a tool helping students in defining and presenting competencies required in the labour market, including soft skills they have acquired during their studies, and which are not directly reflected in diplomas or certificates. The skills and achievements gained during extra-curricular activities can be identified and presented through Open Badges and thus create a more complete picture of the candidate. In addition, Badges may indicate any additional skills, e.g.: a student of management may demonstrate a command of a foreign language, a fine arts graduate – programming skills and an engineer – the ability to communicate and work in a team.

Employers may provide a motivational factor for continuing development of their workers by implementing badge standards. Personal progress of each employee will become real through the acquisition of various Badges talking about professional achievements. Moreover, the badge can be used to promote the company – its badges and their value – thanks to the possibility of sharing them in the wider virtual system. The company's commitment to the development of employees can not only gain recognition among the workers themselves, but also it can increase its market competitiveness. Since each Badge carries a reference to the issuing organisation, no matter where it is displayed, this may be the way to promote the company's brand and reputation.

Badge earners will have a chance to increase control over their own learning either at school, or various training programs and other forms of education whether formal, non-formal or informal. Open badges facilitate the presentation of the full spectrum of what they have learned in lifelong learning process. Gaining more freedom to demonstrate one's own skills and potential will result in new jobs and educational opportunities fostering further development.

5. OPEN BADGES TOWARDS CREATIVITY AND EFFECTIVE LEADERSHIP

Open Badges, as a flexible structure of employees' potential (skills, competences, achievements), can be an excellent tool facilitating and supporting creativity in organizations, which leads to innovation and change, a tool enabling effective leadership.

First of all, the Open Badge Standard, which is a well-designed structure, offers enough flexibility to encompass and document all kinds of skills, competences or achievements possessed by every employee in any organisation. It is just a matter of clear, understandable language used for badge description and the selection of the most appropriate and reliable evidence in order to lock employees' strengths in their badges. These single badges form a competence map of the whole company's workforce; a map, which can be further developed at any time, according to the company's state-of-the-art.

Once a company creates its own map of verifiable strengths and competences using the standard of Open Badge, it may become a tool fostering creativity and enhancing effective leadership. How? Visibility given by such a map allows leaders to identify an individual's capabilities in relation to a particular job task or a bigger business strategy and eventually select appropriate employees to fulfill them. By picking appropriate badges, leaders create an initial structure which sheds light on what they have at their disposal and also where the skills and competence gaps are. Given this structure, it is easier to assess if the gaps are too big or they constitute a challenge fostering creativity and pushing the team to overcome it.

Let's take as an example a problem of creating a work team for a project. Leader can use the company competence map formed out of Open Badge standard and choose workers having the necessary knowledge and experience. He/she would have a clear picture of what kind of competences are missing and thus indicate appropriate actions such as hiring new employees or providing training to the existing staff. Upon the completion of the project, the individual portfolios of employees participating in it may be supplemented by issuing Open Badges showing new achievements, skills/competences so that the company always has the real time data concerning its intellectual social capital.

Open Badges seem to be useful for human capital management, for planning and motivating employees' development. In order to plan future training and elaborate personal development schemes, a record of employees' current capabilities is necessary. Open Badges meet the need by providing large amount of information in a granular way about what their bearers know and can do. Also in this case, they create a structure of the abilities of individual employees which should be a starting point to set further goals (not too remote though) to support

their growth. Recognising employees' potential and identifying skills gaps in a career path of an employee can be much easier with a supporting system which Open Badges can provide.

6. SUMMARY

A company aspiring to be competitive on the market must undergo changes according to its needs and thus participate in a constant creative process leading to innovation. Bearing in mind individual creative diversity and the fact that today's innovations result from collective work, companies need to take advantage of the full creativity potential of its employees. Good leaders need to know their team well and select right employees for particular tasks in order to succeed. They should approach team building as forming a structure of human potential that may boost creativity and problem solving. Especially in big companies effective workforce analysis and the subsequent staff allocation requires detailed data on individuals' strengths. By identifying the potential of human resources, businesses can apply more effective management. Open Badges seem to address these issues.

An Open Badge system which documents evidence-based workforce skills and competences seem to be a perfect tool giving leaders greater visibility. It may be used to build a company's competence map as well as individual employee's portfolio. This, in turn, allows leaders to extract data that is to select badges to form a network (a structure) of employees having appropriate, complementary competences in relation to a job task. In consequence, it also provides visibility on organisational capability gaps. Referring back to the extract of one of the definitions cited at the beginning of the article: "bringing together available information; defining the difficulty or identifying the missing element" (Torrance et al. 1973: 6), it seems that an Open Badges system is a promising solution to the problem of capturing the discrepancy between the existing and desired collective and individual human capital in relation to innovation business strategy.

REFERENCES

- Amabile T. M. (1988), A model of creativity and innovation in organisations, "Research in Organizational Behavor", 10, pp. 123–167.
- Ackoff R. L., Vergara E. (1981), *Creativity in Problem Solving and Planning*, "A review. European Journal of Operational Research", vol. 7, no. 1, pp. 1–13.
- Belshaw D. (2014), Earning ... issuing ... displaying ..., [in:] Inside Learning Technologies and Skills, wyd. 48, London, http://viewer.zmags.com/publication/658352e7#/658352e7/36, 07.04.2015.
- George J. M. (2007), *Creativity in organizations*, "Academy of Management Annuals", vol. 1, iss. 1, pp. 439–477.

- Guilford J. P. (1967), The Nature of Human Intelligence, New York: McGraw-Hill.
- Land G., Jarman B. (1993), Breaking Point and Beyond. San Francisco, Harper Business.
- Open Badges Blog, Harvard Business Review Four Innovation Trends to Watch 3rd January 2013, http://openbadges.tumblr.com/post/39573155702/harvard-business-review-four-innovation-trends-to, 02.04.2015.
- Kirton M. J. (2011), Adaption-Innovation in the Context of Diversity and Change, London: Routledge.
- Welsch P. K. (1980), The nurturance of creative behavior in educational environments: A comprehensive curriculum approach. Unpublished doctoral dissertation, University of Michigan.
- Rhodes M. (1956), *The Dynamics of Creativity: An Interpretation of the Literature on Creativity with a Proposed Procedure for Objective Research*, (Unpublished doctoral dissertation), Arizona State University, Tempe.
- Sawyer K. (2007), Group Genius: The Creative Power of Collaboration, New York: Basic Books.
- Thomas J. (2015), Smart Heretics; Thinking About the Box in Organisations, https://class.coursera.org/cic-001/lecture/127, 05.04.2015.
- Torrance E. P., Torrance P. (1973), Is creativity teachable? Bloomington, IN: Phi Delta.
- Velegol D., Jablokow K. W., Matson J. V. (2015), Creativity, Innovation and Change, https://class.coursera.org/cic-001/wiki/wk3, 01.04.2015.

AUTHOR NOTE

Anna Magiera – specialist at the Work Pedagogy of Innovative Economy Centre of the Institute for Sustainable Technologies – National Research Institute (ITeE-PIB) in Radom. Professional specialisation: innovation in education, e-learning, adult education, continuing vocational education. Author and executor of international projects within Erasmus+ Programme.

Jolanta Religa – doctor of Pedagogical Sciences, Assistant Professor in the Department of Lifelong Learning at the Work Pedagogy of Innovative Economy Centre (ITeE-PIB in Radom), professional specialisation: work pedagogy, lifelong learning, educational policy, and labour market. She designs and carries out the research, scientific and implementation activities in the following areas: comparative analyses of vocational education systems, teaching and learning in work processes, formal and informal systems of vocational adult education and training, labour market analysis, standardisation of professional qualifications. She develops, implements and evaluates international research projects, including Leonardo da Vinci, Grundtvig, COST, Erasmus plus.

Creativity is now an exposed trait. This is due to the high need for innovation, original and useful solutions that serve the development of the organization, their effective market entry and long-term survival. This publication is a collection of papers prepared under The First National Conference "CREATIVE VIBES. Kreatywnością napędzamy gospodarkę", whose aim was to stir issues concerning the significance of creativity from the point of view of the development of innovative economy, as well as to draw attention to the role of creativity in the education process of students and its impact on the development of professional competence.





www.wydawnictwo.uni.lodz.pl e-mail: ksiegarnia@uni.lodz.pl tel. (42) 665 58 63, faks (42) 665 58 62

