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Developing Creativity in the Higher Education on the Relationship between Community Art and Whole Child Approach

Rozwijanie kreatywności i relacji w szkolnictwie wyższym. Między sztuką społeczną a podejściem obejmującym całe dziecko

Abstract

Under the umbrella of the VUCA-world and growing international competition creativity plays a more important role in higher education. In this context, divergent thinking, fluency, flexibility, problem-sensitiveness and originality are key factors for work, life, and literacy. In the first part of the article we will discuss the philosophical phenomena of this process, which comes from John Dewey's 'learning by doing' principle. In fact, rethinking higher education comes to the front in the 21st century, changing teaching education in order to develop creativity with various innovative ways. In the second part of the article Visual Arts, especially Community Art, will be in focus. This promotes communication, collaboration, critical thinking and problem-solving, creativity and innovation, especially project-based learning via Totem Project, which was implemented at J. Selye University from November to December 2022. The aim of the project was community building and creativity development. Building a community is based on collaboration amongst students and teachers (the project had 50 members in total and consisted of 100 working hours) in order to develop creativity, team-building, and collaborative professionalism via sharing aims and expectations, building community and trust, respect and listening. The Totem Project started to map prior knowledge on community in order to develop engagement and creativity at three levels: individual, team, and organizational levels. Finally, at the end of the paper, conclusions will underline some open dilemmas and questions.

Keywords: creativity, community art, whole child approach, teacher education

Streszczenie

W świecie VUCA pełnym zmienności, niepewności, złożoności i niejednoznaczności oraz rosnącej międzynarodowej konkurencji kreatywność odgrywa coraz ważniejszą rolę w szkolnictwie wyższym. W tym kontekście myślenie dywergencyjne, płynność, elastyczność, wrażliwość na problemy i oryginalność są kluczowymi czynnikami oddziałującymi na funkcjonowanie codzienne oraz zawodowe. W pierwszej części artykułu autorzy omówią filozoficzne zjawiska tego procesu, które wywodzą się z zasady Johna Deweya "uczenia się przez działanie" oraz przeanalizują możliwości reorganizacji szkolnictwa wyższego,

którego jednym z podstawowych zadań w XXI w. powinno być rozwijanie kreatywności studentów. W drugiej części artykułu autorzy skupią się na analizie sztuk wizualnych, zwłaszcza sztuki społecznościowej (Community Art), która promuje komunikację, współpracę, krytyczne myślenie i rozwiązywanie problemów, kreatywność i innowacyjność, zwłaszcza uczenie się oparte na projektach. W artykule autorzy przedstawiają założenia projektu Totem, który został wdrożony na Uniwersytecie J. Selyego w listopadzie – grudniu 2022 r. Celem projektu było budowanie społeczności i rozwój kreatywności. Budowanie społeczności opiera się na współpracy między studentami i nauczycielami (projekt liczył łącznie 50 członków i obejmował 100 godzin pracy) w celu rozwijania kreatywności, budowanie zespołu i profesjonalizmu współpracy poprzez dzielenie się celami i oczekiwaniami, budowanie wspólnoty i zaufania, szacunku i słuchania. Projekt Totem rozpoczął mapowanie wcześniejszej wiedzy na temat społeczności w celu rozwijania zaangażowania i kreatywności na trzech poziomach: indywidualnym, zespołowym i organizacyjnym. Autorzy zakończyli artykuł wnioskami, podkreślając pewne otwarte dylematy i pytania.

Slowa kluczowe: kreatywność, sztuka społeczna, podejście obejmujące całe dziecko, kształcenie nauczycieli

You cannot teach today the same way you did yesterday to prepare students for tomorrow.

(John Dewey)

Introduction

The world of higher education has undergone significant change in recent decades. The main reasons for this are of economic and social nature. Increasing international competition, strong impact of rankings and science metrics, and last but not least, the so-called VUCA (rapidly changing, unpredictable, complex, uncertain) world are creating new challenges for higher education¹. The 4th (slowly becoming the 5th) industrial revolution, the incredible speed of technological progress, the information explosion and the rise of artificial intelligence have further reinforced this process². To briefly summarise the economic and social reasons without wishing to be exhaustive, the key concepts of the knowledge economy, the knowledge-based or learning society and lifelong learning in higher education are worth highlighting. In simple terms the quality of knowledge is a given key

¹ F. Maringe, N. Foskett, *Introduction: Globalization and Universities* [in:] *Globalization and Internationalisation in Higher Education*, eds. F. Maringe & N. Foskett, Continuum International Publishing Group, London 2012, pp. 1–15; T. Mészáros, V. Vass, *The links between a changed vision of learning and project-based teaching* [in:] *The State, Problems, and Needs of the Modern Education Community: The 28th International Scientific Conference "Educational Research and School Practice"*, eds. J. Stevanović, D. Gundogan, B. Ranđelović, Belgrade, Serbia 2022, Institute for Educational Research, pp. 20–28.

² V. Vass, F. Kiss, *The Role of Competency Development in the Implementation of Portfolio-Based Education in Higher Education* [in:] *Visions and Concepts for Education 4.0. ICBL 2020: Proceedings of the 9th International Conference on Interactive Collaborative and Blended Learning (ICBL 2020)*, eds. M.E. Auer, D. Centea, Cham, Switzerland, 2020, Springer International Publishing, pp. 42–48.

to the development of a country³. There is a strong correlation among cognitive abilities, fundamental skills the quality of cognitive abilities, learning outcomes and economic productivity⁴. Knowledge-intensive economic sectors and creative industries have put innovation and creativity at the forefront⁵.

The presentation and the study were inspired by an article published on 21st October 2020. In her based on the Word Economic Forum's Future of Jobs report, Kate Whiting predicted the 10 most important skills for 2025. The list (which is not a ranking) includes critical, analytical and problem-solving thinking, active learning and learning strategies, and (unsurprisingly) creativity. Of note for our paper is the inclusion of resilience, stress tolerance, and flexibility. One of the most dramatic findings of the report is that around 50% of workers will need to renew their skill sets by 2025 if they are to remain competitive in a rapidly changing world⁶.

In our view, however, this is not a purely economic and social issue, but the process has significant educational causes and implications for the knowledge and learning landscape of higher education. On the one hand, in addition to declarative and explicit knowledge, the transformation of procedural and tacit knowledge comes to the fore and on the other hand a broader understanding of learning, in which learning is a set of activities of psychic processes. The traditional view of learning in higher education (attention, memory) is complemented by the psychic processes of perception, cognition, imagination, thinking, emotion, volition and action⁷. Nota bene, the change in the knowledge and learning vision of higher education also provides relevant answers to the 10 key skills list of the report.

To briefly summarise the causes and effects of education the following key concepts are worth highlighting: competence-based development, portfolio-based

³ E.A. Hanushek, L. Woessmann, *Do Better Schools Lead to More Growth? Cognitive Skills, Economic Outcomes, and Causation*, Working Paper No. 14633, Cambridge, MA: National Bureau of Economic Research, 2009; E.A. Hanushek, L. Woessmann, *The Knowledge Capital of Nations: Education and the Economics of Growth*, Cambridge: MIT Press, 2015; E.A. Hanushek, L. Woessmann, *Knowledge capital, growth, and the East Asian miracle*, SCIENCE sciencemag.org 22 JAN-UARY VOL 351 ISSUE 6271, 2016; E.A. Hanushek, *The Economic Value of Improved Schools*, Hoover Institution, Stanford University, 2019, https://www.niet.org/assets/ResearchAndPolicyResources/974a262a85/eric-hanushek-the-economicvalue-of-improved-schools.pdf.

⁴ E.A. Hanushek, L. Woessmann, *Universal Basic Skills: What Countries Stand to Gain*, OECD Publishing, Paris 2015.

⁵ R.L. Florida, *The Rise of the Creative Class, Revisited*, New York 2012; R.L. Florida, *The Rise of the Creative Class: And How it's Transforming Work, Leisure, Community and Everyday Life*, New York 2002.

⁶ K. Whiting, *These are the top 10 job skills of tomorrow – and how long it takes to learn them*, World Economic Forum 21 Oct 2020, https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/.

⁷ V. Vass, A deklaratív és a procedurális tudás összefüggései a tudás transzferálhatósági folyamatában [in:] Interdiszciplináris pedagógia múlt és jövő között: a XI. Kiss Árpád Emlékkonferencia előadásainak szerkesztett változata Debrecen, eds. A. Buda, E. Kiss, Magyarország 2020: Debreceni Egyetem Neveléstudományok Intézete pp. 35–52; Z. Báthory, Tanulók, iskolák, különbségek, OKKER Oktatási Kiadó, Budapest 2000.

higher education, transformational university, and learning-centredness⁸. Clearly a coherence of economic and social as well as educational causes and impacts is necessary to make the changes in higher education durable and sustainable. This desirable and indispensable coherence is also a relevant response to the challenges of the skills gap, reskilling and upskilling⁹. We believe that developing creativity is the key to this coherence; it is not just one skill item on the list, but a transversal competence that reinforces coherence itself. In more fashionable terms creativity is a horizontal aspect, which means that the development of creativity is a key factor in all areas of higher education. On the other hand, it is a key competence in which one of the most accepted structural interpretations of competence encompasses both types of knowledge¹⁰, skills and attitudes. The coherence of some elements of this structure is undoubtedly an exciting pedagogical challenge in higher education, but an even greater challenge is that the development of creativity is not only key to economic competitiveness¹¹, but is a life skill and a significant part of basic literacy in the 21st century.

The focus on creativity and the intensification of research on creativity started in the mid-20th century, therefore we now have significant (mainly) research approaches (paradigms), theoretical models, and data to provide practical answers to the coherence of economic, social, and educational causes and effects. Two research approaches (paradigms) deserve particular attention for our topic. Psychometric approaches to the study of creativity are based on Guilford's famous presidential address emphasizing the importance of divergent thinking¹². Divergent thinking is related to the rethinking of the concept of intelligence. Guilford's new interpretation of intelligence at the intersection of various dimensions of content, operation, product, and educational research was spruned in the areas of multiple intelligences and creativity¹³. As Arndt, Grove and Springsteen stated: "Guilford's Structure of Intellect organizes the various abilities associated with creativity and IQ into three abilities: content, product and operations. Content expresses his idea that different

⁸ V. Vass, F. Kiss, *The Role of Competency Development in the Implementation of Portfolio-Based Education in Higher Education* [in:] *Visions and Concepts for Education 4.0. ICBL 2020: Proceedings of the 9th International Conference on Interactive Collaborative and Blended Learning (ICBL2020)*, eds. M.E. Auer, D. Centea, Cham, Switzerland, 2020, Springer International Publishing, pp. 42–48.

⁹ K. Whiting, *These are the top 10 job skills of tomorrow – and how long it takes to learn them*, World Economic Forum 21 Oct 2020, https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/.

¹⁰ Ibidem.

¹¹ Ibidem.

¹² J.P. Guilford, *Creativity*, "American Psychologist" 1950, 5(9), pp. 444–454; R.J. Sternberg, T.I. Lubart, *The concept of creativity: Prospects and paradigms* [in:] *Handbook of Creativity*, ed. R.J. Sternberg, Cambridge 1999.

¹³ R. Richards, *Millennium as opportunity: Chaos, creativity, and Guilford's structure of intellect model*, "Creativity Research Journal" 2001, 13(3–4), pp. 249–265.

people tend to think more effectively about different kinds of information, such as: visual, auditory, semantic, and behavioral. The product represents the kinds of information we process from the content types: units, classes, relations, systems, transformations and implications. The operations piece describes what the brain does with this type of information: cognition, memory, divergent production, convergent production and evaluation. These three factors come together to form 150 different skill areas¹⁴".

Psychometric approaches of the study of creativity stresses measuring creative thinking via different tests, for instance Unusual Uses Tests and Torrance Tests of Creative Thinking, narrowing the 150 factors to fluency, flexibility, originality, and elaboration¹⁵.

"Looking beyond the field of psychology" social-personality approaches to the study of creativity are based on the tringle of personality and motivational variables and the socialcultural environment. This approach has a multidisciplinary phenomenon (psychology, education, business, history, history of science and other fields), where the concept of creativity is much more complex and different¹⁶. From the point of view of our topic, two models of creativity deserve special attention. The 4 P's model, where Rhodes¹⁷ identified the four separate parts that influence creativity are person, process, press and product. The Csikszentmihalyi's Systems Models is based on the interrelations of three parts: domain, field, and person¹⁸. In this model developing creativity is a domain-specific process. Turning back to the Guilford's Structure of Intellect, focusing on content, the correlation is obvious. We think domain is more complex and cultural-based than traditional concept of content. The key points from the analysis of Guliford's model are the personal components of creativity and the process of transformation in different kinds of information in different ways. The multiple vision of intelligence and the complexity of creative personality are related to the holistic approach of the person and the process. From the point of personal development the key concept is a whole-child approach, which is based on the connections between children's social, emotional, cognitive, and academic development, as well as their physical and mental health¹⁹. In our view this approach is relevant to the higher education as well. From the point of view of the procedure Csikszentmihalyi defines the process of creativity in five steps: preparation, incubation, insight, evaluation, and elaboration. Prepration is based on

¹⁴ Daniel Arndt, Heather Grove, Ashley Springsteen: Guilford's Sol., https://creativityepsy5750. wordpress.com/guilfords-sol/.

¹⁵ R.J. Sternberg, T.I. Lubart, *The concept of creativity: Prospects and paradigms* [in:] *Handbook of Creativity*, ed. R.J. Sternberg, Cambridge 1999.

¹⁶ Ibidem.

¹⁷ M. Rhodes, *An analysis of creativity*, Phi Delta Kappan 1961, 42, pp. 305–310.

¹⁸ M. Csikszentmihalyi, Creativity: The Psychology of Discovery and Invention, New York 1996.

¹⁹ S. Slade, D. Griffith, *A whole child approach to student success*, "KEDI Journal of Educational Policy" 2013.

curiosity and the incubation is related to unusual connection²⁰. This process works on personality and motivational variables and the sociocultural environment (see social-personality approaches of the study of creativity). Kaufman and Beghetto have identified four developmental levels of creativity²¹. As Lucas²² analyzed this model: "Mini C describes the many small novel acts or new insights we may make in any day, especially those, which occur to children, because this is the first time they have experienced them (but not because they are original). Little C or everyday creativity encompasses the daily acts of imagination and innovation, of idea generation of which we are all capable. Pro C implies a degree of mastery, expertise, and experience and Big C is what breakthrough thinkers do²³".

Turning to the practical part of our paper we are focusing on social-personality approaches to the study of creativity, especially a holistic approach of personal development (see whole child approach) and the process of creativity development (see prepration, incubation and Pro C in teacher education).

Practice in teacher education

In his work Experience and Education, the American philosopher and educationalist Dewey wrote as early as 1938 that the attitudes, likes, and dislikes acquired while learning are often more important than the lessons or historical facts learned, because they are the ones that are essentially retained²⁴. With this in mind an important task of visual education at the Faculty of Teacher Education of Selye János University in Komárom is to bring out the likes and dislikes mentioned by Dewey both verbally and visually, while at the same time empowering students to think creatively in a community. In November and December 2022 the University Totem community art project was carried out in the spirit of this idea, where students could get involved in a collaborative art project and learn about different clay-making techniques, while creating an element of a totem pole. The project aimed to build a community beyond learning the most basic ceramic techniques. More than 50 people worked on the pillars spending more than 100 hours in total to create a collective work – in this case three totem poles.

The term community art is used as a general term for a creative method that has been widespread in the Anglo-Saxon-speaking world, and ever since the 1960s it also spread in most parts of Western Europe. Community art, also known as

²⁰ M. Csikszentmihalyi, Creativity: The Psychology of Discovery and Invention, New York 1996.

²¹ J.C. Kaufman, R.A. Beghetto, *Beyond big and little: The four c model of creativity*, "Review of General Psychology" 2009, 13(1), pp. 1–12.

²² B. Lucas, Creative School Leadership, Perth 2021.

²³ Ibidem.

²⁴ J. Dewey, *Experience and Education*, New York 1938, 1963.

community-based art, refers to artistic activity in, by, and for the community. Works of art in this genre can be produced in any medium and are characterised by interaction or dialogue with the community²⁵.

Professional artists often work with people who otherwise are not actively involved in artistic activities²⁶. The concept of community art is related to the social-personality approaches to the study of creativity and the Csikszentmihalyi's model and process of creativity.

The essence of community art is that the commissioned creator of a visual artwork for a given community involves the members of that community in the design and sometimes the execution of the work, depending on their skills and willingness to participate. In this case the commissioned artist was sculptor Csilla Nagy and the community was made up of students from the Faculty of Teacher Training at the University²⁷. Those who were able to participate represented the community and have been provided careful professional guidance by the artist, but with a high degree of freedom in the creation of three totem poles.

According to the Oxford English Dictionary, the word totem primarily refers to an animal of primitive peoples that was regarded as the ancestor of a tribe and therefore held in cultic veneration. It also refers to an object that serves as a symbol of a family, tribe, genus or clan, referring to their origin. The pillars bear a number of symbols, each with a unique meaning for the family or tribe that owned the totem, representing its history, culture, and ancestry. Different types of totem poles are made for different purposes, such as telling a story, welcoming new people into the community, commemorating the dead, etc.²⁸

We chose clay as a medium because, as a natural material, it fits perfectly with the requirements of today's education system, where sustainability and environmentally friendly methods and solutions are an inevitable aspect. It is a water-bearing clay silicate formed by the weathering of feldspar or feldspar-containing rocks. Clay is versatile, malleable and easily mouldable – it was known and used by prehistoric man. The first pots were made using one of the most basic techniques, the so-called 'stacking' technique. The students were introduced to one of these

²⁵ K.G. Congdon, D. Blandy, P.E. Bolin, *Histories of community-based art education*, Reston, VA: National Art Education Association, 2001; P. Langdon, *Community art education: Issues for teacher training* [in:] *Actes du Colloque sur la Recherche en Enseignement des Arts Visuels*, eds. F. Gagnon-Bourget, P. Gosselin, Montréal 1996, pp. 41–43; A. Sinner, M. Levesque, K. Vaughan, L. Szabad-Smyth, D. Garnet, S. Fitch, *Reviewing an archive of practice: The historical unfolding of community art education*, "Canadian Review of Art Education" 2012, 39, pp. 24–45.

²⁶ web 1. (n.a.), Community Art, https://www.tate.org.uk/art/art-terms/c/community-art.

²⁷ T. Mészáros, Cs. Nagyová, *Közösség és művészet a Selye János Egyetem Tanárképző Karán* [online] [in:] *Katedra*: szlovákiai magyar pedagógusok és szülők lapja. Dunajská Streda: Nadácia Katedra, 2023, 30(8), s. 33–35; ISSN 1335-6445. ISSN (online) 2729-9066. [in Hungarian].

²⁸ web 2, Oxford English Dictionary, s.v. "totem (n.), sense 1.a," September 2023, https://doi.org/10.1093/OED/2413715247.

ancient methods of working: they used loops of clay to build cylindrical (ring-shaped) elements. They used a board and a swiveling circular stand to help them put them on. A cardboard washer was placed on the stand, which also determined the thickness of walls. Because the relative weight of the cylinders they had to be able to support not only their own weight but also the additional loads they would have to bear when stacked on top of each other. Once the cylinders were dry they were decorated using a variety of wooden and metal tools, while others used reliefs to decorate the individual elements. This is where the freedom of creation really came into its own as participants were able to think up their own ideas for the surface. After the clay cylinders were completely dry, many were first fired in the kiln heated to 1000 C, followed by the glazing of the objects. The elements were then fired again to give them their final shape and colour. It is clear that these processes are extremely time-consuming and the sculpture itself is the result of several stages.

Through the Visual arts course our students were able to experience the challenges of each stage of the work process while learning a number of technical skills through experiential learning. This process is related to the whole-child approach, because of a holistic view of personal development and the process of creativity development as well. The principle of learning through experience has appeared in the history of education, but it became dominant in the work of Comenius. Comenius's pedagogy is called pedagogy of demonstration, which is a way of using experience, but it is mainly dominated by sensory experience²⁹. The incorporation of real action into the theory and practice of pedagogy was mainly achieved with the birth of reform pedagogies. It was believed that a child can only learn something if he or she can have concrete sensory and action experiences of that particular thing. Experiential learning was described in detail by the American educational philosopher Kolb in his 2014 book Experiential Education: Experience as the Source of Learning. He describes learning as a four-phase spiral process. In his view, learning begins with a concrete experience followed by observation and reflection. Then the laws and strategies that emerge from reflection induce new ideas, in the light of which the same tasks can be repeated.

From a pedagogical point of view the most exciting moment of the project was when two or three students worked simultaneously on a single element. Due to the extreme plasticity of the clay, a situation could arise at any moment that required an immediate and collaborative response in order to maintain the stability of the element. This cooperation was essential for each 'ring' that was made, so that the complete columns could be assembled.

At the same time participants had to learn to trust the "system" of the other creator. At times, they had to step back, revise their own ideas, or even push them into the background. To merge others' worlds with their own in a way that

²⁹ J.A. Comenius, Nagy oktatástan, Akadémiai Kiadó 1953, Budapest.

dispenses with the creative routines they had already established. The elements of the totem pole were in fact messages that needed not only to be interpreted, but also to be completed. Through the creative process they learned to draw a kind of elementary conclusion from the elements they made together: if something works, and works well together, it has a raison d'être and is likely to be timeless, i.e. will survive. However, what is spectacularly incoherent is also something we have to deal with. Moreover, sometimes the broken part says more about the system itself, about the whole. A further peculiarity of the product is that, despite the solidity of the components, it is completely open: the ceramic rings that make up the columns can be freely rotated, interchanged, or extended with additional elements, creating the possibility for further reflection at a later stage, i.e. inviting new play instead of completion.

The creators have experienced that when there is a common goal, everyone is more willing to work on their own, seemingly smaller-scale task. It became clear to them that there are in fact no "small" or less important tasks. The motif system of the columns was intended to represent the diverse community of which they were a part, with their own roles in the whole, just as the individual segments in the ceramic relief.

In order to understand the importance of creating in community in higher education it is worth exploring student views and experiences of the concept among those involved in creating the elements of the totem pole. In our students' perceptions community is seen as a framework in which they play roles and in which they maintain close social relationships. Community becomes those who are able to work together and create something together, in the process of which the work becomes productive. A group becomes a community when the interests of the individuals in it are expressed and they walk a common path together towards a common goal. If the community has a positive attitude towards its peers and a common interest, then we could call that a well-functioning community.

"The totem poles represent teamwork, time spent together over several months and the combined hard work of many university students. The finished work suggests togetherness and discipline. It is the work of many hands that gives it its beauty and prestige. The many small pieces have come together to form one big whole. The different patterns and symbols complement each other beautifully, and it is true that not all the pieces fit together perfectly, but knowing how much work went into each piece makes it all the more complete. Too much perfection is a mistake; it completely misses the point of community work".

Creating in the community for the community, as a pedagogical tool, is not a modern-day silver bullet. As practising educators, we are acutely aware that some of the essential skills and abilities associated with the various competences can be described as being effectively acquired through the community-based practice of visual arts. It is also important that the whole community is present in all processes,

which helps to develop a sense of responsibility for joint work and a team player attitude. It is clear from what has been described that the concept behind the totem pole is the development of social skills, which took place in a creative situation. The most important building block of the totem poles, apart from the clay, was the activity of the participants.

In addition to the above, we believe that community art also has many advantages in terms of learning, learning to learn, and creativity. In order to be able to access, acquire, process, and assimilate new knowledge, skills and attitudes, an individual must learn to focus persistently over a long period of time. They must be able to take time to learn independently (individual work), while also being able to work with others as part of the learning process (cooperative work) and to share what they have learned with others. They should be able to reflect on their own and others' work, seeking advice or support when needed. A positive attitude to creativity is needed throughout our lives, not only in learning. A problem-solving attitude also supports learning and reactions to change. Experiential learning methods provide a space for students to gain experience, experiential knowledge tied to concrete memories is retained more deeply and more easily recalled than presentations delivered in face-to-face teaching. The feedback also showed that creative activities carried out in a community for a common purpose can also provide a recreational opportunity, making participants more open to new knowledge. The totem poles created can ultimately function as a symbol of community, each bearing the unique and indispensable signature of the creators.

Summary

Developing Creativity in Higher Education on the Relationship between Community Art and Whole Child Approach is a potential answer to the challenges of restructuralization and rethinking of higher eduction in the 21st century under the umbrella of the VUCA-world and knowlegde economy. This process can promote to a lifelong learning, especially the needs of reducing the skill gap, reskilling and upskilling. The practical example on community art is based on individual and collaborative competency development, focusing on developing creativity and learning strategies on the triangle of domain, person, and field, and level of preparation, incubation and Pro C of the process. The basic dilemma of the process is the assessement. No doubt that using creativity tests are not to promote the effectiveness of the project. The key function is a formative assessment, for instance developing reflective thinking. Reflective diaries or personal portfolios are the potential tools following the students' progression.

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