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A Force to Innovation

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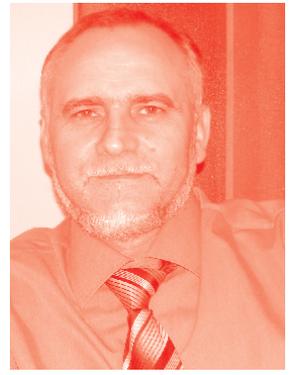
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Meet the editor

Pooja Jain, Ph.D., is an academician in graphic design and visual communication. She holds a Ph.D. in Advertising from Delhi University, India, and is an avid researcher with several publications in international peer-reviewed journals and paper presentations in national and international conferences. Currently, she is actively working on multiple startups and corporate projects as a freelance design practitioner. Dr. Jain is professionally associated with many eminent Indian institutions of art and design, serving in multiple roles including external examiner, paper setter, Ph.D. advisor, career counselor, advisory board member, and others. At present, Dr. Jain is working as an academic coordinator and faculty member in the Department of Visual Communication at Srishti Institute of Art Design & Technology, Bengaluru, India.

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Preface

To create is always to do something new - Martin Luther

If you are reading this book, it's likely that a large part of what I set out to do has been achieved. The importance of creativity today needs no emphasis. Regardless of profession, you will have a competitive advantage if you develop your ability to come up with creative ideas. In 2020, we witnessed a global outpouring for change, evoking a certain amount of creativity in all of us. This book thus presents a plethora of creative interventions in education, culture, expressions, communications, and other areas. I extend my deepest gratitude to all the authors who have made their valuable contributions to this book. I am extremely grateful to IntechOpen for providing me this wonderful opportunity to follow my passion in a new direction. I am also thankful to author service manager Ms. Romina Rovan, who was my main point of contact throughout the editorial process and who kept the book on track. Lastly, I am grateful to the readers. I hope that you find the book stimulating as well as informative.

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Section 1

Expressions of Creativity

Peace Education in Times of Covid-19: Rethinking Other Kind of Logic from the Imagination, Fantasy, Creativity and Utopia

Sofia Herrero Rico

Abstract

This article aims to reflect on the challenges of peace education in times of Covid-19 global pandemic from a positive perspective, understood as a new opportunity for education to consider the teaching of how to make peace from our daily experiences; and in this way, humanity can forge a more peaceful future. In this task, the use of imagination, fantasy and creativity as educational resources will be revalued. Likewise, utopia is proposed as that unknown horizon, still to come, that will show us, in the face of so many doubts and uncertainties, those possible scenarios which will motivate us to continue working for cultures of peace. This reflection starts from the Reconstructive-Empowering Peace Education approach that I have been proposing in my research as a member of the Interuniversity Institute of Social Development and Peace.

Keywords: education, peace, imagination, fantasy, creativity, utopia

1. Introduction

The proposal of the Peace Education Reconstructive-Empowering approach (hereinafter REM approach) invites us to reflect on what logic and rationality we have established as human beings and on which, therefore, education is based. Apparently, from politics, from the media, from the dominant culture, from the interaction of life itself, in general, we are taught the logic of violence, destruction, competitiveness and exclusion. The exclusion of those who does not conform to the generalized mold, to what is imposed, to what is standardized, to what is considered valid, to what does not belong to us, to what is strange and different, and this entails every type of conflicts. Taking this into account, the Peace Education REM approach is proposed as a tool to be able to peacefully transform conflicts, highlighting, on the one hand, our capacities and competencies to make peace [1, 2] and our empowerment for action [3] and, on the other hand, making use of the recognition of the other [4–6] and of our creative thinking [7–9] to find different positive alternatives.

> *We have to be at home with our own capacity to fantasize. We need to be able to weave together our knowledge of history, geography, and culture; to imagine a different future. On the one hand, we need analytic knowledge: we need to know what the social*

> *scientists and physical scientists can count and measure. We need that, but we need intuition to know when to break loose from conventional categories of thought [10].*

In this sense, the Peace Education the REM approach calls into question the logic in which we insert ourselves and the one we use to understand and transform conflicts, since we know that we can do things in different ways, we have alternatives to do peace. We know that violence is not a biological fatality included in our genetics [11], but that it is learned through processes of socialization and acculturation, in the same way that we can learn nonviolence and peace [12]. Learning nonviolence and peace means entering into the logic of transformation, reversing course, learning to go against the current, breaking the rules of the unfair game in an imaginative, creative, and non-destructive way, learning, in short, other logics that not those of violence and destructiveness, other more hopeful, illusory and fantastic ones [13].

2. The peace education reconstructive-empowering approach

The Peace Education REM approach is defined, therefore, as the reconstruction of our human competencies, in the sense of capacities or abilities to make peace, and our empowerment to take them to action. It shows that making peace is possible for all people, and, taking this into account, it challenges us to seek alternatives to transform our conflicts, daily and inherent in human relationships. Thus, the reality understood many times by Western culture is subverted, which seems to indicate that there is only a single logic, that of responding through violence and/or destruction to any difference, disagreement, shock or conflict. Thus, this approach also proposes unlearning the culture of war and violence [14] and learning cultures of peace, through elements such as [15]:

- The recognition of all human beings as valid interlocutors, recognition that would go from the physical integrity of people, legal rights, as well as the different forms and life's styles [4–6].

- The ability to change our perceptions and perspectives to accept the difference, the strange and the divergent [16].

- Empowerment to bring peace into action [12, 17, 18].

- Nonviolent Communication [19] to know how to express an opinion, dialog, question, even disagree, without hurting the other party.

- The ethics of care and sentimental coeducation to be able to educate in the deconstruction of gender roles and ensure equality and equity among, turning care into a human value, and not a gender one [20].

- Understand the conflict as positive and the possibility of its transformation by peaceful means, which can become in learning opportunities [21, 22].

- Cooperation is used as an essential concept to transform our conflicts and make peace, since we need to be able to cooperate with the other party for understanding, pact or consensus [23].

- The importance of fantasy [13], imagination [21] and creativity [9, 15, 24] to overcome conflicts and find alternatives ways of making peace.

For the delimitation and focus of interest of this article, I propose to develop only this last aspect of the REM approach, which would be the use of fantasy, imagination and creativity as an alternative to modern rationality based on the logic of contempt, of competitiveness and violence, thus presenting and understanding human interaction in a more respectful, cooperative and peaceful way. In this sense, it is necessary to yearn for a society in which war and the system of organized destruction for conflict resolution have disappeared, as well as the destructive spirit of marginalization, exploitation, violence and injustice, among others. And develop, therefore, a culture of peace that reaches the brain, to the consciousness of the people [17]. We assume, as we mentioned before, that one of the objectives of the Peace Education REM approach is to learn to subvert the arguments, for example, that cultures for peace should replace those of violence, war, marginalization and exclusion. War and the use of violence are not the solution to the problems of the world, and we can seek other peaceful alternatives through our awareness, will, union and commitment. In other words, it is our responsibility the search for other types of more creative and peaceful alternatives to violence. In this sense, we have the contributions of Rodari [13], Italian pedagogue, inventor of fables, pacifist, fantastic, who wrote stories and tales in order that "they could be useful for those people who believe in the need to let the imagination occupy a place in education, for those who trust creativity and fantasy" [13]. From here, fantasy is interpreted as the art of inventing, which we need so much for making peace, since it requires to be imagined, fantasized, invented and created.

3. The peace imaginary from the REM approach

From various researchers [3, 9, 25] we found that one of the greatest obstacles in education for peace is the feeling of the impossibility of its implementation due to the inability of many people to imagine peace as a real project to carry out. It is required, then, from formal, informal and non-formal education, to imagine peace, to recognize the value of its visualization as a previous step to be able to put it into practice. Just as violence is found and manifested in different ways, direct, structural and cultural [26] it is also possible to find different forms of peace. The point is that these *many peaces* [27] appear discreetly, without fanfare, noise, scandal, they are usually silent peace(s), whose manifestations tend to go unnoticed. However, we cannot remain mute and deaf to these experiences and we must be attentive and sensitive to hear and claim their voices. Thus, silent peace must be noted to account for its breadth and its great importance in the trajectory of historical development [9]. Rescuing these peace(s) is of the utmost importance to realize the existence and naturalness of peace from different spaces, times and actors. Our interest, then, is to highlight peace as a natural characteristic of human relationships and everyday experiences. Within this framework, there are a series of contributions that focus on defining violence as the rupture of the naturalness of things, thus considering peace as natural. For example, in *La Enciclopedia de la Paz y Conflictos* [28] it is stated that most Spanish-language dictionaries speak of violence when an action is carried out that leads to a state "out of the ordinary", a breakdown of harmony and balance. In this sense, we could say that violence is experienced as the breakdown of an "established order", of a pre-existing harmony, of conditions of life that are supposed to be peaceful. Likewise, Martínez Guzmán [1] also defines violence as a concept linked to force, vis in Latin, even to the sense of power, plus the suffix lent that gives intensity to the accompanying root. Thus, analyzing its etymological roots, doing something violently would be doing it with great force, exercising power [2].

According to the above, it is interpreted that violence is to change the natural state of things using force, it is the violation of something or someone by force, for example, we see it in behaviors as socially institutionalized as breaking the law, raping a woman, violating a code of conduct, among others. Then, we would say that peace is more original than war or violence "human capacities to make peace are more natural, more basic or original, than capacities to exercise violence" [2]. Taking this into account, we could point out that each civilization, each culture has created its own images of peace, they are rare, but, even so, they are visibly manifested in popular stories, in tales, in mythologies or utopias, promoting, through them, models of being, expectations and hopes [3]. However, there is a lot of uncertainty when it comes to imagining and defining peace, it is an abstract concept, difficult to determine as it happens with many other related terms such as happiness, harmony, justice, freedom. All of them are easy to recognize more by their absence than by their meanings in themselves [29]. In reality, nobody is against peace, peace has a tremendous capacity to achieve consensus; all humans propose peace as a goal to be achieved, but, at the same time, each one takes advantage of it and manipulates it for their own ends and interests. In this sense, there is practically no political or educational program that does not promise and pretend to achieve peace. There is no person who admits not wanting to live in peace. We see, then, how one of the challenges posed to us in peace education is the creation of a peace imaginary which will include positive concepts and images of peace, to keep hopes alive, decision-making capacity, expectations and motivations of all those who want to commit to implementing peace.

Following the reflection on the peace imaginary, I will use an old fable that Gandhi [30] once told his grandson. The story is as follows:

> *Once upon a time there was a king in ancient India who was curious to know peace. The king called many teachers, sages, and diviners from his reign to explain its nature and significance, but none of them could give him a satisfactory answer. Then, one day a philosopher stopped at the king's palace to ask for lodging and the king took the opportunity to ask him. He replied that he did not know the answer but indicated that there was a sage who lived just outside his kingdom who could surely show him the nature of peace. The next morning the king called the old man who, hearing the king's question, went to his kitchen and brought him a grain of wheat. Placing the wheat seed in the palm of the king's open hand, he said: "Look here and you will find the answer." The king was perplexed, but because of the pride of admitting his little understanding to the old man, he went to his palace and put the grain in a small gold box. Every morning, as if it were a ritual, he would open the box and look at the grain, but he could not find an answer to his question. Weeks passed and the king's heart broke because he couldn't decipher any meaning. At the end, the philosopher returned to visit the king, who immediately took out his little gold box with the grain and asked him to explain. "It is very simple sir. The longer you have your grain stored for your safety, nothing will happen, it will create roots and it will perish. However, if you put it in interaction with other elements, such as air, water, sunlight, it will grow and multiply and soon you will have a wheat field". Therefore, the same thing happens with peace, the philosopher continued: "If we keep the peace that we have discovered in life kept in our hearts, it will perish. But if it interacts with the other elements, cultures and people, it will expand. And one day there will be peace around the World."*

When analyzing the content of this fable, we realize the importance of human motivation and responsibility to interact the inner peace with the peace of others, thus being able to sow peace through our daily actions. We see that these kinds of

stories emphasize the importance of ethics, morals and values and try to help to change the impositions of ourselves and the narrow-minded views that limit our understanding of the meaning of life in general and the meaning of peace culture, in particular. Likewise, they invite us to fantasize and imagine the beauty of peace, highlighting the importance of making peace from our personal and every-day experiences, key in the Peace Education REM approach. Finally, this fable shows us that what we learn from experience is wisdom, and peace, specifically, needs to be put into practice, in interaction with others, to gain experience so that it continues to flow "Your mind is like a room with many open windows, let the breeze flow in from all directions but refuse to be blown away by anyone" [30]. Thus, we also see the need to make peace from a holistic perspective, that is, with oneself "intraper-sonal", in interaction with human beings "interpersonal" and with Nature and the cosmos "transpersonal" [31, 32].

> *This holistic awareness, therefore, allows for a cosmic and ecological awareness that in the educational plan translates into overcoming the old paradigm, founded on the fragmentation of science and knowledge [...]. Thus, this global vision of peace and culture considers that the educational function, in its new interpretation, is not the only objective of the school, but that its responsibility also falls on all elements of the social context and shows how all life circumstances can be an opportunity to learn [32].*

With the above in mind, it is about defining peace as a rich, broad, positive and full of content term. Likewise, peace must be defined by itself and not by comparison with its antagonism, war or violence, as it has been interpreted historically. In this sense, it is necessary to overcome that lack of palpable content that this popular intuition about peace normally entails, and create a more natural, complete and positive imaginary of peace [25]. This imaginary will also help us to place peace as a possible and viable goal to achieve. Thus, education must be able to help to build futures of peace, to be able to build positive images of the future that favor personal, social and political change [3]. In this sense, we question, then, how we could approach peace through this imaginary? There are many search and response scenarios, which could be indicative of its broad existence. There are different ways and possible strategies to follow, we will comment below on some of them [3]: 1. Through the word and the concept (how we speak and think about it: what is it, why, what for, where does it come from, how do we use it); 2. Through the emotional (how we live it, evoke it, feel it); 3. Using moral judgment (how we judge and value it: positively, negatively, neutrally, to justify it, condemn it, affirm or deny it) and 4. With praxis (what we do or what we can do in the face of its reality, how we implement and carry it to everyday action).

Following Muñoz's research [33] we agree, once again, with the idea of peace as a characteristic of human beings originating from remote times, considering it a primal reality in all human times, in biological and historical times, a condition linked to human beings since its inception "peace allows us to identify ourselves as human". This assumption interests us because we return to the peace proposal from a daily and intrinsic sense to our interpersonal relationships, although, from this perspective, it is interpreted from the concept of imperfect peace by Muñoz [33]. This author affirms that he could continue to speak only of peace, but the adjective "imperfect" that accompanies it serves to open, on the one hand, its unfinished meaning, and, on the other hand, the different definitions and nuances of peace throughout the History. Indeed, peace is not perfect, finished, it is not an objective achieved, hence its character of imperfection, not in a negative sense but in a

processual sense, in constant construction, in search of its perfection. Imperfect peace "changes the perception we have of ourselves by recognizing that historically most of our experiences and realities have been" peaceful ", which is why it generates hope and mobilizes us" [33].

> *We state that, like any process, peace is not made, it is a gerund rather than a participle, and it is our responsibility to establish it and consider it our future, our challenge. We must not only consider it a utopia, a dream to achieve; but to assume it as a real and possible objective, since, it depends largely on human responsibility and will [25].*

In this sense, Lederach [21] also proposes a worldview of peace that can be interpreted through his concept of moral imagination defined as "the ability to imagine something rooted in the challenges of the real world, but at the same time capable of give birth to what does not yet exist" [21]. Thus, this art of imagining enables us to achieve new challenges, such as peace, because if you do not imagine something, you cannot work to achieve it. In this way, the nature of the imagination will lead us to the peaceful social change and the breaking of cycles of violence [21]. In sum, it is worth highlighting the importance of creating a broad and positive imaginary of peace, both of the related concepts and of the associated images, to enable us a more real and closer understanding of what peace means; and to realize that we can make peace from our daily lives. This peace imaginary marks a horizon for us to reach with our compromised or even with our accidental action. Accidental because through our imaginative and creative thinking and acting, peaceful alternatives are found almost by chance, by "fluke" in the words of Martínez Guzmán [34] what Lederach [21] calls serendipity, interpreting it as the spontaneous discovery of things that you are not really looking for, but that you find them by a kind of luck or sagacity.

We reiterate, in this way, that one of the objectives proposed by the Peace Education REM approach is the creation of a peace imaginary [25], this imaginary comes from a relationship of concepts, expressions, phrases and terms that we use in our daily life, but, I understand, that we are not even aware of it, thus, we underline, once again, the naturalness and everydayness of peace:

> *We could relate peace to the absence of war or violence, which would become the negative conception of peace. But, also, with more positive terms such as the human condition (she is a very peaceful person); with health (being healthy, not suffering from illness, would be feeling at peace); with the body (feeling good physically would give us a feeling of peace); with oneself (having an acceptable level of self-esteem and personal satisfaction, because you have acted well in the face of an event or circumstance or have fulfilled your obligations, we would call being at peace with yourself); with conscience, morals or a sense of duty (it would be said to be at peace with oneself); with the world in general (having good interpersonal relationships with others and an acceptable socio-cultural context would also make us feel at peace); with the term reconciliation (when two or more people come together again it is said "They have already made peace"); with forgiveness, pact, agreement, negotiation (one would say make peace); with the beautiful moments; with the music; with smells; with happiness; with the family; with the concept of justice, equality or equity (for example, when someone owes something to another person and returns their debt, it is said "we are at peace"); with the satisfaction of basic needs (having to eat, drink, sleep, dress, and with the necessary resources to live without suffering, one would say "to live in peace"); with nature we could use expressions such as "what a peaceful environment"; with pleasure or sex we could define it as physical*

> *peace, with silence (peace reigns), with freedom (feeling at peace) and even with*
> *death, the phrase that is said when one dies "may rest in peace."*

Through this peace imaginary that is interpreted from the REM approach, from that association of images, concepts or sentences, we can have emotions, ideas, stereotypes, definitions (more or less concrete or abstract, subjective or intersubjective, personal or cultural) that allow us to think about peace, recognize it, devise it, imagine it; as well as talking about it, defining it, describing it, narrating it; and also feel it, evoke it, react to it and, where appropriate, implement it. In this way, this imaginary allows us to confirm the existence of peace through historical evolution and present it in a broader, deeper and more everyday sense than we might initially think.

4. The promotion of imagination and creativity as key elements of peace education

This section will highlight the value of imagination and creativity as key elements of peace education [7–9, 21, 24, 34]. Creativity so important, and so neglected by educational systems, relegated only to a few, geniuses, artists and bohemians. Creativity that we rescue as a natural concept that all people have, that we enjoy since childhood and it is so useful for our development and for our adaptation to the environment [15], "it starts from the possibility of a gene innate, but without a doubt creativity is common to all human beings, to a greater or lesser extent, and it is educable" [35]. In this sense, we consider creativity as an essential aspect to work and empower, as it can help us, among other things, to: 1) create new knowledge and ideas to give different responses to concerns and projects, 2) transform our conflicts peacefully using our divergent thinking and our moral imagination, as well as 3) becoming creative citizens in order to carry out positive social transformations [15], "devise, excite, imagine, invent, they must be verbs that are given the welcome for the construction of peace" [3]. Taking this into account, we revalue creativity as a human quality "the human capacity to generate more, new and better ideas" [7], which must start from simplicity and from our daily and personal experiences, to making it easier for us to face our goals, vicissitudes and challenges "there is no challenge that is beyond the creative capacity that distinguishes the human species" [36]. Here it is highlighted, the importance of creativity for the formation of a creative citizenship (Sátiro, 2018: 51). It is a line of social creativity, which makes a simultaneous and systemic perspective approach: from the internal point of view of the person (creative ethos), from their interactions as a citizen and from the whole society. It connects thought, feeling and action, collaborating with the development of subjects capable of ethical imagination (utopia) and who, at the same time, propose and carry out micro-political projects in their contexts. Taking dialog as a democratic value and as a method to develop the ability to think and act, it proposes methodologies of reflective and creative processes that generate action and social innovation [8].

According to the latest research by García-González [9], we show that imagination is, without a doubt, a resource of special relevance to think and generate situations of peace. One possibility to circumvent possible scenarios of violence in a peaceful way is using imagination. García-González alludes to the term ethical imagination, which implies the capacity for invention, always thinking about it with others and giving rise to the construction of a communal and peaceful identity. The ethical imagination must enable us to creatively overcome the warmongering logic and conceive of nonviolence and peace. Thus, the imagination allows us to give rise

to other original, new and ingenious situations to be able to glimpse another way of seeing reality. In this sense, we consider imagination as an element of change and transformation "this change implies re-educating and reconstructing forms of thought and life". The ethical imagination considers peace as an objective to be achieved as a new scenario capable of becoming a reality. Here we highlight the aspect that the imagination can bring to the present images that are not before the eyes, it has a magical character, as well as ethical. The ethical imagination implies a fertile imagination, seeking solutions, fixing things in the world in the hope that they are better. This ethical imagination is, in turn, creative, because looking at the present and analyzing it, it proposes creating alternatives to a better world. It has the ability to say "no" to the present to forge decisions for the future, "so when that cry is of rejection and indignation is when that evil can be relieved through imagination, and from there give way and place to a state of things envisioned as better". In this sense, the imagination, which we call ethics, is revolutionary and reforming because it frees us from the real as unworthy, guiding us towards the possible, to what gives light to dignify human life. Thus, thanks to the imagination, the human being can transform, detach from himself and contemplate other ways of life, other thoughts and open himself to various forms of humanity. Imagination empowers our abilities, skills, sagacity, and ingenuity to create new possible scenarios of peace. The search for the imaginable or unimaginable, for the unexpected and for what emerges from creativity, is what can illuminate different forms and projects of peace. This imaginative capacity allows us to develop our abilities for perception beyond what is apparent and visible than what is given to us. Thus, from that new space to be able to erect another reality that is more just, livable and peaceful. These new possible horizons must be built to address the questions of humanity with others, with different people, with strangers, with enemies. Thus, imagination, invention and creative inquiry are fundamental to build peace in a framework of culture of violence [9].

Therefore, creativity is interpreted as the ability to create what seems improbable to us, or as Freire calls it "the unprecedented viable", a confusing mixture of the pedagogy of indignation and that of hope. In this sense, Lederach [21] opens a new light to us regarding the human capacity to create beyond the conscious and premeditated, as a kind of specific "accidental sagacity" that we have in everyday experience and for which we often, there are some casual, spontaneous or naive discoveries capable of turning around situations that we have to transform or resolve. This ability to come up with fortuitous solutions is called, as we have already mentioned, "serendipity", which in Spanish we could call "chance or fluke" [34]. Thus, creativity is more than a product, it is considered as a source to stimulate emotions, activate personal strengths and establish strategies for thinking and coping [35]. We understand it, thus, as a process that includes being sensitive to problems, being able to define difficulties, identify the invalid element, seek solutions, make assumption and communicate the results [35]. Likewise, it empowers us to be decisive people, looking for alternatives to everyday problems and to be happier people.

Then, creativity is very useful to help us to contribute to cultures of peace, in the search for peaceful alternatives for the transformation of conflicts and in solving problems "it sharpens our creative imagination, from the assumption of disorder and initial confusion from which, we create the most systematic knowledge" [34]. Thus, from Peace Education, we are interested in approaching peace as a creative process of "making" conflicts so that they are productive. We are interested in making people aware of the conflicts that surround them and those who participate. The objective is to teach our students to be able to critically observe conflicts, their dynamics and evolutionary processes, improve their empathic capacities for

listening, perception and understanding "of the other", of their adversary, and finally, promote their possibilities to imagine and create alternatives for the peaceful transformation of conflicts [21]. Thus, the educational system should be concerned with promoting creativity from the youngest and throughout life, so that, although it is true that we have creativity as a human characteristic, it requires training and experience to be useful in our daily lives [15].

Likewise, the importance of including imagination and creativity in education I interpret that it would be in line with the pillars that UNESCO proposes as the objectives of education in the XXI century [37] which would be: 1) *Learn to Know*, creativity would provide us with more skills to know society, the environment, culture and also what is foreign, 2) *Learn to Do*, creativity would provide us skills to solve problems, make decisions, as well as the values of humans to perceive to others and live in a social context, 3) *Learning to Be,* creativity would allow us greater self-confidence, self-esteem, self-respect and motivation for spontaneity, improvisation, to be ourselves. Also, to promote active listening and the recognition of the other and of the Nature, and 4) *Learning to Live Together*, creativity would facilitate us to develop more positive, respectful, inclusive and peaceful social relationships [15].

To work on these objectives, the Peace Education REM approach relies on educational resources such as books, novels and short stories because with their narratives one learns in a reflective, analytical and fun way. They not only entertain, but also transmit values and certain ethical, moral and social codes [38]. From different researchers [30, 38, 39] it is stated that more is learned and with less effort through stories, fables, legends and stories, since their content is impregnated in the minds of people, their learnings are easy to memorize and last over time, as opposed to what is learned by rote which is usually hard to remember. In addition, according to Puig Oliver [39] the stories and tales transmits values and ways of being, from an ethical and moral point of view, promotes fantasy, teaches the peaceful trans-formation of conflicts, socializes and creates a feeling of group, of belonging to a community. In turn, most of the tales and fables are a delight for the senses, inviting the reader to the imagination and conspire the existence of other possible worlds, highlighting the goodness and creativity of the human being to overcome any obstacle in a positive and peaceful way. All these contributions that the literature provide interest us within the framework of this article, which is not, but rather, revaluing imagination, fantasy, creativity and utopia so that humanity can forge a more sustainable and peaceful future within the framework of this global crisis of covid-19. In this sense, we could use fantastic classical literature or as Alberto Chimat [40] calls it "imagination literature", as well as cinema, both feature films, short films, documentaries or animation videos. The speeches and messages that are transmitted, both in written and visual narratives, enhance the imagination, both of children and adults, and motivate us to rethink from fantasy and creativity, other possible worlds that allow us to contribute to the cultures of peace. Unfortunately, these worlds can be interpreted from the positive as well as the negative utopia, in this case, it is called dystopia, which is nothing but imagining the world and the future from a negative and pessimistic point of view, believing that what awaits us it will always get worse. Due to the interest that this article occupies, I have selected only utopian literature that allows us to glimpse scenarios of greater levels of goodness and peace among people. Some classic works, arranged chronologically, could be:

• The Odyssey (by Homer, S. VIII a. C)

• The Aeneid (by Virgilio, S. I a. C)

- The Republic (by Plato, 370 BC)

- Utopia (by Thomas More, 1516)

- The City of the Sun (by Tommaso Campanella, 1602)

- The Thousand and One Night (by Geraldine McCaughrean & Richard F. Burton, 1704)

- Gulliver's Travels (by Jonathan Swift, 1726)

- Beauty and the Beast (by Gabrielle-Suzanne Barbot de Villeneuve, 1740)

- Alice in Wonderland (by Lewis Carrol, 1865)

- Erewhon: Or the Other Side of the Mountains (by Samuel Butler, 1872)

- Looking back: from 2000 to 1887; Equality (by Edward Bellany, 1888 and 1897, respectively)

- News from Nowhere (by Morris, 1890)

- The Time Machine; A Modern Utopia; Men Like Gods (by H. G. Wells, 1895, 1905, and 1923, respectively)

- The Wonderful World of the Wizard of Oz (by Lyman Frank, 1900)

- Peter Pan and Wendy (by James M. Barrie, 1904)

- Herland (by Charlotte Perkins Gilman, 1915)

- Brave New World or The Island (by Aldous Huxley, 1932 and 1962, respectively),

- The Little Prince (by Saint Exupery, 1943)

- The Aleph (by Jorge L. Borges, 1949)

- The Lord of the Rings (by R. R. Tolkien, 1954)

- The Hope Principle (by Ernst Bloch, 1954)

- Make Room! Make Room! (by Harry Harrison, 1966)

- The Left-Hand Darkness and The Dispossessed (by Úrsula K. Le Guin, 1969 and 1974, respectively)

- The female Man (by Joanna Russ, 1970)

- Ecotopia (by Ernest Callenbac, 1970)

- Momo; The Neverending Story (by Michael Ende, 1973 and 1979, respectively)

We could also use some other more recent works, here I include a list of names arranged chronologically:

- The Color of Magic (by Terry Pratchett, 1983)

- Culture (by Ian M. Banks, 1987)

- Elmer (by David McKee, 1989)

- Rice and Salt Times (by Kim Stanley Robinson, 2002)

- Brave Story (by Miyuki Miyabe, 2003),

- Jonathan Strange and Mr. Norell (by Susan Clarke, 2004)

- Archaeologies of the future: the desire called utopia and other science fiction approaches (by Frederic Jameson, 2005)

- The Name of the Wind (by Patrick Rothfuss, 2007)

- Miss Peregrine's Home for Peculiar Children (by Ransom Riggs, 2011)

- The Fall of the Kingdoms (by Morgan Rhodes, 2018)

- Stories to understand the world/*Cuentos para entender el mundo* (by Eloy Moreno, 2020)

Finally, it must be said that much of the literature mentioned is also taken to the cinema, but, nevertheless, I have compiled some films that I have seen recently with my 6-year-old son Hache, which I consider motivate us to imagine and fantasize in the possibility of a world of values of culture of peace:

- The Tiger and the snow; Life is Beautiful (by Roberto Benigni, 1986 and 1997, respectively)

- Chain of Favors (by Mimi Leder, 2000)

- The Chronicles of Narnia (by Andrew Adamson and Michael David Apted (Trilogy of 2005, 2008 and 2010, respectively))

- Bridge to Terabithia (by Gábor Csupo, 2007)

- Wrinkles/Arrugas (by Ignacio Ferreras, 2011)

- Strings/*Cuerdas* (by Pedro Solís García, 2013)

- Alike (by Daniel Martínez Lara, 2015)

- Peter Rabbit (by Will Gluck, 2018)

- Champions/*Campeones* (by Javier Freser, 2018)

- The Boy Who Could Be King (by Joe Cornish, 2019)

- Dora and the Lost City (by James Bobin, 2019)

- Abominable (by Jill Culton, 2019)

- Spies in Disguise (by Nick Bruno and Troy Quane, 2019)

- Jumanji: The Next Level (by Jake Kasdan, 2019)

- The Adventures of Dr. Doolittle (by Stephen Gaghan, 2020)

- Onward (by Dan Scaulon, 2020)

We underline, then, that in the Peace Education REM approach, imagination and creativity are presented to us as tools for positive social transformation "thinking about the imaginable that arises from creativity is what can illuminate and promote peace projects. The imaginative capacity is an act of creation, since it transcends what is given to go towards what is beyond the apparent and visible, in search of better stadiums" [9].

5. Utopia and hope as seeds of a future of cultures of peace

From the Peace Education REM approach, it is proposed not only the need to use imagination, fantasy and creativity to make but also the trust in utopia and hope as seeds to create a more peaceful future, a future of cultures of peace [25]. However, we find that the term utopia has different connotations and some of them we do not even share because they are too far from reality. In this article, however, we interpret utopia from various authors peace [9, 41–43] who define utopia as that longed-for reality possible to build with the commitment of the humanity. Utopia starts from an umbrella of imaginary worlds, but they are not impossible, they are not spooky, but rather seek to be implemented from practical attempts to make those chimeras, those dreams come true. However, in the face of utopia, human beings remain imperfect and resist changes, and we manifest great skepticism clinging to the idea that there is nothing more to [9]. As an alternative to this human chimera of resistance to change, we define utopia as the maximum human motivation for the achievement of a goal or objective, as we previously pointed out in the words of Freire [41] "the unprecedented viable". Torres [43] takes a step further since he not only considers utopia as viable, but also proposes it as the goal or the horizon to follow for positive social change "recovering the value of utopia as a motor for the transformation of society" [43] in the face of passivity, indifference, conformity, the generalization of laziness and resignation to a single thought. In this sense, Boulding [42] proposes utopia as a necessary element to motivate people to nourish themselves with positive visions of how things should be. Thus, "these visions that utopias represent become normative horizons, goals or challenges that would help us to make peace [42]. The idea of utopia is, in a deep sense, a critique of the present, an escape from reality to go to a better place. Boulding [42] agrees with Torres [43] in the idea that utopia is presented to us as a resource for positive social change, away from violence and injustice and towards a human social order. Boulding believes that the path of utopia is difficult on macro levels, but on a small scale it can be a good challenge. In this sense, Boulding comments that it is ironic that utopia that was defined by Thomas More in 1516 as "nowhere" has now become synonymous with a flight from reality" [42].

García-González [9] also highlights that utopias are, in turn, an excellent resource to educate for peace. According to the author, they help us to pose imaginative situations that seek new possibilities framed in moral ideals that structure peaceful identities. With this, it is sought to insert the possible into the real in order to imagine peace from there- The link of the creative imagination with the utopia allows to creatively conceive aspirations. Utopia suggests an ideal society model projected into the future that criticizes the present. It is about opening the field of the possible beyond the current and the present in order to think of being and social reality in another way.

> *Utopia appears to us as an anticipated image of the future rooted in reality and with an ethical dimension that supposes the conviction that one must know in some way what it should be to judge what it is and where it is necessary to go. Utopia indicates the end and the goal, and from there it is considered as a criterion of judgment that begins with the critique of reality that drives action [9].*

So, we see that, from the perspective of education and a culture of peace, utopia represents efforts to develop ways for people to live together in nonviolent ways. For this, creativity is necessary in the search for alternatives, which allow us to imagine "the other" how it could be better in the future. In this sense, some authors [44, 45] consider Freire as a forger of utopias, which they interpret as the maximum motivation of the human beings to enable their action in order to change the oppressive and unjust reality "to venture on this path for the construction of libertarian paths pregnant with utopia" [44].

Currently, in this situation of generalized crisis (health, economic, educational, social) caused by the global pandemic of the Covid 19, we emphasize that utopia could give us the ability to imagine something different and better than what exists. Utopia could be a human resource for the possibility of the desired social change in that it shows us a desirable objective where to arrive. So, it could motivate us to envision a more egalitarian, sustainable and peaceful future for humanity, and join common efforts to achieve it. There is still hope and desire that one day we will behave more responsibly and establish a global community based on the needs of the planet and its inhabitants, a planetary society that is just and sustainable, and not characterized by violence [29].

> *Women and men have inordinate distinctive capacities, since we are capable of thinking, imagining, anticipating, innovating... creating! And, this creative faculty not only defines every human being without distinction, but, very especially, constitutes our hope [36].*

Thus, in these times of the Covid 19, world citizens have shown solidarity (economic donations, food, sanitary material to hospitals, among others), cooperation (public and private spaces have been assigned to serve as hospitals, people have made masks to donate free of charge, to name a few examples), recognition (the work of health personnel has been applauded in Spain every day at 8:00 p.m. from balconies and windows) and other values such as imagination and creativity have arisen in a sudden way in order to do new and different things and to carry the confinement and loneliness of the pandemic with resilience and good humor. There has also been a greater awareness of the fact that humanity is one and that together, we can overcome adversity, phrases such as T*ogether we can, Everything will go well, Stay at home, for you and for everyone,* have been the slogan of awareness campaigns, advertising, as well as they have decorated windows of many homes. This planetary, peaceful and resilient attitude would be values that should continue to accompany us to build that future of cultures of peace that we long for.

> *We need an essentially new way of thinking if mankind is to survive. Men must radically change their attitudes toward each other and their views of the future. Force must no longer be an instrument of politics. Today, we do not have much time left; it is up to our generation to succeed in thinking differently [29].*

In this sense, and within the framework of Freire's proposals [46] the power of the human being is trusted to jointly and through peaceful and liberating action transform social reality, considering hope as an ontological necessity that leads us to action which moves us to transform the world. However, although hope is necessary, it is not enough by itself to improve the world, it needs to anchor its purposes in real and emancipatory practice hope does not win the "fight", but without it the fight falters. "We need critical hope as fish need uncontaminated water" [46]. Hope, which I interpreted here as the motivation we require to transform social structures and systems, such as education, which have become obsolete and do not respond to the demands and challenges posed by the current XXI century, in general, and the global crisis of the Covid 19 in particular. Hope, itself, in a more peaceful, just and more sustainable and happier world. Therefore, an important slogan for the Peace Education that we wish is to educate in hope (45, 46). Bearing this in mind, from the Peace Education REM approach, I propose the need of hope and utopia as germs for a peaceful future. But not just any hope, but a positive one, contrasted by ethical codes, based on criteria of justice and respect for the dignity and equality of people "hope versus fear, hope versus disappointment will be educational challenges necessary to face our lives and the own educational function" [45]. We see, then, that hope is an ontological necessity "I do not understand human existence and the necessary struggle to improve it without hope and dreams" [46]. Paraphrasing the Palestinian poet Mahmud Darwish [47] we must follow the course of the song, although roses are scarce.

In sum, in the educational context of creating peace we have the resource of utopian thinking, of utopia. And hope arises from this utopian thinking, when we face a better horizon to reach [9]. Thinking of hope within the framework of utopia keeps us in the belief of human perfectibility or in the claim and longing for an ideal society. Therefore, utopian thinking is a philosophy of hope, where hope is essential for any attempt to change society to be better. It is important to point out that the possibilities that make the path of utopias are linked to hope and that path is paved through peace [9]. In any case, utopia has many forms and uses, but one of the functions that we are most interested in highlighting its role of satirizing society to, alternatively, describe another more desirable way of organizing human affairs and relationships. Therefore, these characteristics of utopia are what interest us in the Peace Education REM approach.

> *The pedagogy that we defend [...] is itself a utopian pedagogy. Utopian, not because it feeds on impossible dreams, because it is affiliated with an idealistic perspective, because it implies an abstract profile of the human being, because it tries to deny the existence of social classes or, recognizing it, tries to be a call from the dominant classes so that admitting their mistake, agree to commit themself to building a world of brotherhood. Utopian because "without domesticating" time, it rejects a prefabricated future that would be installed automatically, without counting on the conscious action of human beings. Utopian and hopeful because, pretending to be at the service of the liberation of the oppressed classes, it is made and remade in social practice [...] [46].*

Thus, from the REM approach and within the framework of García-González's proposal [9] we set our sights on the search for peace to find directions towards

which to go, rethinking and investigating possible alternatives from the ethical imagination, from creativity, from hope and from utopia. With this, we will be able to reformulate the future from the present towards new paths of peace. The possibilities of human action from the ethical and creative imagination are those that will devise new opportunities and perspectives to the cultures of violence "things are not as they are, they are how they can be. The real can be built from the imaginary. Only from utopia can reality move. To move reality, you must place yourself beyond reality, utopia is the Archimedean support point" [48].

6. Conclusions

Hence, thinking about hope and peace in difficult and uncertain times, in which we find ourselves, caused by the global pandemic of the Covid 19 involves the motivation to build utopias carried out in action. Utopias that are not fictions, although they do not have an effective reality, their existence is planned, in the idea of "not yet", but it shows us possibilities for hope. Utopia based on imagination and human inventiveness, without it, our imprints towards a better future would vanish, they would be lost in nothingness. Thus, these impulses that utopia offers us open our minds and empower us in the search for better situations of justice, well-being, understanding and peace. Being aware of the possibility of change is essential in the Peace Education REM approach as it takes into consideration our commitment and power that we have as human beings to do things in different ways than the logic of violence and exclusion "we know that we are also competent for peace, solidarity, integration. So, we must be hoped, excited and start walking" [49]:

- Mr. Pussycat - Alicia began, with a certain shyness, not knowing very well if she would like that name; but the Cat kept smiling and this encouraged the girl to continue (it seems that it takes it well):

- Could you tell me the direction I should take from here?

- "That depends," said the Cat, "where you want to go."

- "I don't care where..." Alicia started to say.

- In that case, it does not matter which direction you take- said the Cat

- "In order to get somewhere," Alicia finished saying.

- "That is easy to do," said the Cat. You just have to keep walking! (Lewis Carroll, Alice in Wonderland, ch. VI).

By way of conclusion, it should be said that this article emphasizes the value of imagination, creativity and utopia to face the challenges generated by the global crisis of the Covid-19 pandemic. It is believed that both creativity and imagination are competencies that allow us to adapt, much more easily and in an empathic and resilient way, to new situations and to overcome the challenges we will encounter. Likewise, it is considered that they make it possible to face these situations in alternative ways to those accustomed and to be able to see a future from a positive and hopeful perspective, a future in which humanity can forge higher levels of well-being, peace and sustainability. The Peace Education REM approach is committed to continuing to work in this regard.

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Dare to be Disruptive! The Social Stigma toward Creativity in Higher Education and a Proposed Antidote

Amanda Lohiser and Gerard J. Puccio

Abstract

Despite the fact that creativity has been named one of the top-10 skills necessary for success in the twenty-first century, the current educational system in the developed world stifles creativity through its focus on convergent thinking and standardized testing. We propose that a stigma toward creativity exists among educators, which prevents successful implementation of creative teaching and fostering creativity within the classroom. The proposed root cause of the stigma toward creativity in education – that creativity is perceived as disruptive – is examined through the lens of the Adaptor-Innovator theory of creativity and the implicit and explicit theories of creativity, as well as the psychological factors inherent to the social construction of stigma. Seminal and current research in the fields of creativity studies and communication studies offer insight into this phenomenon. The chapter concludes by proposing an antidote to address and fight this stigma as seen through the lens of Fishbein and Ajzen's Theory of Reasoned Action.

Keywords: creativity, higher education, social stigma, implicit and explicit theories, adaptor-innovator theory of creativity, theory of reasoned action

1. Introduction

If the events of the first half of 2020 have taught us nothing else, it is that we are in the midst of an era defined by *change*. From a global pandemic, to battles for civil equality, to catastrophic climate change, to ongoing political upheaval around the world, we are living in a time in which efforts to simply "maintain the status quo" are not only inefficient, but deadly to any organization or institution. The need to be able to *adapt* and *innovate* is paramount in this New Industrial Revolution - one that has heralded in an innovation economy, driven by and built in response to the change around us.

It is in this era that students are persevering to obtain an education, and their instructors are persevering to provide it to them. If the grandparents of yesteryear spoke hyperbolically of their "walk to school that was uphill both ways," today's students certainly will have a similar tale to tell – but one devoid of hyperbole – of the uphill battle they and all the members of their schools and universities fought to keep educational goals on track in a world that was in a constant state of flux.

In this uncertain world, students need creative thinking more than ever before - and it is this particularly salient life skill that is lacking in our educational system. Despite the fact that creativity has been named one of the top-10 skills necessary for success in the twenty-first century [1], the current education system in the developed world stifles creativity through its focus on convergent thinking and standardized testing [2–4]. As this position is already widely supported, this chapter focuses on making a case for teaching creatively and creativity in higher education, with a specific focus on a significant barrier that stands in the way of enhanced levels of creative education. We maintain that a stigma exists in association with creativity, and that until this stigma is called out and addressed, higher education will continue to fall short of providing this essential twenty-first century skill to its students.

The perception of creativity by laypeople is explored in this chapter by way of the Adaptor-Innovator theory of creativity, and the implicit and explicit theories of creativity. The stigma toward creativity in education is examined through the lens of the social psychology of the construction of stigma and is supported through seminal and current research in the field of creativity studies. The paper will conclude with proposed antidotes to address and fight this stigma.

There is a dearth of research on *factors* that influence teachers' beliefs about creativity [3], as well as on attitudes toward creativity in *higher education*, specifically. The ultimate goal of this current chapter, therefore, is to lay the foundation for future research to explore in more depth to what extent this stigma exists specifically in *higher education* and isolate and clarify the cause(s) of that specific stigma.

2. What is creativity?

2.1 History of creativity in education as a teachable subject

The focus on creativity in education in the Western hemisphere became a key area of concern following the successful launch of *Sputnik* by the former U.S.S.R. in 1957. The failure of engineers from the United States and other Western countries to beat the former Soviet Union in the Space Race was largely attributed to a lack of creativity. Creativity would subsequently be deemed by the U.S. Committee on Education and Labor as essential for "prosperity [and] survival of society" ([5], p. 166).

Creativity field experts, including Csikszenthihalyi, Guilford, Parnes, and Treffinger, influenced the shift in formal education from "knowledge acquisition" [6] to teaching children how to "deal with ambiguous problems, coping with the fast-changing world and facing an uncertain future" ([5], p. 166) [7].

2.2 Application of creativity in the process of higher education

But what *is* creativity, and what is its role in education? In an article published in the *Creativity Research Journal*, Runco and Jaeger sought to pinpoint the origin of what might be considered the standard definition of creativity as that which "requires both originality and effectiveness" ([8], p. 92). To that end, Runco and Jaeger concluded that, while a definition of *originality* used by Barron in 1955 comes close to addressing both of these constructs, the definition of the concept of *creativity,* specifically, put forth by Morris Stein in 1953 seems to both originate and best encapsulate this two-part concept. Stein's definition of creativity, and its intersection with both culture and education, merit further examination.

In 1953, Stein defined *creativity* thus: "The creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time" ([9], p. 311). He goes on to explicate that *novelty* indicates something that did not previously exist; that while it might be the end result of a new combination of previously existing things, the final product is something that contains some new element or elements. As to *tenable* or *useful* or *satisfying*, Stein explains that the creative product must be communicated to others and validated by those others through some effective communicative means with consideration of the audience's perspective. In explaining *acceptance by a group*, Stein states that the creative product must ultimately resonate with the feelings, needs, or experiences of the group. This acceptance might lead to the polishing of the product based on the feedback of that group, thus further refining the product to better fit the people for whom it was intended.

In this same seminal piece, Stein also explores the important role that culture plays in the fostering and acceptance of creativity - a point that resonates with the current topic of acceptance of creativity within higher education: "Attention must also be directed," Stein states, "to the broader aspects of education. For example, does the culture tolerate deviation from the traditional, the status quo, or does it insist upon conformity, whether in politics, science, or at school? Does the culture permit the individual to seek new experiences on his own, or do the bearers of culture (parents, teachers, and so on) 'spoon-feed' the young so that they constantly find ready-made solutions available to them as they come upon a situation that is lacking in closure ([9], p. 319)?" It is this critical connection between *importance* of creativity and the *tolerance* toward creativity shown within a culture - Stein specifically calls out schools as an important part of that formative culture here - that is still in need of attention, still in need of reform, and must, once and for all, be finally addressed and changed, well over a half-century since Stein put forth this claim.

There is an interesting pattern that arises in subsequent definitions of creativity. Creativity is specifically referred to as an *ability*. Creativity is defined as "the ability to bring new and valuable things into being" ([10], p. 17), "...the ability to generate new ideas and to apply them in practice" ([11], p. 136) and "the ability to see what isn't there, to recognize its power, and to make that power manifest" [12]. Thus, as creativity is an *ability*, one can ascertain that creativity can be taught, a position well-supported by previous literature pertaining to successful implementation of creative training procedures in organizational settings (e.g. [13, 14]) and in higher education (e.g. [15]).

In Bloom's revised taxonomy, *Create* is considered the highest order of thinking, defined as "Putting elements together to form a novel, coherent whole or make an original product" ([16], p. 215). Thus, one can also claim that not only can creativity be taught, but that it *must* be taught, as to *create* is to reach the highest order of human thought. But how essential is this skill to students? Should creativity be added into curricula at the transdisciplinary level?

A recent study by van Broekhoven, Cropley, and Seegers explored the nature of creativity in students in the arts versus those in science, technology, engineering, and mathematics (STEM) courses. They surveyed 2,277 German university students and found that high openness, high Creative Self-Efficacy, and strong proficiency in divergent thinking are "general prerequisites for creativity" across *all* domains. The researchers call for educators from kindergarten through university to recognize that creativity should be both understood as, and taught as, a core competency - creativity is an essential skill that is transdisciplinary [17].

All students - in art, science, technology, engineering, and mathematics - not only have the potential to be creative, but must have this innate predisposition

enhanced to ensure success in their own disciplines, and prepare them for success in their careers and lives beyond university.

2.3 Higher education as an economic engine: driving innovation through creativity

The role of higher education is to prepare students for future success. Today's world can be best described by an acronym used in pedagogy by the U.S. Army War College since the late 1980s: *VUCA* [18]. VUCA stands for Volatile, Uncertain, Complex, and Ambiguous, and describes the type of environment in which students should be prepared to survive – and thrive – after graduation. Even before the events of the first half of 2020, the world in which today's university graduates find themselves is surely a VUCA one – with the rate at which information becomes outdated (*Volatility*) [19], the types of jobs available in the future – many of which have not even been invented yet (*Uncertainty*) [20], the current economic climate (*Complexity*) [21], and the role that mass digitization is playing on everything from employment to mass communication (*Ambiguity*) [22].

To highlight the nature of our rapidly evolving world, the 2018 World Economic Forum charts the skills on the rise and on the decline in the workplace. By 2022, the top 10 skills that will be in demand include the following [1]:

1. Analytical thinking and innovation

2. Active learning and learning strategies

3. Creativity, originality, and initiative

4. Technology design and programming

5. Critical thinking and analysis

6. Complex problem-solving

7. Leadership and social influence

8. Emotional intelligence

9. Reasoning, problem-solving, and ideation

10. Systems analysis and evaluation

This list highlights the importance of creativity. Not only is it explicitly referenced as the third item on this list, but the skills inherent to creativity and creative problem-solving (i.e. analytical thinking, innovation, active learning, critical thinking, complex problem-solving, leadership, social influence, emotional intelligence, reasoning, ideation) appear throughout the entire list. Creativity is the driving force of innovation in our VUCA world. Our educational system, however, seems to be woefully lagging behind in fostering the creativity-relevant skills so necessary for success in today's workplace.

Despite creativity's necessary place in education, it is missing from curricula and practice. Moreover, a strange series of stereotypes and misconceptions can be spotted when the word *creativity* is evoked in everyday parlance. In order

to explore this creativity stigma, we must delve into these stereotypes. To that end, we must first examine the concepts of *creative style*, and then *implicit and explicit theories of creativity*.

2.4 Stereotyping creativity as disruptive: An examination of creative style and implicit and explicit theories of creativity

2.4.1 Creative style

In the late 1970s, Kirton put forth a theory and an assessment by which one's creative *style* could be assessed, rather than one's creativity *level*. With the Adaption-Innovation Theory, Kirton proposes that individuals fall somewhere within a continuum of creative styles that range between *adaptive* and *innovative*, which can be measured by the Kirton Adaption-Innovation (KAI) Inventory [23].

Highly adaptive people ("Adaptors") are primarily concerned with making improvements to ideas or processes that fit within the confines of the parameters already set in place within their organizations. They are likely to try to solve rather than seek problems. They tend to challenge rules cautiously, and usually only when backed by others. Highly innovative people ("Innovators"), on the other hand, are concerned with making improvements to ideas or processes by removing those ideas or processes from the confines of the previously established organizational conventions, and then proposing solutions that completely reconceptualize the idea. They tend to discover both problems and unique solutions, and often challenge rules at the expense of previously held traditions [23].

According to Kirton, in traditional workplaces, Adaptors' solutions to problems are more readily accepted as they already fit within a familiar framework, whereas Innovators' solutions face more opposition, as they seem to "come out of left field," and thus tend to be seen as more *disruptive* to the organization's cultural norms. Kirton makes the well-documented claim that "organizations in general, and especially organizations which are large in size and budget, have a tendency to encourage bureaucracy and adaptation in order to minimize risk" ([23], p. 140). This skew toward adaptation tends to lessen based on the type of industry. Research and development, and occupations that act as interfaces between client and stakeholder tend to lean more toward innovative approaches [23].

From the Adaption-Innovation Theory stems a body of research aimed at exploring laypersons' perceptions toward Adaptors and Innovators within work environments, particularly as those attitudes pertain to creative problem solving. This line of research has illuminated the phenomenon that laypersons have a bias toward perceiving an "innovative" person as being more creative than an "adaptive" person. Thus, this bias reveals how *creativity* is perceived by laypersons – as discordant; as bucking the system; as disruptive.

2.4.2 Implicit and explicit theories of creativity

Implicit theories, in general terms, are a result of the constellation of observations gathered by laypersons as driven by their own perception of the world. Explicit theories, by contrast, are a result of empirical study and scientific observation. Thus, implicit theories of creativity are those influenced by how "the public" view creativity. Explicit theories of creativity are those driven by academic research. Research patterns indicate that implicit theories of creativity – laypeople's idea of what a "creative person" looks like – are very much in keeping with the description

of the Innovator as outlined by Kirton [24]. The findings from a series of studies across a range of cultures generally support this claim.

A 2000 study presented 188 American participants with two different lists of characteristics, labeled "Person A" (whose list was populated with Adaptor traits) and "Person B" (whose list was populated with Innovator traits; the Person A and Person B lists were randomized to prevent an order effect; that is to say, in some cases Person A reflected the innovative qualities and Person B the adaptive characteristics). Survey respondents were asked to rate the creativity of both persons on a 10-point scale ranging from 1 (not at all creative) to 10 (exceptionally creative). Results revealed that the participants judged the "person" with Innovator traits as being significantly more creative than the "person" with the Adaptor traits. Research participants also completed the KAI and it was found that those with an innovative preference showed an even stronger bias in judging the Innovative style as being more creative [25, 26].

In an ensuing 2003 study, 128 Argentinian participants took a similar measure, in which a person is described with Innovator traits and another person is described with Adaptor traits, and then were asked to supply words that they associated with *creativity*. The findings of this study indicated that not only did Argentinian laypeople perceive the Innovator persona to be more creative, but that the words they associated with creativity included "Imagination," "Intelligence," "Ingenious," "Innovation," "Solves problems," "Inventor" and "Looks for solutions" ([27], p. 57).

A 2014 study compared 139 laypeople from the U.S. and 384 laypeople from the main ethnic groups in Singapore (defined by the researchers as Chinese, Indian, and Malay). Using the same measure described previously, results indicated that Kirton's Innovators were rated as being more creative than Adaptors, and words common across both groups associated with creativity were "think outside the box," "new," "innovative," "unusual," and "different" ([28], p. 227).

A study with contradictory findings still sheds light on the implicit and explicit theories of creativity. In a study of 201 Saudi Arabian laypeople, participants used the same instrument - they were presented with Kirton's description of the Adaptor as one persona and the Innovator as a second persona and were asked to rate each style with respect to creativity level, and then provide words they associated with *creativity*. For the purpose of this study, the instrument was translated (and back-translated) from English to Arabic. Surprisingly, the results of this study showed that Adaptors were rated more creative than Innovators. However, words most frequently associated with creativity included "*Innovative* [emphasis ours]," "distinguished," "development," "novelty," and "discovery" ([29], p. 12), indicating a possible cultural difference between the conceptualization of creativity between Saudis and Argentinians, Americans, and Singaporeans. Yet, in the discussion of this study, the researcher posited how the highly conforming nature of Saudi family and school life might have influenced the results, indicating that "the characteristics and behavior of innovative person[s] based on Kirton's description are not welcomed [or] encouraged", thus leading to the description of Innovator as being a less credible person altogether [p. 14]. The researcher goes on to indicate that while the Adaptor was rated more creative, the word "Innovative" was mentioned most frequently in the words participants associated with creativity, thus supporting the notion that the prevailing perception of creativity is that of a person who is, for all intents and purposes, *disruptive* to the status quo.

In an effort to examine college and university students' implicit perceptions of creativity, a pilot study was conducted in which 93 undergraduates at a northeastern American liberal arts college were asked "what words do you associate with creativity?" The top five words included *art*, with 55 occurrences (or some iteration thereof, e.g. *artist*, *artistic*), *imagination*, with 27 occurrences (or iterations

including *imaginative*, *imagine*), *unique*, with 16 occurrences, *color*, with 15 occurrences, and *music*, with 14 occurrences. Following these words was *innovation*, with 11 mentions. These preliminary findings suggest further confirmation of the bias toward *Innovation* in laypeople's perceptions of creativity, as well as the presence of the *art bias* [30], in which *creativity* is equated with *artistic talent*.

Finally, research conducted by Mueller, Melwani, and Goncalo provide important insights. In an article entitled "The Bias Against Creativity: Why People Desire but Reject Creative Ideas," the results from two studies suggest that when faced with uncertainty, people are likely to harbor an implicit bias against creativity and also judge creative ideas more harshly. Additionally, when unoriginal or "more practical" solutions are readily available, people tend to be less accepting of creative ideas [31]. In a later book, *Creative Change: Why We Resist It... How We Can Embrace It*, Mueller states that creative change requires comfort with uncertainty. However, because people are hardwired to resist uncertainty, they also resist those disruptive, uncertainty-producing creative ideas, even when they say they *want* creative ideas. Creative change, Mueller argues, is a learned skill [32]. In the concluding lines of the 2012 study, the researchers put out the call to action that "...the field of creativity may need to shift its current focus from identifying how to generate more creative ideas to identifying how to help innovative institutions recognize and accept *creativity* [emphasis ours]. Future research should identify factors that mitigate or reverse the bias against creativity" ([31], p. 17).

From the research explored above, we can make the following assertions. First, Adaptors and Innovators are *both* creative. Recall that the A-I theory does not assess *level* of creativity, but *style* of creativity. Second, traditional organizations are biased in favor of the "adaptive" style of creativity and against the "innovative" style of creativity, as the creative solutions Adaptors offer to problems fit within the predefined paradigms of the organization's culture. By contrast, Innovators rock the proverbial boat with their creative solutions which seem, to the non-Innovator, to come out of left field, because Innovators seek out problems to solve, or take existing problems out of their predefined framework. Innovators are perceived as being disruptive. Third and finally, when laypeople are asked to define a creative person, their definition is far more closely related to that of the "disruptive" Innovator.

Therefore, when laypeople are asked about their attitudes toward *creativity*, and they are already operating from the assumption that creative people are disruptive, they are likely to be biased *against* creativity, because they are biased against disruption. Creativity, whether in a conscious or a subconscious way, becomes synonymous with *disruption.*

The hypothesis set forth in this chapter is that fostering creativity as a teaching practice is not implemented with greater intentionality in higher education because a stigma exists toward creativity in the classroom. This stigma is based on creativity's association with disruptive behavior. To examine this hypothesis further, let us define and explore the construct of social stigma.

3. What is stigma and how is it manifested toward creativity in education?

3.1 The definition and formation of stigma

Since Erving Goffman first explained stigma as the process by which members of society reduce a person in their minds based on some perceived discrediting aspect [33], much effort has been put forth toward the advancement of a deeper understanding of not just what sigma is, but how it is formed. Consider these two

definitions of stigma: Stigma is "a characteristic of persons that is contrary to a norm of a social unit" ([34], p. 80) and "stigmatized individuals possess (or are believed to possess) some attribute, or characteristic, that conveys a social identity that is devalued in a particular social context" ([35], p. 505) [36].

Stangor and Crandall [37] developed a theoretical model that helps explain how stigma develops, involving three major components: (1) function, (2) perception, and (3) social sharing (**Figure 1**). While this and related frameworks are usually applied to stigma research in the field of health communication and in sociological arenas, like mental illness stigma [38], AIDS stigma [39], and homelessness stigma [40], this framework is also relevant to the implementation of creativity in higher education.

3.2 Creativity stigmatized as symbolic threat

This chapter will focus on the first stage of stigma formation in Stangor and Crandall's model: The initial perception of a *tangible* or *symbolic threat*. It is this second kind of threat - *symbolic threat* - that merits closer examination. *Symbolic threat* is defined as one that comes from violations of values and threats to social order [37], and which involves "perceived group differences in morals, values, standards, beliefs, and attitudes" ([41], p. 25). *Symbolic threat* is that which "threaten[s] the way in which a group ordains its social, political, or spiritual domains" ([42], p. 26). This *threat to social order*, or *disruptiveness*, as it is named in ensuing literature (e.g. [38]), is one that merits further attention as it is the *disruptiveness* of creativity entering the well-ordered classroom -
particularly those classrooms in higher education - that is the root of the stigma currently proposed by the authors of this chapter.

3.3 The prevalence of symbolic threat in the stigmatizing view that creativity in the classroom is *disruptive*

We have established the case by which *creativity* is equated to the Innovator's approach to creative problem solving. We see that innovators are inherently perceived as being disruptive. But to what extent do these findings feed a stigma toward creativity in the classroom?

In the introduction to *The Incubation Model of Teaching: Going Beyond the Aha!*, Torrance and Safter [43] compare the plight of the "great teacher" to that of Jesus Christ, as portrayed in Andrew Lloyd Webber's dramatization *Jesus Christ Superstar.* While the authors' metaphorical comparison of the creative teacher to that of a persecuted religious figurehead juxtaposed with the narrative summary of a 1970s rock opera might seem slightly dramatic and/or superfluous at first glance, many of the parallels Torrance and Safter draw out from this unusual analysis point to the prevalence of stigma toward creative instructor by way of symbolic threat of disruption of the norm, particularly when they state "Those in authority dare not leave them to their own devices" and "They are blamed for letting their followers get out of hand and are held responsible for the independent action of their followers" ([43], p. 2).
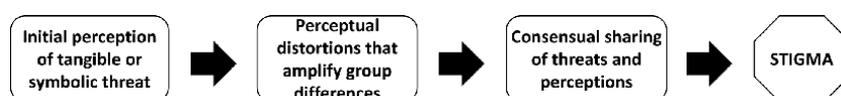
Figure 1.
The role of threat, perceptual distortions, and societal sharing in the development of stigma. Source: Stangor and Crandall ([37], p. 73). Reprinted with permission of Guilford Press.

When Torrance and Safter opine that there are not enough "great teachers" in the world, they identify "great teachers" as those who have the following characteristics ([43], p. 1):

1. Great teachers perform miracles.

2. They inspire their students... to creative and independent thinking and action which may at times get out of hand.

3. They are continually in danger of "crucifixion."

The latter two statements, in which a creatively-led classroom may occasionally get out of hand, and in which the instructor is in danger of literal (or, as is more likely the case in contemporary experience, figurative) crucifixion, speak to stigmatization of creatively-led classrooms as disruptive, and those who lead those classrooms as disruptors deserving of punishment.

A review of seminal and contemporary literature concerning perceptions of creativity - in terms of teaching *creativity* and teaching *creatively* - in primary, secondary, and higher education provides support for the position that many instructors harbor stigmatizing attitudes toward creativity based on the nature of *disruptiveness* as the perceived symbolic threat.

In a 2005 study of 36 elementary school teachers, Aljughaiman and Mowrer-Reynolds conducted in-depth interviews with educators that explored the teachers' attitudes toward creativity, definitions of creativity, and perceptions of creative students. Results revealed that teachers frequently misconstrue what it means to be a *gifted high achiever* student with what it means to be a *creative* student. When teachers were asked to describe traits of creative students, they were more likely to describe traits that equated to *giftedness* rather than creativity. While creative traits such as the *ability to come up with novel ideas* were correctly identified as traits of creative students, traits more aligned with the concept of Divergence were not identified. Only 26% of the respondents stated that creativity involved *imagination* and *self-expression*, and only 9% mentioned *inventiveness*. Teachers failed to identify *curiosity*, *independence of judgment*, and *courage* as common characteristics of creative students. Aljughaiman and Mowrer-Reynolds conclude, "Students who display the above characteristics often challenge the teachers' authority, which may cause disturbance to the classroom organization" ([44], p. 29). A "disturbance to the classroom organization" supports the claim that creative students are stigmatized as threatening as they threaten the established norms and practices in a classroom.

In his chapter entitled "Creativity in the Classroom: The Dark Side" in the book *The Dark Side of Creativity*, Cropley [45] details a paradoxical statement: That educators freely state that creativity is an important skill, but then show a decided dislike toward creativity. He outlines the following proposals as to why instructors harbor a stigmatizing view toward creativity. Namely, creativity:

• shakes the foundations of the received classroom order,

• brings uncertainty for pupils (and parents),

• questions the value of laboriously acquired knowledge and skills,

• threatens loss of status and authority for teachers, and

• weakens teachers' self-image ([45], p. 304).

The stigma toward creativity again becomes evident in this list - namely, that creativity is a symbolic threat, and that the threat is in the form of *disruption*. Cropley further offers support for this concept by summarizing the teachers' views that creativity poses "a threat to good order and discipline" and that "it is sometimes hard to distinguish between creativity in the classroom and disorderliness or disruptiveness or even sheer willful naughtiness" ([45], p. 306).

Marquis and Henderson [46] conducted a study across eight universities in Ontario to determine how instructors perceive and implement the teaching and learning of creativity. The study cites a common theme found within literature on creativity in higher education - that creativity is heralded as an important skill (in Marquis and Henderson's article, by a 2012 report by the provincial government), but little to no data exist which address how this need is mobilized in the university environment.

One of the factors explored in this study was the influence of instructors' disciplinary identities on their perception of creativity and its pedagogical modalities. Disciplinary influence on the conceptualization of creativity include the argument of domain specificity (that true creativity within a given field can only be assessed by experts within that field), some may perceive creativity as more pertinent to some fields over others, and finally, that creativity is often affected by the aforementioned "art bias", through which creativity is fused in its scope with the arts, specifically.

The instrument used in Marquis and Henderson's study was a digital survey instrument in which the approximately 613 respondents were asked to provide definitions of creativity and to answer questions about the importance of creativity in their disciplines and their strategies for helping students develop their creative abilities. Several interesting findings emerged from this study, chief of which is the definitions of creativity provided by the participants and the overall value placed on creativity.

Definitions were characterized by themes common to the literature including *producing something novel* and *thinking outside the box*. Some participants indicated that their definitions were only relevant to their particular discipline, believing that definitions of creativity would vary widely based on academic field.

While both the overall importance of creativity and the responsibility to foster students' creativity were nearly universally rated as "important," some respondents from the STEM fields indicated that they had a difficult time envisioning the role of creativity within their fields, basing these statements on the assumption that creativity was about developing something entirely new, a point that speaks to the bias toward innovators over adaptors in the research previously described. Marquis and Henderson also found that *creativity* was infrequently named in official learning outcomes in courses and programs across the disciplines examined. One of the most significantly cited barriers toward implementing creativity education into their respective curricula was *not having sufficient time* [46].

Banaji, Cranmer, and Perrotta [47] conducted interviews of 81 educational stakeholders within European schools in an endeavor to uncover the barriers toward creativity implementation within the school system. They provide further support for this hypothesis in describing how the notion of "disciplinarian classroom environments" is passed on through generations of educational trainers to trainees, promoting an environment in which nonconformity is punished. Banaji, Cranmer, and Perrotta provide further evidence in stating that "some teachers' fear of losing control of the discipline in classes – linked to a lack of confidence in their own classroom management skills – discourages active learning approaches more widely than attempts to nurture creativity" ([47], p. 10). That the perceived disorder of a

classroom is linked with teachers' confidence in their own classroom management abilities is a salient point that is further examined in the next section.

4. How might we overcome symbolic threat stigma toward creativity in education?

4.1 Returning to the literature on *stigma*

In the literature about social stigma as applied to the field of health communication, top strategies implemented in the fight against social stigma include "education and teaching," and "normalizing" (e.g. [48, 49]). Therefore, it is logical to believe that we might reduce the symbolic threat-based stigma of the perception of creativity in the classroom as disruptive through these same means - creativity training and creativity normalization.

4.1.1 Education and training in creative teaching

In their 2018 meta-analysis of 53 contemporary studies examining teachers' beliefs about creativity and its nature, authors Bereczki and Kárpáti [3] concluded that teachers' beliefs toward creativity-fostering practices would be dramatically improved through gaining professional competency in teaching for creativity. Thus, one might extrapolate that the importance of implementation of creativity training among educators in the college and university setting cannot be ignored.

Consider Sheridan College in Ontario, Canada as an example. Around 2012, Sheridan College, formerly known as the Sheridan College Institute of Technology and Learning, set the goal of becoming a fully creative campus. Sheridan operationalized this goal by infusing creativity into their discipline-based courses, as well as offering courses fully centered on the subject of creativity. Sheridan also created a series of intensive professional development workshops on building creative thinking and creative problem solving into course learning outcomes, Creative Problem Solving, small group facilitation, and creativity training. Finally, Sheridan sought to infuse creative thinking and creative problem solving strategies and tactics into the college's day-to-day operations. These efforts have seen great success. Over 3,000 students have enrolled in a general elective course called "Creative Thinking: Theory and Practice." Well over 6,500 students have taken at least one of the five courses in a 5-course undergraduate certificate in creativity, with 200 students having completed the full certificate. And more than 300 faculty and administrators have taken part in the creativity professional development workshops [50]. Sheridan College serves as an exemplary case study in internalizing and operationalizing creativity at an institutional level. For two more case studies on universities that have successfully internalized creativity at this level, see Universidad Autónoma de Bucaramanga, Colombia, the first fully creative campus in Latin America, and the International Center for Studies in Creativity at SUNY Buffalo State [51].

As stated in Puccio and Lohiser [51], "There should be creativity courses, creativity content, and creativity professors at every university and college in the world" ([51], p. 26). The increase in competence in teaching creatively would thus not only mechanize the implementation of creativity in the classroom, but would also serve to increase instructors' confidence in their own abilities to foster creativity in an intentional manner, which in turn will likely reduce the stigma of creativity resulting in disorder and disruption.

4.1.2 Normalizing creativity in the classroom

It is our belief that the very act of training instructors in how to efficiently and effectively mobilize creativity as a pedagogical tool will initiate a normalization process. A red thread that runs through the courses at the Creativity and Change Leadership Department (formerly the International Center for Studies in Creativity) at SUNY Buffalo State is that its students should embrace creativity in every facet of their lives. Graduates should be so comfortable with the creative process that it becomes a way of life, rather than simply serving as a tool one produces from a toolbox and then files neatly away when a task is completed. Anecdotal evidence collected through interactions with peers in the program, and even the friends, family members, and colleagues of those peers suggests that the training in creativity functions as a deeply rooted normalization process that spreads, social-contagion style, through daily lexicon and routine behavior. Moreover, recent research has shown that the impact of the creativity curriculum taught at SUNY Buffalo State significantly improves creative attitudes [52] and shows long-lasting effects on divergent-thinking abilities [14]. If critical creativity components, including the Thinking Skills Model of Creative Problem Solving [53], The FourSight Model [54], and the Torrance Incubation Model of teaching [43], can be trained and taught to educators as prolifically as possible, it is quite likely that creativity will become a more normalized phenomenon within education, and thus will gradually be freed from stigma.

4.2 Creativity and the theory of reasoned action

Creativity, as suggested by the scholars cited thus far, can be considered *an attitude, a belief, and a behavior.* One could go so far as to say that *creativity is not a linear activity;* rather, *creativity is an interactive lifestyle.* The first program in the world dedicated exclusively to the science of creativity at the graduate level, the Creativity and Change Leadership Department, was founded by Ruth Noller, Alex Osborn, and Sidney Parnes in 1967 at SUNY Buffalo State. This Department's core mission is *"To Ignite Creativity Around the World."* The *creativity as lifestyle* tenet is one perpetuated by the faculty, staff, and alumni within this program, many of whom are or go on to become educators. The overarching belief inherent to this academic department is that students do not merely obtain a certification or a degree, but rather, adopt philosophies that allow them to lead a creative lifestyle characterized by strong leadership and change advocacy.

This philosophy of embracing creativity as a lifestyle can be analyzed through the lens of the Theory of Reasoned Action [55] and can be used as a model through which to enact the societal change necessary to overcome the stigma toward creativity in higher education.

4.2.1 Theory of reasoned action

The Theory of Reasoned Action, developed by Martin Fishbein and Icek Ajzen in 1967, charts the process by which attitudes inform beliefs, which influence individuals' intent to act, which then serve to rejuvenate the cycle through informed knowledge [55]. **Figure 2** shows an adapted model of this theory that has been structured by the authors of this chapter to serve as a lens through which to mobilize a deliberate approach toward combating stigma toward creativity in higher education.

This modified model of the Theory of Reasoned Action shows that individuals' beliefs about the *consequences* of creativity directly influence their attitudes *toward*
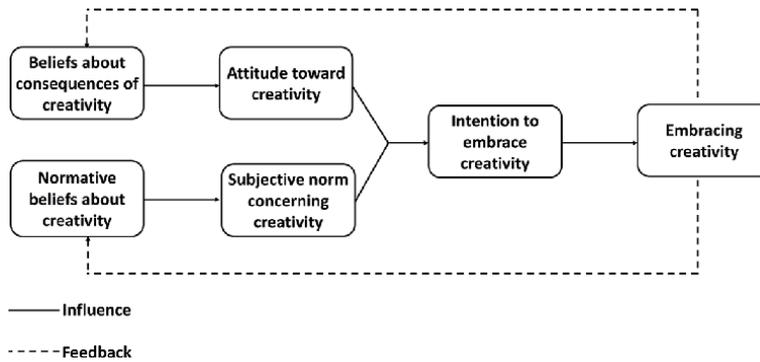
Figure 2.
Theory of reasoned action adapted to the intention to adopt creativity in higher education.

creativity. The normative beliefs held within a society will directly influence that society's subjective norms concerning creativity. As previously stated by Stein [9], the surrounding culture and educational institutions within that culture are critical to the extent to which deliberate creativity is allowed to be fostered. Both the individual's attitude toward creativity and the societal norms concerning creativity will in turn influence a person's intention to embrace creativity. This intention, finally, will directly influence the likelihood of that individual embracing creativity. The action of embracing creativity ultimately provides experiential feedback that helps foster or reframe the beliefs about the consequences of creativity (the individual might consider "how was my creative action received, and would I do it again now that I understand the consequences") and that same action generates feedback which contributes to the society's collective normative beliefs about creativity (an individual's positive or negative outcome of such an action will serve as the basis upon which others form their beliefs about creativity and how it fits within their societal norms).

Fostering a positive attitude toward creativity in higher education is paramount to its successful application. Creativity, in part, can be considered an attitude, or mindset. Fostering deeply-held positive beliefs toward creativity is similarly critical. Quintessentially, creativity also is a belief system, and ultimately, creativity is the product of a culminated set of behaviors, potentially a lifestyle of cultivated actions. These behaviors include seeking opportunities to constructively evolve through Polarity Management [56], which is to say, maintaining the status quo where helpful and, more relevant to the current situation, disrupting the status quo where necessary and seeking opportunities to lead others *through* and *to* creativity [57].

If more instructors were to increase their intention to ultimately embrace creativity, this intention will hopefully lead to action, which will in turn provide feedback on a broader normative belief system and subjective societal norm concerning creativity in academia. For every individual who disrupts the status quo of what is arguably a lack of deliberately creative education tactics within higher education, those individuals would contribute positively to developing normative societal and subjective beliefs about creativity.

5. Conclusion

As stated in the opening of this chapter, the topic of stigma toward creativity explored as it relates to education in a general sense is meant to serve as a springboard for a deeper dive into the realm of higher education. While stigma toward

creativity is already documented, few studies exist on the *causes* of those negative attitudes, or stigmas, toward creativity, and fewer yet exist which explore attitudes toward creativity in *higher education,* specifically. Therefore, this chapter has served to identify a gap in the current research, particularly that of exploring the communication phenomenon of the relationship between attitude and stigma toward creativity in higher education. More research in this area is necessary so that *informed* action can be taken toward implementing deliberate creativity education in higher education.

A widely accepted tenet of the relationship among these constructs of attitude, behavior, communication, and stigma [58] suggests that stereotypes are born out of natural human habits toward cognitive processing. The reduction of one's cognitive load through categorization of information can corrupt into binary absolutes and laws (e.g. "all people from X group are alike in this particular way"). These cognitions travel, as it were, to the heart where they stimulate emotional responses (e.g. "That person is from X group toward which I have a negative association, and so I fear him"). The emotion then travels outward to the limbs, where the emotion is made manifest into behavior, becoming discrimination (e.g. "I will not engage with him based on my fear").

The key, then, to changing individuals' behavior - to reducing stigma-led discrimination toward creativity as a critical educational subject and critical educational method - lies in changing hearts and minds. Minds must be changed through training and education, and the subsequent normalization might just change hearts. Creativity is a force for innovation. If we do not promote creative thinking in our educational practices, if we do not teach *creativity*, if we do not teach *creatively*, we will never realize the true power and promise of this force.

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The Light Penetrates Silence: *Kolok* Dance Study in Bengkala Village, Buleleng, Bali

Ida Ayu Trisnawati

Abstract

Art is an expression of the pure soul of humans that is not limited by physical. Therefore, everyone can express their art in various forms of art acts such as dancing, singing, painting, and others. This occurs to the *Kolok* (mute) community in Bengkala village where they express their artistic spirit by dancing. The *Kolok* community in this village dances *Janger Kolok* Dance, *Baris Bebek Bingar Bengkala* (*Bebila*) Dance or *Baris Bebila* Dance, and *Jalak* Anguci Starling Dance. This dance illustrates the joy and excitement of the mute people in Bengkala village who are able to surpass their limitations into an opportunity to fill themselves up. The creation of this dance is motivated by esthetic, economic and religious reasons. Structurally, all *Kolok* dances in Bengkala follow the same pattern of general dance but there are adjustments to the conditions of the dancers. This dance has the meaning of struggle, discipline, hard work, cooperation, entertainment based on excitement through the limitations of those who are deaf *Kolok*.

Keywords: art, expression, dance, excitement, deaf mute

1. Introduction

Indonesia is a country with a very rich cultural diversity. The richness of culture can be seen from the existence of diverse arts from dance, music, building, visual arts and painting. The whole art is the purest expression of the soul of humans [1]. Art as an expression of the soul is shown by the existence of symbols that are full of meaning. As it is explained in Bahtic [2] which divides the symbol into two namely constitutive symbol and cognitive symbol. The constitutive symbol is related to the human relationship with God, in this case, art can be linked to religious rituals. Then, cognitive symbols relate to the level of human cognition or understanding of the development of existing situations. This dance phenomenon can be seen with the emergence of various types of art that have new genres such as urban art, natural, surrealism and so on. Art phenomenon that occurs in all levels of Indonesian society, including in Bali.

Bali as one of the regions with cultural uniqueness also has a unique culture, especially in the arts. Bali is even one of the centers of regional art that is still very good in Indonesia and even in the world. The statements above can be seen from the various nicknames given to Bali, one of which is the last paradise in the world. The meaning of the last word of heaven is the uniqueness of culture, including the field

of art. Art that develops in Bali reaches out to all levels of people, young and old, rich, poor, urban and rural, including those with special needs, one of them *Kolok* (mute). In the village of Bengkala, Kubutambahan District, Buleleng Regency, Bali.

During the last few years, countries in the Asia Pacific region including Indonesia have shown their maximum efforts to acknowledge that the existence of people with disabilities has become an important issue in the discussion of human rights. The reason is that persons with disabilities also have the same rights as normal humans to contribute in the economic, social, educational, cultural and political fields. The progress that Indonesia has made in paying attention to persons with disabilities can be seen when it signed the UN Convention on the Rights of Persons with Disabilities (UNCPRD) [3]. Until now, the government is still trying to solve the problem by making a national action data collection of diffables throughout Indonesia, providing job training, developing services and placing disabled workers in formal and informal work positions in the fields of economy, education, culture, politics, and social.

The seriousness of the government can be seen by the establishment [4] of Law Number 19 Year 2011 concerning the Convention on the Rights of Persons with Disabilities, Article 1 states that the purpose of this convention is to promote, protect and guarantee the full and equal enjoyment of all human rights and fundamental freedoms by all persons. With disabilities, and to promote respect for their inherent dignity. Meanwhile [5] Law No. 8 of 2013 concerning Persons with Disabilities, which states that (1) the Government, Local Governments, State-Owned Enterprises, and Regional Owned Enterprises are required to employ at least 2% (two percent) of Persons with Disabilities of the total number of employee or worker; (2) Private companies are required to employ at least 1% (one percent) of Persons with Disabilities of the number of employees or workers. The sanctions are not playing games. If violated, a maximum penalty of 6 months will be imposed and/or a maximum fine of 200 million rupiah. Thus, in the last few years after the UN Convention, there were several arts and disabilities organizations in Bali, namely the Happy Foundation, the Pearl Light Foundation in Ubud, and PERTUNI Denpasar [6].

In Bali there is a Bengkala Village, Bengkala village community who are generally normal people yet there is a group of people who have special needs, namely deaf mute, which is called by the local community, Kolok. This disability group consisted of 42 people where they live like other normal people. Their daily interactions do with Bengkala's typical sign language, which is not the same as sign language in general [7]. The condition of the *Kolok* in Bengkala village has been reviewed by Udayana University and Gajah Mada University, which found that there are unique genes that cause some families in the village to experience silence.

Other uniqueness is that they can also perform arts, the results of which are quite phenomenal, namely the existence of the *Kolok janger* dance which was staged at the Bali Art Performance in 2004, but if historically seen the existence of this *janger* has existed since 1967 [8]. It consisted of a group of men and women from *Kolok* who danced quite well. The situation then proves that normal people, but all human beings do not only possess interest and artistic talent with their uniqueness. This means that art can be one of the potential that can be continuously explored in every human being.

Departing from this, in 2017 the Indonesian Institute of the Arts Denpasar in collaboration with the Indonesian Science and Technology Service Forum (Flipmas), Flipmas Bali (Ngayah) and Pertamina's Corporate Social Responsibility (CSR) worked on art performances in the form of line dance. This line dance is called the *Bebek Bingar* Bengkala Line Dance which is later called the *Baris Bebila* Dance. The choice of this theme was motivated by the potential of the Bengkala

people who are unique, namely those with special needs but have a high artistic spirit. They can break physical silence by dancing and doing the performing arts well. So this dance is very suitable because it is full of values and meaning of struggle. As explained by Dibia [9] that the line dance is a dance that has a heroic meaning with weapons, complete clothes, ready to face any situation. Likewise, the *Kolok* community in Bengkala Village, they are ready to face various existing situations and their shortcomings to answer life's increasingly complex challenges.

In addition, there is also the *Jalak Anguci* dance that is danced by two *Kolok* women in Bengkala village on behalf of Budarsih and Reswanadi. This dance is inspired by the bad whereabouts of Bali starlings, which are currently a rare bird in Bali. Moreover, *Jalak Anguci* means singing in a sweet voice. This is in line with the existence of the unique Bengkala Village, which may be the only one in Bali with its unique *Kolok* community. Its potential must be preserved and developed so that it can become an icon of a society that is always happy amid its limitations [10].

The conditions above are certainly interesting objects of study that the physical limitations given by God do not have to be lamented. Nevertheless, it must be used as a whip to encourage humans to develop and make their limitations a challenge. If this attitude can be transmitted and made public to the public, it will certainly be very inspiring. That value is what will be studied more deeply in this study.

2. Research methods

This research is a qualitative research, the focus of research is to describe the background and process of the creation of *Janger Kolok* Dance, *Baris Bebek Bingar* Dance, and *Jalak Anguci* Dance comprehensively in the real world. The research location is in Bengkala Village, Kubutambahan sub-district, Buleleng Regency. Sources of data were obtained directly with the participation and information of dancers, musicians and artists involved in the making of *Janger Kolok* Dance, *Baris Bebek Bingar* Bengkala (Bebila) Dance, and *Jalak Anguci* Starling. Study documents about studies that support research problems. Then the process of training, staging and the situation in the village of Bengkala were observed to get a complete picture of the research problem under study. The next step is to test the validity of the data by triangulating the source and data collection methods. As a whole, it was analyzed using the interactive method Mile and Huberman [11], so that data obtained about the *Kolok* dance, namely *Janger Kolok*, *Baris Bebila* Dance and *Jalak Anguci* Starling Dance as a form of artistic expression namely *Bingar* Penetrating Silence.

3. Discussion

3.1 Background of *Kolok* dance creation in Bengkala

The creation of the *Janger Kolok* dance, Bengkala *Bingar* Duck Dance, and the *Jalak Anguci* Starling Dance was motivated by the desire to help the *Kolok* community in Bengkala village to express their artistic talents. Starting with the success of the 2004 *Janger Kolok*, which performed at the Bali Arts Week, another dance was created. Precisely in 2017 *Institut Seni Indonesia* (ISI) Denpasar saw the ability of the *Kolok* community to dance in *Janger Kolok* in 2004 came the idea to make another dance. Then the idea of creating the *Baris Bebek Bingar* Bengkala (*Bebila*) Dance emerged. This idea was further developed in 2018 by creating the *Jalak Anguci* Distance Dance. This is proof that actually the *Kolok* community in Bengkala village has artistic potential.

Specifically, the background to the creation of special dances for the *Kolok* community in Bengkala is divided into three main reasons, namely esthetics, economics, and religion. The reason for the creation of art cannot be separated from the esthetic value. Likewise, the creation of *Janger Kolok* dance, *Baris Bebila* dance and *Jalak Anguci* dance is inseparable from esthetic reasons. Esthetics according to Gie [12] is the value of beauty, science of beauty, and taste. This cannot be separated from the dance work as a work of art full of beauty. This beauty can make people who dance feel happy. Likewise those who watch it feel happy. Therefore, art can be one of the entertainment media that makes people feel happy.

This condition is in line with what is faced by the *Kolok* community groups in Bengkala village. People who are classified as disabled but have a high artistic interest. This society can live happily amid the physical limitations and limitations they have. This situation is certainly different from people with disabilities in general who sometimes feel embarrassed to appear because they are not confident. The spirit of art and the desire to express themselves have encouraged the *Kolok* community in Bengkala to overcome these limitations. This *Kolok* community can make it as one of the social capital to create unique art that is second to none.

Other conditions that encourage the creation of this dance are economic reasons, namely the existence of a desire to be one alternative income to the *Kolok* community. It is hoped that when they become professional artists, their uniqueness will attract the interest of art connoisseurs and tourists to come and watch them. Of course, there is some money that can be obtained after they perform this dance. This is in line with the views of Bandem and deBoer [13] which states that if the dance is well managed it can certainly produce economic benefits. Examples can be seen staging dance for tourists in various tourism centers such as in Ubud with *barong* performances or in Tanah Lot with *Kecak* dance performances.

This reasoning certainly looks very pragmatic, but seeing their limited condition is an alternative solution in the long run. This development is important to answer the development of tourism so that it does not only become a spectator in the midst of globalization [14]. The economic benefits gained are not solely for economic reasons but how they can solve economic problems. Because it must be recognized that in our society not all can accept their limited conditions. In addition, limited professional access is also the reason why this group must find other solutions in the economic field. Training them to become professional dancers and performers in accordance with their artistic potential can be an alternative solution.

In addition, the development of tourism that is getting better in the North Bali region is also one event for them to show their potential. Therefore, this *Kolok* community group must be prepared. This preparation is one of them by training them to become professional dancers. In the future Bengkala village can be used as a kind of project pilot for inclusive villages in the arts. This is certainly interesting to be a special destination for academics, artists, art connoisseurs, and other fields who care about this disabled group.

The next background is religious, as a form of gratitude and respect for culture. Balinese society as a cultured creature cannot be separated from its religious side [15]. All activities in his life will be closely related to religious life, especially Hinduism. Through the creation of *Janger Kolok* Dance, *Baris Bebek Bingar* Bengkala (*Bebila*) Dance, and *Jalak Anguci* Starling Dance, it is hoped that it can be a form of gratitude for God's gift to humans. Whatever form of blessing is given by God, we certainly should always be grateful, including in limited situations like this *Kolok* society. Because with this gratitude, humans can see the positive side of the shortcomings that we have. This form of gratitude can be demonstrated by making it a positive thing, one of which is a variety of special dances for the *Kolok* community in Bengkala.

This dance shows how this *Kolok* community dances happily through their lives. The dancers dance the dance with sincerity and inspiration. The assertive variety of line dance moves is also an expression of gratitude. Then it is expected in the performance when there are people watching so that they are aware and grateful for God's blessing. Because if we are grateful for whatever is given to humans it will undoubtedly be beneficial.

In the dimension of Balinese art philosophy, art is *ngayah* (doing work without thinking about results). This philosophy is also a form of religious value that is gratitude and respect for God's power. Various types of special dances for people with disabilities have also become an expression of the desire of the *Kolok* group in Bengkala village:

3.2 General description of *Kolok* dance in Bengkala

First, the *Janger Kolok* dance was popular and famous in 2002 when it was staged at the Bali Arts Festival. Actually historically, it has been around since 1967, which was pioneered by Nedeng [8]. The early history of the emergence of this *janger* cannot be separated from the expression of art and gratitude from the people in the village of Bengkala when the harvest is finished. Then they made a dance in the form of a *janger*, but due to their limitations, they could not speak *Kolok* finally made a *janger* that was created using only sign language. This then makes the *janger* that was made known as the *Kolok janger* (the dancer's silent voice).

Furthermore, when viewed from the dance movements are actually not much different from other dance dances. Motion is the main element in dance that involves three things, namely energy, space, and time [16]. The substantive thing that distinguishes it lies in the absence of sound or singing like a *janger* in normal. The dancers use gestures to give a sign of what is being sung. The *Kolok* dance consists of left and right *ngagem*, *nyeleog*, *ngelipur*, *nyeledet*, *ngelig*, and includes carry. In addition, because this dance also combines the movements of the *Kecak* dance when seated, there are movements of supervisors, *ngeseh*, *nuding* and *nayoh*. The pattern of the movement was divided into *pepeson*, prince, play, and sensitivity. The whole movement is done with duration of three repetitions dynamically and alternately.

A hiccup, namely *gambelan* in a smaller form consisting of drums, flutes, *gups*, *gongs* and *gangsa*, accompanies the *Janger Kolok* dance. To add value to the art in the performance, dancers always wear standard decoration hangers consisting of *banger janger*, *badong*, tinsel belt, *kamen* cloth, oncer, and *ampok-ampok*. In addition, there are ornaments in the form of earrings, fans (women), *udeng* (men), shorts and other accessories to support the performance of dancers to the fullest. The duration of the performance of the anger *Kolok* dance is usually between 20 and 30 minutes for each performance.

Second, *Baris Bebek Bingar* Dance Bengkala is literally interpreted as a happy war dance from Bengkala. This dance illustrates the army that is ready to face the enemy with joy. Furthermore, *Baris Bebek Bingar* Dance is seen from the aspect of the movement is not much different from the line dance movements in general. But adapted to the limited ability of dancers who cannot hear and cannot speak (*Kolok*). To enrich the motion of this dance, the motion of attraction is added. *Baris Bebek Bingar* Bengkala dance dancers numbered seven people where one person serves as the leader of his troops and four dancers as members of the troops. The dancers are Ngarda, Sumendra, Subentar, Juliarta, Karyana, Sugita, and Sudarma [17]. This is in accordance with the general concept of line dance, which is a symbol of troops. The variety of dance moves is also a picture of the preparation of troops to fight such as combat training or war strategy.

Especially for the *Baris Bebek Bingar* (Duck dance), certainly not as detailed as the *Baris bebek* dance in general there are aspects that are omitted for example the sound and the formation is very simple. The core movements in the *Bebek Bingar* Bengkala dance line are generally divided into four parts, *pepeson*, comedians, painters and sensitizers. In addition there are some typical movements possessed by the *Baris bebek* dance, namely for *pepeson* (*gilak*) can be started from the *lawang mungkah* namely opening the door or initiating a performance. After continuing with the right *mangem* and left *mangem*. Other movements are *nayog*, and then loud, switch *pajeng*, *malpal*. The whole movement is carried out dynamically to describe the troops or soldiers who will fight.

The *Baris Bebila* dance is also filled with movements of both arms, which are always horizontal in position with firm movements, showing the readiness of a soldier. The spear is always held tight. Then these dancers move their eyes dynamically to show they are very alert as a soldier. The movements will be implemented into the performance. Where the initial staging process begins with the sound of *gambelan* (percussion). The dancer then enters the stage. Once on the stage the dancers will form formations or groups that face each other. They wag their spears if in this general line they shout, and then demonstrate the war movement. This movement characterizes line dance that the aim is to prepare troops for war.

Each group alternately moves as they fight fighting each other. The movements are carried out in a compact manner coordinating with each other. The dance leader who commands the war forces coordinates these movements. So keep alternating up to three times the repetition. Then the squad leader gave the command to stop. The dancer stops while lowering her head and holds her spear. The next movement was new information, each of them moved and looked for new friends. Movement is the same as that which begins with a combination of other war movements. Occasionally there is also a circular motion up to three repetitions. After that, then a dance ends, all dancers'line up and face the *pelinggih* or the audience, then bow their heads and return to the backstage [13]. Thus ended the performance of *Bebek Bingar* Bengkala Dance.

The *Bebek Bingar* Bengkala dance, if seen from the fashion has similarities with the Baris dance in general, especially the Baris Spear dance. A difference is using foot ornaments in the form of small bells in the form of bracelets (*gongseng*). The purpose of this decoration is the presence of a distinctive sound when the dancer snaps her feet or moves. This is to cover up the lack of dancers who cannot scream because they are mute (*Kolok*).

The other clothing used by the *Baris Bebek Bingar* Bengkala dance is a headdress consisting of a conical hat. These binds are usually decorated with flowers and various trinkets that make it look bright. Then the clothes consist of *badong*, *awir*, *lamak*, *kana* bracelets, white clothes and white pants and spear-shaped weapons. It also contains a total of 16 pieces of cloth laying down, which will have an effect when the dancer spins. Dancers complete with face decoration wore the whole outfit, so it looked dashing like a war soldier. Then to accompany it, use a flute, *kenong*, *gong* and *beleq* drum as one of the musical instruments.

Third, the *Jalak Anguci* dance is a new dance created in 2018, which depicts beautiful women such as starlings who have a melodious voice. With the hope that later Bengkala village as a unique village with its *Kolok* community can be famous like the Bali Starling and can talk a lot in a wider arena. Two *Kolok* women in Bengkala village, Budarsih and Reswanadi, dance this dance. Both of them were very young when they were 19 and 13 years old. It is hoped that later they will be able to transmit this dance to other people.

Jalak Anguci Starling Dance has a unique uniqueness with other dances, where generally the dance follows the musicians. However, in the *Jalak Anguci* dance, the

musicians will follow the dance moves. Although it starts from the drummer to give a signal. To beautify the appearance of the dance movements Starling *Jalak Anguci* dancers wear clothes like starlings. To be decorated with a coil containing the head decoration like a starling. Then his body was wrapped with *badong* decorations, *ampok-ampok*, *kana* bracelets, anklets, and other decorations. Then for the accompanist to use *gambelan* in the form of drums, flutes, gongs, *kenong* and others. This dance performance takes 7–8 minutes at a time.

3.3 The meaning of Bengkala *Kolok* dance

Each dance certainly has a value that wants to be described and conveyed to the audience [12]. Likewise, *Kolok* dances in Bengkala village. There is a transfer of values to be conveyed to the wider community, which is expected to be a guideline in shaping character [18]. If you examine the three dances in Bengkala village, there are values to be conveyed including struggle, discipline, hard work, cooperation, beauty, and excitement.

The value of struggle in dance in Bengkala village can be seen from the process of a *Kolok* who can dance. The dancer has to struggle a long struggle in order to be able to dance a dance, such as when practicing *Baris Bebek Bingar* Bengkala dance and distance from the *Jalak Anguci* distance dance. Including Baris dance itself is actually full of heroic values that are synonymous with struggle [19]. These dancers need an average of up to three months to be able to dance a dance. The spirit to keep on struggling not to give up on their limitations is very much needed. This value can certainly be a guide for us to imitate and can be used as a guide in living life to always be enthusiastic.

The struggle can also be seen from a limited situation because they are *Kolok* but must dance to the accompaniment of *gambelan*. Which logically is not possible, but thanks to the perseverance of the high fighting spirit, the dancers finally performed the dance well. Likewise the musicians who should accompany the dance. Because the dancers do not hear and are unable to speak, the mother beater who must be prepared always follows the dancers' movements that are sometimes unpredictable. This situation certainly needs not an easy thing but it requires a struggle.

The next value is discipline, the key to the success of the *Janger Kolok* dance, *Baris Bebila* Dance and *Jalak Anguci* Dance. There is discipline among dancers and musicians to continue practicing. Discipline to control and defeat selfishness and feeling lazy and giving up easily. Because in the midst of these limitations, discipline is the key so that they can successfully dance the dance that is trained. If not disciplined, of course what the trainer teaches will not be done correctly. These dancers really prove that discipline can change the impossible to be possible.

In addition to the discipline of the dancers and musicians, they also have a hard-working spirit, they do not easily give up on their condition. This situation causes the dance that was initially impossible to be able to do. These dancers must practice 2–3 times a day for three months. In the morning they work before training, in the afternoon when they break playing the video sent by their trainer, in the afternoon they train together at the village hall. Their willingness to work hard finally paid off with a good performance at the end of the event. This means that there is no wasted effort, when we try to the maximum then the results will also be good.

The meaning of each dance developed in Bengkala Village is the value of cooperation. This can be seen in the synergy of cooperation between dancers, musicians, trainers and also the surrounding community. It is this good collaboration that led to this dance being realized. Because of the limitations and various problems that exist eventually the dances can be realized. Dancers, musicians

and coaches work together to work together to complement their strengths and weaknesses so that this dance can be realized.

As an art of *Janger Kolok* dance, *Baris Bebila* dance and *Jalak Anguci* Starling dance, of course, is full of beauty. The beauty is illustrated by the movements, clothing, percussion and appearance of the dancers. The graceful dance movements are like starlings, emphatically vibrant like the *baris bebila* dance, and or the *Janger Kolok* pair with each other is full of beauty. The same thing also happened to the tunes that sound sweet, clothes full of beauty, and the appearance of the dancers with beautiful and handsome face decoration. Overall illustrates the beauty of high-level art that should be appreciated.

Meaning that is no less important is the joy, facial expressions and smiles that are constantly being spread by dancers show that they are very happy. Likewise, the movements of the sweetened musicians also send joy. Excitement was also felt by the audience who were present in each of the three dances. The overall meaning of the above is very important in efforts to foster character [20].

4. Conclusions

Cultural richness can be seen from the existence of various arts ranging from dance, music, building, fine arts and painting. All art is the purest expression of the human soul in which there are symbols full of meaning. Dances are meaningful expressions of the pure soul and are created for many reasons. There are two symbols that are interrelated, namely constitutive symbols and cognitive symbols. The constitutive symbol is related to the human relationship with God, in this case art can be associated with religious rituals. Cognitive symbols relate to the level of human cognition or understanding of the development of existing situations. This phenomenon can be seen with the emergence of various types of art that have new genres such as urban art, natural, surrealism and so on.

Bali as one of the areas with cultural uniqueness also has cultural uniqueness, especially in the arts. Bali has even become one of the best regional arts centers in Indonesia and even in the world. In Bali there is a Bengkala Village, Bengkala Village Community who are generally normal people but there is a group of people with special needs, namely the deaf which is called by the local community, namely *Kolok*. This disability group consists of 42 people where they live like normal people. Their daily interactions are carried out using the typical Bengkala sign language, which is not the same as sign language in general. In Bengkala village there is an art whose results are quite phenomenal, namely the *janger kolok* dance performed at the Bali Art Week 2004. Precisely in 2017 the Indonesian Art Institute (ISI) Denpasar saw the ability of the *Kolok* community to dance at *Janger Kolok* in 2004 an idea emerged to make another dance.. Then came the idea to make *Baris Bebek Bingar* (Bebila) Dance. This idea was further developed in 2018 by creating the Long Distance *Jalak Anguci* Dance.

Currently, *Kolok* dance in Bengkala Village consists of *Janger Kolok* Dance, *Baris Bebek Bingar* Bengkala (Bebila) Dance, and *Jalak Anguci* Dance based on esthetic, economic and religious values. Esthetics related to the artistic spirit of persons with disabilities in the *Kolok* community with special needs. Then the economic reason related to the benefits of this dance is expected to have a beneficial impact in the form of income because it is performed. Furthermore, the religious reason is related to thanking God for all the blessings given. Judging from the meaning of this dance is struggle, discipline, hard work, cooperation, beauty and joy. Everything is reflected in every dance movement, percussion, dancer, coach and musician as well as the audience in the *Janger Kolok* dance, *Baris Bebila* dance and *Jalak Anguci* dance.

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Section 2

Creativity and Communication

Creativity in Public Relations: The Case from Croatia – How to Make the History of the Insurance Company "Cool"

Bozo Skoko and Dejan Gluvacevic

Abstract

The chapter deals with the role of creativity in public relations. Creativity is usually associated with marketing and design, while public relations is associated with information and communication management, respectively, as the information and educational component, but often as persuasion. However, in modern conditions in which there is a kind of inflation of content transmitted by public relations experts to the media and the public, it is very difficult to fight for media attention and public attention. Therefore, the public relations professional is forced to bring creativity to the way of communicating, presenting key messages, and achieving communication goals. For that reason, creativity is becoming an essential strategic and tactical tool for public relations professionals to shift the task to a higher level. The authors present a case study of the leading Croatian insurance company—Croatia osiguranje, which had the challenging task of using the anniversary to communicate its own identity and values, strengthen its image, and attract new clients. The project "Croatia je Hrvatska" has received a number of national and international awards and can serve as an excellent example of synergy between communication management and creativity in achieving communication and business goals.

Keywords: creativity, creative campaigns, public relations, Croatia, communication

1. Introduction

Public relations and creativity have been linked since the beginning of the profession as evidenced by the creative campaigns of Edward Bernays—a pioneer of public relations. His professional career was marked by some of the campaigns that are still considered the most creative campaigns in public relations, so we can mention the campaign "Torches of Freedom," "Hearty Breakfast," "Ivory Soap," etc. [1].

Today, in the globalized twenty-first century, when the world is exposed to a variety of messages and events, it is becoming challenging how to successfully attract the attention of the target public. Now, more than ever, public relations depends on the development of technology and human consciousness, and

creativity is imposed here as a very desirable element in communication with the public. Moreover, today, we are especially focused on creativity to get the attention of the public and the media. Nay, the public, but also clients, require public relations professionals to be creative.

Marketing and public relations agencies are facing this challenge on a daily basis, wanting to overcome the challenges of successfully capturing the attention of the target public and media, and increasingly relying on creativity as the so-called attention catcher. Therefore, the public relations professional is forced to bring creativity to the way of communicating, presenting key messages, and achieving communication goals. For that reason, creativity is becoming an essential strategic and tactical tool for public relations professionals to shift the task to a higher level.

Creativity is one of the most commonly used words today, but what is creativity? Sometimes creativity is easier to recognize than to define, but it is certainly something we can call "thinking outside the box." Andy Green, a leading expert on communications and creativity, states if we want to understand meaning of word "creativity," we need to observe creativity as an individual talent, as a process, as a product, and as a recognition by others [2]. Among numerous definitions and different approaches to defining creativity, Green gives his own definition for public relations practitioners, and it is as follows:

Creativity is the ability each of us has to create something new by bringing together two or more different element sin a new context, in order to provide added value to task.

A creative act consists of not only originating but also evaluating the added value it contributes. It is not novelty for its own sake, but it must produce some form of value that can be recognized by a third party [2].

In order for creativity to be successfully applied in public relations activities, it is necessary to know the context under which it develops. Moreover, something that is creative and interesting for one target audience does not mean that it will be creative for another audience. Therefore, creativity in public relations requires that it be reexamined each time. Also, creativity is not inventing something completely new, but innovatively presenting something existing in a different and hitherto unseen way. So we can say that creativity in public relations uses existing content that it just "repackaged" and presented in a different form, which ultimately results in achieving communication goals such as attracting the attention of the public and the media. This is constantly confirmed by numerous public relations campaigns, from Bernays' campaigns as such as "Torches of Freedom" and "Hearty Breakfast" to the recent ones as such as "Ice Bucket Challenge," "Black Lives Matter," "Share a Coke," etc. It only confirms that creativity was and still is one of the desirable skills that a public relations practitioner should have.

2. The creative process in public relations

According to Levinson (2002) if "in art creativity is meant to cultivate, to enchant, to touche the soul," creativity in public relations is supposed to earn trust, to add value, to change the attitude, behavior, and beliefs of the company's publics. In order to achieve all above on creative way, public relations practitioners need to use some of activities as such as brainstorming, ideas' evaluation, idea-stimulating techniques, surveys, etc. [3]. All these activities require time and elaboration, so we can also consider it as a creative process. Therefore, some of research studies on the connection between mindfulness and creativity confirmed that mindfulness may be related to creativity, originality, and flexible thinking [4].

How do creative ideas come about? It is often a long and arduous process full of trials and errors, and history teaches us that many great and creative ideas arose

precisely from "error" or from the crystallization of an idea that took time to be born. More precisely, the idea must go through a creative process.

The creative process can be divided into several different stages and some cases will require research into the very beginning and development of the idea through each of these stages, while in other it will develop simultaneously through all stages. Alex Osoborn, an author of creative technique named brainstorming, creative process divide on the following steps: orientation, preparation, analysis, ideation, incubation, synthesis, and evaluation [5]. Furthermore, Green brings a similar but somewhat simpler classification of the creative process using the mnemonic list of the five "I" which includes:

- information;

- incubation;

- illumination;

- integration; and

- illustration [2].

2.1 Information

The first stage of creative process includes two important elements as one in posing the right questions to be answered, and the second is gathering the relevant information to assist with the tasks [2]. The first part of the task in the creative process is to supply the conscious part of the mind with information and then exclude rational processes. The subconscious must be very well informed in order to the ideas were purposeful. Most creative ideas are of poor quality, and they notice that in even those who consider themselves creative. Such ideas are often not even used. Gathering information is one of the key stages to success or failure creative activities. Or as Green vividly describes it in comparison to Lego bricks—the more dice you have, the more opportunities there are to create new and different things [2]. For creativity in public relations, the first phase that involves analysis is very important because the better the analysis is, the easier it will be to find the missing puzzle pieces that will eventually lead to a creative solution. Asking the right questions at the right time is one of the key skills of a creative public relations practitioner, and only then he will be able to make a valid analysis that will lead to optimal solutions.

2.2 Incubation

The second phase of the process often exploits the subconscious in an effort to find a solution to a problem. Numerous great thinkers and literature of the functioning of the human mind and subconscious confirms that relaxation and so-called daydreaming are good for developing the subconscious in order to reach the desired solution. Sometimes public relations practitioners need to go miles away from solving the problem and go to relax, so ideas can arise and develop indefinitely. We can say that this phase requires "maturing" the idea and its solution in a way that diverts the focus from solving it and leaves it to the subconscious to do its part of the job. Thus, the incubation process will help the emergence of more creative ideas.

2.3 Illumination

The third phase refers to flash of inspiration which is showing up from nowhere and arises as a consequence of the rapid action of the process that preceded it—information and incubation. Illumination as such consists of perception at two previously unrelated elements and creating a connection between them in order to solve task. There are habits and techniques that help to take advantage of the illumination and one of the best and most common is to write down all information and ideas.

2.4 Integration

Ideas are created while the creator or in our case public relations practitioner is working or during the so-called integration phase of the creative process. The brain does not follow passively the original idea, yet it is constantly adding new element to the idea and builds on the idea by changing it fundamentally. Although this changes the original idea, the fact is that there is an upward and improving creative process that develops even more creative solutions.

2.5 Illustration

The final phase of the creative process involves many key elements that must be considered and defined in order for a public relations professional to manage this phase as effectively as possible. Key elements that need to be identified and considered include legitimizing the source of idea, timing, translating the idea, keeping within brand values, and presenting within the context of a relationship [2]. In public relations, it is very important to find a way to present the source of the idea to the public, because the way it is presented will affect how successfully the idea will be accepted. Also, the right moment is also very important because with a well-chosen way of presenting the idea, timeliness is a key element in the illustration phase. If the idea is presented to a client or public in the phase when it is too embryonic and not fully developed, there may be a danger of its rejecting before it comes to the final form [2]. This is a phase where public relations practitioner need to present and sell an idea. Moreover, a presentation and "selling process" will be effective only if there is an understanding on the client's perspective and his way of thinking before making any formal conclusions about the idea as well as being well prepared to understand the motivation and how the audience will accept new information [2].

Conceptualizing creativity as a process, no matter which authors we refer to, leads to the fact that creativity is a process rather than an intuitive act of genius or as a specific outcome, and it is useful because it identifies the attributes, behaviors, and skills required for creative performance as well as it is a learned skill that can be amplified or reduced by training, education, and environment [6].

Finally, by understanding the creative process and its distinct phases, a public relations practitioner can identify weaknesses in his efforts to produce a creative solution as well as to understand how to sell and idea can be more important than the quality of the idea itself [2].

3. Obstacles to creativity in the industry of public relations

No matter how well creative solutions may be set up, they often face challenges and obstacles to be realized. Moreover, sometimes some top-notch creative

solutions have never even been realized just for the reason that they stuck on one of the obstacles in the way of its realization. Obstacles are like hard-to-penetrate walls which impede the performance of creativity skills. According to Wong and Pang (2003), "creative skills may be affected and reduced by various attributes which include the person's individual personality, environment, situation, motivation, cognitive development" [7]. For this reason, it is important to understand and anticipate all possible obstacles in order to eventually realize the creative idea.

3.1 The nature of the problem

Each problem can be classified in the line between well-defined and poorly structured, and by identifying the nature of the problem, public relations practitioners can assess the task they need to solve and determine in order to their efforts convert into an added value [2]. This obstacle could be major obstacle to creative thinking in case that public relations practitioners have lack of knowledge, experience, or understanding, which in the end results without good solution that could be applied. Public relations professionals may be tempted to seek solutions to problems before they realistically saw the problem and focus on creating solutions without pinpointing the root cause or essence of the problem [2]. It can be solved if the problem is identified as a key creative task in the information stage of the creative process [2].

3.2 Poor green light[1]/red light[2] thinking in creative process

Individuals may underperform or fail to creative by having poor so-called Green Light or Red Light skills. To overcome them, they need to be detected and removed in a timely manner. So, potential problems related with poor Green Light thinking skills included overcoming the fear of looking foolish, an intolerance of ambiguity, a preference for judging ideas rather than generating them, a belief that we are not creative, use of poor creative problem-solving methods, impossibility to reduce stress, laziness, habits syndrome, a functional fixation (how certain element sin the problem are perceived), and the "early bird" syndrome by doing something without considering alternatives [2]. On the other side, poor Red Light thinking skills which could be perceived as obstacles are confirmation bias, lack of motivation, following the rules excessively, a focus on the downside rather than the quality of an idea, an overreliance on logic, lack of consultation, excessive reliance on external resources, overemphasis on either competition or cooperation, emphasis on doing rather than thinking, being critical and negative, and the insecurities of the expert [2].

3.3 Poor management of the creative process

It is related to failing to understand the creative process and its five stages which result with lack of understood which one of the phases of the creative process is responsible for blocking the successful development of the idea—and if so, which one [2]. Some potential examples of poor management of the creative process obstacles are failure to define the problem in an ill-structured situation, not enough time allowed for incubation, failure to recognize and record illuminations, poor technical, professional and presentation skills, etc. [2].

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[1] Green Light thinking refers to presenting all possible solutions without setting boundaries. Known as brainstorming.

[2] Red Light thinking refers to evaluation of each individual solution using clearly set criteria.

3.4 Cultural/socialization problems

These obstacles relate more to our social background and practical needs of education. In that sense, we are more willing to think critically than creatively as we try to harmonize with the environment, which in a way "suffocates" our creative abilities. Likewise, the practical needs of education can contribute to eliminating our talent for fantasy, with its inherent abilities for creativity [2].

3.5 Schedule pressures

Lack of time could be dangerous and disastrous for the development of a creative idea. The rush and need to come up with a quick solution can be counterproductive in campaigns. It is better to let go of an undeveloped idea and dedicate oneself to a safer but less creative way of solving a task than to start something that is not clearly elaborated in the beginning and thus endanger the image of one's own agency, but also of the client.

3.6 Highly competitive environment

One of the obstacles to creativity in public relations may be a fact that a private company is operating in a highly competitive environment. A private company's communication activities may be understood as a commercial campaign and would have limited public relations reach and general appeal. Because it often falls into the trap of being perceived as classic corporate projects that are not attractive to the general public and that do not interact with the general public. On the other hand, this obstacle can also be understood as an incentive because it forces some private companies to think outside the box and develop their creativity in order to cope so successfully with a competitive environment.

Therefore, these are just some of the most common obstacles that arise when developing creative solutions in the public relations industry. Their timely and valid removal increases the chances that the public relations practitioner will be able to develop a creative idea in a good and appropriate way.

4. The case from Croatia: how to make the history of the insurance company "cool"

The central part of this chapter is to present a creative campaign in public relations. It is a campaign that deals with the history of an insurance company from Croatia, and which was presented in an interesting way that ultimately invited citizens to get involved and participate in it. For this reason, the case was divided into several thematic units in order to get a clear picture of the insurance company and how the development of the campaign[3] and ultimately the results.

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[3] Client: Croatia osiguranje/Co-Organizer: Zagreb Tourist Board/Advertising agency/Creative Agency: Bruketa&Zinic&Gray/PR Agency/Creative Agency: Millenium promocija/Spatial Design Agency/ Creative Agency: Brigada/Corporate Communications Director: Predrag Grubic, Adris grupa/Director of Corporate Communications Sector: Maja Weber, Croatia osiguranje/Head of Marketing Communications: Zrinka Jugec, Croatia osiguranje/Deputy Director of Corporate Communications Sector: Paola Poljak, Croatia osiguranje/Corporate Communications: Kristina Miljavac, Adris/Creative Director: Davor Bruketa, Bruketa&Zinic&Gray/Author of the Exhibition Concept: Bozo Skoko, PhD, Millenium promocija/Creative Director: Damjan Geber, Brigada/Client Service Director: Masa Ivanov,

The method used in presenting this chapter is a case study, in which primary and secondary data are collected. Primary data were obtained through interviews with the project actors. On other side, secondary data were collected from already published materials and reconstructed in order to make an analysis of this case study. The secondary data are related to the numerical values of the number of visits to exhibitions, the number of media announcements, their financial value, statistical data that compare the set goals and achieved results, etc.

4.1 Background of Croatia osiguranje

As many as 20 companies operate on the Croatia insurance market, and Croatia osiguranje (CO) is the largest and oldest Croatian insurance company that has been operating since 1884 with the constant goal of protecting Croatian citizens. Together with CO Health Insurance at the end of 2016, it had a 29% market share. In second place was Allianz Zagreb with 12.7%, followed by Euroherc osiguranje with 9.6%, Wiener osiguranje Vienna Insurance Group with 6.8%, Uniqa osiguranje d.d. with 6.6% market share [8].

Due to the specifics of industry and market regulation, there was no significant differentiation according to supply and pricing policy, and competitors' communication was mainly reduced to basic offers of products and services and their benefits, while image campaigns are rare in the market.

Croatia osiguranje's communication efforts were to work on differentiation in relation to the competition and to emphasize its Croatian identity, as well as social responsibility.

Research has shown that Croatia osiguranje has a certain advantage by which it can be differentiated, and that is precisely the long-term sustainability and tradition, which is a particularly important factor in choosing insurance [9].

In 2014, Croatia osiguranje marked 130 years of existence. On this occasion, it planned to launch a communication project, which would mark a significant anniversary in an attractive way, and through which the history, values, and identity of the company would be presented to the public.

An aggravating circumstance was the fact that it is a private company operating in a highly competitive environment, so any communication about its anniversary and market reach would be understood as a commercial campaign and would have limited public relations reach and general appeal.

Moreover, exhibitions organized by companies are often not attractive to the general public and therefore the communication challenge was to avoid the

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Bruketa&Zinic&Gray/Account Executive: Zrinka Pozar, Bruketa&Zinic&Gray/Product Designer: Dominik Cergna, Brigada/Event Manager: Martina Pandzic Skoko, Millenium promocija/Senior PR Consultant: Ivan Pakozdi, Millenium promocija/Junior PR Consultant: Tamara Begic, Millenium promocija/PR Assistant: Ruzica Herceg, Millenium promocija/Media Director: Maja Zrncic, Millenium promocija/Media Planer/Buyer: Ana Simic, Millenium promocija/Online Media Buying: Filip Kunder, mDigital—Millenium promocija/Online Media Buying: Maja Samardzic Gaspar, mDigital—Millenium promocija/Architect: Marina Brletic, Brigada/Account Director: Marija Lukic, Brigada/ Creative Director: Dragan Lakicevic, Bruketa&Zinic&Gray/Art Director: Andrea Knapic, Bruketa&Zinic&Gray/Senior Designer: Nikola Vukalovic, Bruketa&Zinic&Gray/Production Manager: Vesna Durasin, Bruketa&Zinic&Gray/Digital Media Strategist: Iva Bolta, Bruketa&Zinic&Gray/Digital Director: Ivan Kovacevic, Bruketa&Zinic&Gray/PPC Specialist: Dubravka Srkulj, Bruketa&Zinic&Gray/PPC Specialist: Valentino Dujic, Bruketa&Zinic&Gray/Community Manager: Bernarda Amidzic, Bruketa&Zinic&Gray/Head of Digital Production: Vedran Firkelj, Bruketa&Zinic&Gray/Account Director: Svjetlana Vukic, Bruketa&Zinic&Gray.

perception of a classic corporate event and realize an exhibition and campaign that involves the general public through direct interaction with the brand.

Therefore, the communication team focused on the historical development of the company—the political and social specifics of the emergence, development and growth from a local cooperative to the largest insurance company in the region. In the process of research, they came across interesting historical sources about the founding of this society and realized that through the development of the company Croatian history was broken and that it continuously shared the fate of the state, or turbulent history of Central and Southeastern Europe. In fact, the corporate importance of the company outweighed its historical, cultural, and traditional significance for Croatian society.

They wanted to present this untold history in a way adapted to the modern age and the interest of the citizens. They tried to design a project that would show the social role of the corporation, its size, historical significance, and role in the development of the Croatian economy. The result was a multimedia exhibition dedicated to the common history of Croatia and Croatia osiguranje called Croatia is Hrvatska,[4] which was realized in the fall of 2017.

In order to make the exhibition unique and interactive, in addition to the official history of the corporation and the state, they wanted to "tell" another history—a parallel history of visitors and their families, giving them the opportunity to send their own photos to become an integral part of the exhibition. So they reminded us that in this way we do not allow others to write history for us, but "we write our own history."

The Grič tunnel, a former World War II (WWII) shelter under the Zagreb Old Town, was chosen as the exhibition space. The space provided the possibility of setting up a kind of time machine (walks through history), and special emphasis was placed on the selection of exhibits, which were borrowed from about twenty museums and other partner institutions and the design of the exhibition.

So, in order to communicate this market advantage of Croatia osiguranje (rootedness in the local community, long history and social responsibility and strength and tradition), the communication team decided to make an exhibition about 133 years of history that shows the presence and sustainability through social change—world and local wars, and changes in state and social arrangements.

4.2 Idea and creativity

Historical exhibitions are usually related to famous people and events, and in the history of Croatia osiguranje, the biggest role was played by unknown, "ordinary" people. Namely, Croatia osiguranje is the only insurance company in Croatia that have proven that, regardless of what happened, it stands firmly with its insured. For 133 years, it has been going through all the difficulties together with them—world and local wars, changes in state and social systems, a long series of national and personal challenges.

The exhibition is realized by an insurance company whose primary purpose is the protection of citizens. Therefore, the location of the exhibition was an air shelter from the Second World War, that is, the Grič tunnel below the upper town, in

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[4] The title of the exhibition is a play on words, since Croatia and Hrvatska are synonyms (Croatia is the Latinized name of the country, which is used in English, while Croats call their country Hrvatska). The insurance company is therefore named after the Latinized (English) name of the country, so the very title of the exhibition suggests that Croatia and Hrvatska are synonymous, but at the same time speaks of the connection between the state and the insurance company.

which an interactive overview of Croatian history and the history of Croatia osiguranje from 1884 to the present was divided into 13 decades.

Through the media and social networks, citizens are invited to complement their "official" history with their own histories. They were allowed to have stories and photos from their family history, which they posted on social media with the hashtag #PovijestPisemoSami,[5] become part of a physical exhibition in the tunnel in real time. As the photos were constantly arriving, the setting itself changed and the exhibition grew until the last day.

The exhibition was marked by various multimedia, digital, and interactive contents—screens, projections, music adapted to each decade, and the space of the tunnel is completely dedicated to visual and sensory installations. Some of them are installations inspired by the work of the great inventor originally from Croatia Nikola Tesla as an adaptation of his coil that produces music, creating a human chain that closes the circuit and turns on the lights, showing the tunnel during World War II where the first Croatian feature film was shown – Lisinski. A unique experience of passing through the rain in the tunnel itself, which symbolizes the "purgatory" of wartime and entering a new era, dances from the 1950s and 1960s, as well as certain places for photography with legends of the Croatian music scene and popular animated character Baltazar.

That is why this is not an ordinary presentation of important events and historical figures, but an interactive timeline that citizens filled through social networks with their family histories. Croatia was primarily interested in the citizens and their destinies. This exhibition served as proof that no matter what happened, the largest and oldest Croatian insurance company always stands by its citizens.

4.3 Strategy

At first glance, all insurance companies in Croatia do look the same. But Croatia osiguranje is the only one that went successfully through 133 years of turbulent Croatian history. By doing so, Croatia osiguranje proved to be the only insurance company that you can count on both in good and, more importantly, bad times. And what good is insurance when everything is going smoothly?

To showcase that Croatia osiguranje can survive everything and still come through for its citizens, communication team not only created an exhibition showing 133 years of national and Croatia osiguranje history intertwined but also left gaps in-between and invited "ordinary" people to fill them with their personal stories. Family pictures were displayed side by side with "great" events from Croatia's turbulent past. The exhibition took place in a WWII shelter and was designed as a linear walk through time that combined three main parts – historic events, family stories which added emotional context to them, and Croatia osiguranje's role in both of them. Pictures of their own ancestries gave visitors the opportunity to experience the importance of having insurance by your side when times get tough. It also included interactive Tesla's experiments, a dark rainy hall depicting WWII and the "Future Wall" where visitors could display in real time their wishes for the years to come.

The strategy was centered round digital media. They were used to raise awareness about the exhibition itself, incentivize people to go and see the tunnel and engage users to take an active part in the exhibition's layout by posting their own photographs from the past on their own social media profiles with the hashtag #PovijestPisemoSami and a short caption.

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[5] English translation: #WeWriteOurOwnHistory.

4.4 A target audience

Considering the range of products that Croatia osiguranje offers, the target audiences are residents of all ages and income as current customers, potential customers, or those who have an impact on the purchase of insurance on potential customers. The target group was therefore divided into primary and secondary.

The primary target group consisted of young and middle-aged people (35–49), employed, highly educated, those living in families with average and above-average household incomes. The secondary target group consisted of people aged 25–55 who have at least one insurance, employees, and retirees with an average household income.

The project was also intended for foreign tourists visiting Zagreb in order to let them know Croatian history in an attractive way and to perceive the greatest Croatian insurance.

4.5 Communication channels and communication goals

Along with strong public relations, all media from TV, print, OOH posters, and digital channels were used in communication, and the ATL campaign developed in two head phases:

- Part 1—invitation to the exhibition

- Part 2—emphasis on activation and the concept of #WeWriteOurOwnHistory

Digital media formed the backbone of the strategy because communication team raised awareness about the exhibition, motivated people to visit the tunnel and invited users to participate in the exhibition by posting their historical photos on their own social media profile with the hashtag #PovijestPisemoSami and a short description.

The campaign lasted 7 weeks, with a budget of approx. 17,300 € which was divided into Facebook (15%), Instagram (8%), Google (11%), and Twitter (6%), and direct lease of media space on top portals (60%). Through the digital campaign, content was placed in order to intrigue and motivate users to participate in the exhibition setup and become brand ambassadors. The target group was all internet users, and the way of targeting was adjusted to the results in real time.

For the launch of the campaign, a generic creative was created in the form of raising awareness of the event itself. Over the next 7 weeks, in order to optimize the campaign and achieve the best possible result, and based on the insights from the campaign results, new creative solutions were prepared each week for different digital channels, tailored to its individual laws. Historical photographs of users filled the exhibition on a daily basis, and became a content generator for further online and offline communication.

Unlike the usual structure of image campaigns that usually have television as the central communication channel, here all channels lead to a physical experience with an otherwise intangible brand.

As, it was mentioned earlier in the text, digital media formed the backbone of the strategy because through them communication team raised awareness about the exhibition itself, motivated people to visit the tunnel and invited users to participate in the exhibition setup.

The task was to showcase 133 years of the activity of Croatia osiguranje in a creative and appealing way. The tunnel bellow Zagreb was turned into a multi-media project that is an exhibition spanning 13 decades characterized by interesting

events, people, and items from a specific historical period. Its specificity was allowing citizens to actively engage in compositing its layout over digital channels changing it on a daily basis and embedding bits and pieces from their own past. The project was foreseen as a historical account accommodating each and every one of us.

Or to present communication goals more specifically and precisely, then these would be the following goals:

- During the 45 days of the exhibition, position Croatia osiguranje as a socially responsible company that has been in the service of the development of the Croatian economy since its establishment and which represents a significant part of Croatian heritage and national identity.

- During the 45 days of the exhibition, attract a minimum of 30,000 visitors and "educate" them about Croatian history and the role of the Croatia osiguranje in this historical development.

    ○ The client did not measure the brand value immediately after the campaign, but the number of visitors (30,000) was set as a measurable goal. Attendance at exhibitions in Zagreb in previous years was taken as a benchmark:

        a. *Exhibition Joan Miró*—35,000 visitors in 129 days in the period from 2.10.2014.-8.2.2015. (Source: Art Pavilion in Zagreb[6])

        b. *Exhibition Auguste Rodin*—38,000 visitors in 138 days in the period from 5.5.2015.-20.9.2015. (Source: Art Pavilion in Zagreb[7])

        c. *Exhibition Alberto Giacometti*—37,000 visitors in 109 days in the period from 21.9.2016.-8.1.2017. (Source: Art Pavilion in Zagreb[8])

        d. *Pablo Picasso exhibition*—130,000 visitors in 106 days in the period March 23, 2013—July 7, 2013 (Source: Klovićevi dvori Gallery[9]).

- Position the exhibition as a cultural project that is not of a corporate nature and ensure that in at least 70% of media publications the exhibition is characterized as a multimedia-interactive project of an educational nature.

- Using various communication channels to reach as large a part of the population in Croatia as possible (51% on TV, 25% in print, and 1.5 million impressions on digital citylights).

- Inform citizens about the possibility of participating in the exhibition and ensure that they participate in a period of 45 days with a minimum of 2000 of their own photographs in the creation of the exhibition.

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[6] These data are not made public but were obtained upon request from the source.
[7] ibid.
[8] ibid.
[9] ibid.

- Increase online engagement of users on social networks of Croatia osiguranje by 100%. The goal was set with regard to the planned activities on digital channels and the expected engagement of citizens. In the period of 10 months before the exhibition, user engagement was 3% (Source: Facebook Insights[10]).

- Value of public relations effect—200,000 €. Considering the investment in media advertising (80,000 €), the return through media impressions is expected to be 2.5–3 times higher.

- The agency's task was to increase brand awareness, generate buzz and incentivize social media engagement.

4.6 Implementation of public relations of the project

Implementation of public relations of the project involved the following steps:

In the preparatory communication campaign (August 26–September 10, 2017), the goal was to interest the public in Croatian history and the history of the Croatia osiguranje through a series of thematic stories. It was mainly communicated through print media and portals.

In the second phase (September 10–October 1, 2017), historical themes were replaced by stories about the individual attractions of the exhibition. In this phase, a press conference was organized in the most attractive part of the tunnel, to which 24 media responded, and an insight into some of the attractions of the exhibition additionally contributed to strengthening the interests of citizens.

Additional interest was stimulated by the grand opening of the exhibition for 200 VIP guests and more than 20 local and national media. At this stage, communication on social networks began.

During the exhibition, interesting facts about the exhibition were continuously presented, and influencers were introduced into communication who, through their family memories, additionally invited citizens to visit through social networks. An important communication element was live television coverage from the scene.

In the last phase (October 1–November 1, 2017), the emphasis was placed on the concept of #PovijestPisemoSami, which involved the involvement of citizens by posting their own historical photos on social networks with the appropriate hashtag and short description. Each week, a series of received photographs would be selected to be printed and fitted into the exhibition. Post-festum communication activities referred to the communication of the results achieved by the exhibition and the international awards it received.

4.7 Evaluation

The exhibition "Croatia is Hrvatska—We write our own history" was the most visited exhibition in Croatia in 2017. This is a good indication that the exhibition was not perceived as a classic corporate event but really aroused great interest.

The number of exhibition visits exceeded the target by 243%, and thus all expectations. People came to the exhibition and spent an average of 30 minutes interacting with the brand. Namely, during 45 days, the exhibition was visited by 103,000 people (the previous goal was 30,000). Furthermore, the value of public relations performance was approx. 705,845 € value of unpaid media [10], which exceeded the target by 252%. Some of the headlines that have garnered so many

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[10] ibid.
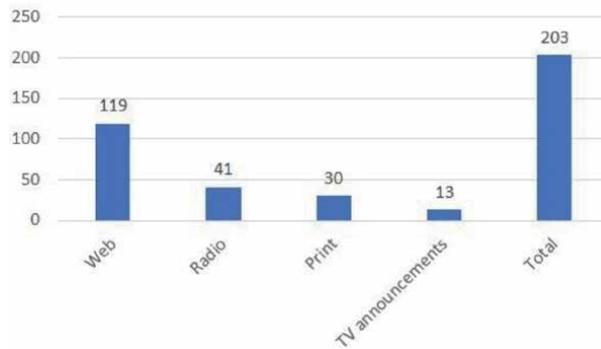
Figure 1.
Media announcements during the 2 months.

media impressions can be described with following words: "it as a unique cultural project," "an interactive exhibition of turbulent history," "an exhibition we created ourselves," and "an exhibition with excellent results."

Thanks to the work of public relations, a huge media interest has been achieved. During the 2 months, 203 media announcements were made (119 web, 41 radio, 30 print, and 13 TV announcements) and in more than 70% of announcements the corporate character of the exhibition was not emphasized, but its cultural contribution was emphasized (**Figure 1**).

A total of 118 different media reported on the exhibition, in 190 publications it appeared as the main subject, while in 99% the publications were positive. The exhibition ensured the favor of the cultural public and numerous positive reviews and comments from the leading media, which characterized the exhibition as one of the most attractive and production-challenging exhibitions ever held in Zagreb.

Talking about online engagement, the target was exceeded by 266%, that is, in the campaign period the engagement of users on social networks was 11%. Such a result was achieved given the reach of 791,833 unique users reached by the message through all online contact points, and direct engagement of citizens was achieved with used #PovijestPisemoSami by sending 5370 personal historical photos and sharing impressions of the exhibition. Numerous citizens also showed great interest in positive reactions on social networks, where they achieved over 616,314 interactions. Namely, brand awareness amounted to about 500,000 users, which achieved 300% higher results (**Table 1**).

The exhibition exceeded all set goals and won the "Event of the Year 2017" award, awarded by the regional professional magazine Media Marketing. Also, the

	Set communication goals	Achieved communication goals
Number of visitors	30,000	103,000
Number of media announcements	100	203
Percentage of positive media announcements	75%	99%
Value of public relations effect (EUR)	200,000 €	705,845 €
Direct engagement of citizens by sending personal historical photos	2000	5370
Online engagement	200,000	791,833

Table 1.
Set and achieved communication goals.

exhibition has won numerous other awards in the field of communications as such as Effie, Red Dot, MIXX Europe, Strategy Slam, MIXX Hrvatska, SoMo Borac, BalCannes Top 25, IIDA Global Excellence Award. The exhibition achieved additional recognition by winning awards in the field of design and architecture as such as IIDA (International Interior Design Asociation)—Fair and Exhibition, German Design Award—Excellent Communications Design: Fair and Exhibition, Red Dot— Exhibition Design, etc.

5. Conclusion

Public relations as a complex domain demands multiple skills from public relations practitioners and those skills include creativity because it often plays an important part in public relations campaigns [3]. Creativity in public relations campaigns can be viewed as a well-told story. The well-told story is the result not only of a detailed strategy and listening to the needs of the audience but also of providing a unique experience that arouses the interest and desire for more.

However, in order for a story to be well told or creative, it requires it to go through a complex process during which it often encounters various obstacles. The case of Croatia osiguranje shows us how the main threat to the development of this campaign was detected in time so that the potential threat actually became an opportunity to develop an even more creative idea.

Public relations practitioners at the time detected the company's highly competitive environment and a danger of the campaign for being perceived too commercially and without the desired public reach. Thinking outside the box by public relations experts who worked on the 133rd anniversary promotion campaign assured in the end a unique exhibition that brought Croatian history closer to citizens and tourists in an interesting way, and the positioning of the company in that history. The exhibition allowed visitors to participate in creating exhibits with personal stories. The corporate project is perceived as both cultural and educational. A large team of creatives, historians, and museum experts worked on the exhibition for several years and it contained numerous attractive museum exhibits, multimedia displays of artifacts, legendary musical numbers, and numerous interactive points. The main attraction was the "rain hall," the central hall of the tunnel in which artificial rain was falling all the time, on the drops of which the holograms of famous Zagreb historical figures were outlined. And visitors had to borrow an umbrella with the insurance company logo at the entrance to it.

The production-demanding project has successfully combined culture and science, economy, tourism, and modern technologies and has shown that it is possible to interest and activate the public through a creative presentation of historical content. The exhibition was the result of a synergy of different communication experts and approaches and excellent cooperation of agencies.

In conclusion, more than 103,000 people came to see the exhibition in person and 5370 displayed their stories. With a media budget of 80,000 €, it earned 5,293,842 free media impressions and notified 616,314 reactions on social media. The message was clear, that is, there is only one insurance in Croatia on which people can always count on. And that made all the difference. Croatia osiguranje ended up being the leading insurance company in Croatia in all market segments. This creative campaign shows us the fundamental purpose of public relations, and it is about building relationships between public and organization. Finally, the exhibition was the result of a synergy of different communication experts and approaches and excellent cooperation of agencies.

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Assessing Creativity and Innovation in Islam

Cameron Iqbal

Abstract

The purpose of this study is to understand how Islam assesses creativity—specifically, to determine if an Islamic framework for assessing creativity can be identified. Islam does not provide a framework for assessing creativity, but Islamic scholars continue to assess creativity in the absence of this framework. This study was conducted with the assistance of seven informants from seven leading Islamic traditions based in the UK. Each informant provided a unique insight into their understanding and interpretations of Islamic scriptures and texts in relation to creativity and to determine how creativity in Islam is assessed.

Keywords: Islam, tolerance, creativity and identity

1. Introduction

The purpose of this study is to understand how Islam assesses creativity—specifically, to determine if an Islamic framework for assessing creativity can be identified. Islam does not provide a framework for assessing creativity, yet Islamic scholars assess creativity. The research question is: How is creativity assessed in Islam?

Prior to this study, there has been research conducted examining how creativity is effective in Islam [1]. However, that research did not focus on how Islam assesses creativity. It does not look at the required support of *ulemas* and the application of Islamic reasoning to determine effective and approved creativity in Islam. It also does not examine how creativity is rejected in Islam. The need for this study was due to gaps in other studies. This study will explore the stage of Islamic creative thinking, legal reasoning, and deductive reasoning in Islam, creating a creative framework that has not yet been established.

This study was conducted with the assistance of seven informants from seven leading Islamic traditions based in the UK. Each informant provided unique insight into their understanding and interpretations of Islamic scriptures and texts in relation to creativity and its assessment. This study demonstrates how perceptions and practices of differing Islamic traditions compare with each other.[1]

The uniqueness of creativity research in Islam is the explorative nature of this research lends itself to qualitative study such as religious ethnography and discourse analysis will form two key approaches [2]. Religious ethnography will assist in eliciting responses from each informant, and discourse analysis will be used to identify different perspectives [3].

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[1] There are approximately seventy-two different Islamic followings and traditions, all with different interpretations of the Quran, Sunnah, and the Ahadith.

2. Objective

The objectives are:

a. To understand if Islam promotes or limits creativity in its followers;

b. To understand if it is the differing interpretation of the sacred scriptures and laws in Islam that is restricting creativity among its followers;

c. To understand the application of *Quran* to the assessment of creativity;

d. To understand the application of *Ahadith* to the assessment of creativity;

e. To understand the application of *Sunnah* to the assessment of creativity;

f. To understand the application of *Shariah Law* to the assessment of creativity;

g. To produce a framework for measuring creativity in Islam; and

h. To establish the extent to which the framework will assist differing interpretations and Islamic traditions in producing new creative ideas in Islam.

3. Literature review

3.1 Creativity and innovation: The Quran (recitation)

Islam came at a time when there was prevalent ignorance in pre-Islamic Arabia. The Quran guided Muslims to be creative and to use their creativity for the benefit of humanity and in accordance with Sharia law and Islamic principles [4]. The Quran promoted creativity by providing examples of creativity to inspire and make Muslims understand in a greater depth. The Quran created a system that allowed Muslims to become focused with helping people and societies by being inventors of new theories and ideas. Science, math, biology, languages, culture, geography, psychology, sociology, algorithms, and many other areas began to take shape, assisting and creating new building blocks that lead to the great Islamic civilisations that followed.

Allah is the Creator of the universe; therefore, a question sometimes arises about whether the phrase "to create" or the Arabic word "*khalq*" should be used to refer to human beings as creators. It is a consensus (*ijma*) among scholars that Allah is the Creator of all creation but it is sometimes debated that can Muslims or people be referred to as a creator? However, the Quran uses the word "*khalq*" when addressing and referring to the people; it states, "You only worship idols besides Allah and you create (*khalq*) a lie." [5] This lends assists te premise that the Arabic word "*khalq*" can be used to refer to human invention and creativity as Allah has used it to highlight the lies created[2] [6].

The Quran is seen as a creative miracle, as it holds accounts of the past and the future and cannot be duplicated by human beings. Allah, knowing this, provides three creative challenges to all of creation, including Muslims, to display creative

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[2] Another example, where Allah describes His creativity and also identifies creativity of the people in the Quran, is in the verse: "Then We made the seed a clot, then We made the clot a lump of flesh, then We made (in) the lump of flesh bones, then We clothed the bones with flesh, then We caused it to grow into another creation, so blessed be Allah, the best of the creators" [6].

intellect. In the first challenge, He states, "Say: 'If all mankind and the *jinn* would come together to produce the like of this Quran, they could not produce it's like even though they exerted all and their strength in aiding one another.'" [7] Knowing that they have failed in their creativity, He challenges them again to become creative by issuing a second challenge. He states, "Or do they say that he has invented it? Say (to them), 'Bring ten invented chapters like it, and call (for help) on whomever you can besides God, if you are truthful.'" [8] When the humans and the *jinn* are unable to successfully provide ten chapters, Allah further challenges them, lowering the degree of the challenge to a single chapter. He states, "And if you all are in doubt about what I have revealed to My servant, bring a single chapter like it, and call your witnesses besides God if you are truthful" [9]. Allah in His three challenges challenged the whole of creation to create a chapter as He has done in the Quran. Allah's challenge was also for those that spoke Arabic eloquently; they too were unable to successfully produce a chapter like that in the Quran. This is an example of Islam promoting creativity and asking people to become innovators, even asking the whole of creation to challenge Islam together. This challenge threatens the very fabric of Islamic existence but remains open to the whole mankind to participate in it.

3.2 Creativity and innovation: the Sunnah of prophet Muhammad (pbuH)

Prophet Muhammad (pbuH) understood that all answers can be obtained from the Quran and that if any matters that required clarification then Muslims could go to Islamic scholars who are learned in the Quran, Ahadith, and Sunnah. The Prophet (pbuH) required Muslims to be learned and acquire knowledge throughout their lifetime. It is important to explain that many sects—including Salafi, Deobandi, and Wahabi—do not believe in Ahadith and Sunnah but rely solely on the Quran. They believe that any individual can translate the Quran. The Sunni, Sufi, Shia, and Berelvi sects believe the contrary. Such debates have led to segregation between the sects, causing difficulties for dialogue and rapport[3] [10].

In relation to the Sunnah, the Quran states, "Your companion (Muhammad) is neither astray nor being misled. Nor does he speak of his own desire. It is (only) the revelation with which he is inspired" [11]. Therefore Muslims are required to believe that the Quran and Sunnah go hand in hand together as their sources of legislated law. The confusion between the sects' relation to Ahadith and Sunnah is just a misunderstanding.

To understand the importance of knowledge in Islam from which creativity is derived, it is important to examine the first revelation to Prophet (pbuH) which was: "Read in the name of your Lord Who created. He created man from a clot. Read and your Lord is Most Honorable, Who taught (to write) with the pen. Taught man what he knew not" [12].

This is a very important revelation as the first revelation in Islam is asking the Prophet (pbuH) to read. For humans, reading is an essential tool to understanding which to gain knowledge leading to new ideas and creativity. Allah is then saying, "He created man from a clot;" "Who taught (to write) with the pen" and "Taught man what he knew not." This is important, as Allah is telling the Prophet (pbuH) His creative nature. He is telling the Prophet (pbuH) that He taught man

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[3] For example, the Prophet (pbuH) states, "O Abu Huraira! I have thought that none will ask me about it before you as I know your longing for the (learning of) Ahadith" [10]. It was reported in the same hadith that Umar bin Abdul Aziz wrote to Abu Bakr bin Hazm, who stated, "Look for the knowledge of hadith and get it written, as I am afraid that religious knowledge will vanish and the religious learned men will pass away (die)" [10].

and provided knowledge and creativity to man as "pen" is a creative idea, another example of Islam promoting creativity.

The Prophet (pbuH) wanted Muslims to gain knowledge, and through knowledge Muslims would obtain a creative imagination (*khayal*), for the betterment of society. A Muslim imagination cannot become an automatic creation; therefore, creative ideas are within the confinement of Islam even at the very beginning. The Quran states, "Allah will raise in rank those of you who believe and those who have been given knowledge" [13]. The only source that can answer a question is the Prophet (pbuH), whose statements and practices have been recorded in the Ahadith and Sunnah. The Prophet (pbuH) said, "The seeking of knowledge is obligatory for every Muslim" [14]. The Prophet (pbuH) also said, "One who treads a path in search of knowledge has his path to Paradise made easy by God" [15, 16]. The Prophet (pbuH) is clearly indicating that knowledge is important for Muslims and is telling them that if they go in search of knowledge then their path to paradise will be made easy.

3.3 Bida'h, Ijtihad, and Ijma

Muslims have been faced with great difficulties due to religious interpretations of the terms *bid'ah* (innovation), *ijtihad* (critical legal thinking), *kufr* (disbelief or denial), and *shirk* (avoid or neglect in the Oneness of Allah). Each will be examined in turn.

3.4 "Bid'ah" (innovation)

The word *bid'ah* has two meanings: the act of creating something new and the act of innovating. When *bid'ah* is used to counter creativity and innovation, the famous Ahadith is used to back up the argument opposing creativity: "Every *bid'ah* is misguidance and every path of misguidance goes to hell" [17]. To take this Hadith literally, it can be said that Prophet (pbuH) opposed all forms of *bid'ah*. However, the Prophet (pbuH) states, "If somebody innovates something which is not in harmony with the principles of our religion, that thing is rejected" [18]. Therefore, the Prophet (pbuH) permitted *bid'ah* and only opposed it when it was not in harmony with Islam. Furthermore, this Hadith confirms that introduction of new innovations or ideas are welcomed if they conform to Islam.

The Prophet (pbuH) further states: "He who introduced some good practice in Islam which was followed after him (by people) he would be assured of reward like one who followed it, without their rewards being diminished in any respect. And he who introduced some evil practice in Islam which had been followed subsequently (by others), he would be required to bear the burden like that of one who followed this (evil practice) without theirs being diminished in any respect" [19]. If a Muslim introduces a new practice or a good practice, then he will be rewarded for it. This Hadith is promoting creativity and innovation.

Allah states, "And whoever opposes the Messenger after guidance has become clear to him and follows other than the way of the believers. We will give him what he has taken and drive him into Hell, and evil it is as a destination" [20]. Allah is giving a warning that if any believer separates from the Prophet (pbuH) guidance, which includes the Prophet (pbuH)'s guidance on *bid'ah*, then his abode will be hell[4] [21].

The Prophet (pbuH) states, "The best speech is that which is embodied in the Book of Allah, the Al Quran; and the best guidance is the guidance given by me, Mohamed. The most evil affairs are the innovations (*bid'ah*), and every innovation

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[4] Allah further clarifies that believing in Allah and not in the guidance of the Prophet (pbuH) is the same as disbelieving everything.

(*bid'ah*) is an error" [22–26]. The reference to *bid'ah* here is relating to the creation of statements that oppose what has already been clarified in the Quran and explained by the Prophet (pbuH). It is therefore permissible to innovate that which benefits the religion and that which complies with Sharia law. This is where confusion stems between Muslims[5] [19].

3.5 "Ijtihad" (critical legal thinking)

Ijtihad is a wide topic; for the purpose of this study, it will only relate to innovation (*bid'ah*). The term *ijtihad* is derived from the word "*juhd*," which means to "endeavour" or "attempt" to achieve *zann* (presumption) regarding *hukm* (law) of Sharia law [27]. *Ijtihad* is used by Ulema when Muslims presume that an argument (*dalil*) is based on Sharia law or if they believe it may not be. Islam does not allow the reliance on presumption or conjecture but rather requires reason and evidence, as the Quran states, "O you who have believed, avoid much [negative] assumption (*zann*)" [28]. It further states, "And most of them follow not except assumption. Indeed, assumption avails not against the truth at all. Indeed, Allah is Knowing of what they do" [29]. Therefore, *hukm* (laws) can only be validated if they are certain in their arguments and methods and can have the backing of Sharia law; otherwise, they are deemed not permissible.

Ijtihad is similar to another creative process of thinking; namely, *qiyas* [30]. This is a process of analogical reasoning whereby the Quran, the Sunnah, and Hadith may be used to solve or provide a creative solution to a new problem. *Ijtihad* or even *qiyas* may be used as arguments in favour of innovation and opposing the concepts behind *bid'ah*, but this would require an Islamic scholarly consensus (*ijma*).

3.6 Ijma (consensus)

The Arabic term "*ijma*" refers to a consensus between Muslims on a particular topic. Muslim scholars to uphold the validity of *ijma* cite the following Hadith from the Prophet (pbuH): "Allah will never allow my Ummah to unite upon misguidance and incorrect beliefs" [31].

3.7 Sharia law and creative thinking

Muslims have been faced with great difficulties due to religious interpretations of the terms *bid'ah* (innovation), *ijtihad* (critical legal thinking), *kufr* (disbelief or denial), and *shirk* (avoid or neglect in the Oneness of Allah) when addressing the topic of creativity or innovation. These interpretations prevent an open dialogue about creativity in the Islamic world. The importance of Quranic exegesis, Hadith, and jurisprudence (*fiqh*) are important when addressing Sharia law, but for any argument to be valid in Islam it must have the backing of and be compliant with Sharia law and Sunnah, or the interpretation has no validity.

3.8 Islamic sharia

Sharia law refers to sacred laws in Islam. Sharia law is a concept of rule of law that applies to the whole of the *ummah* (brotherhood of Islam), covering family

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[5] *Bid'ah* only has legal standing if it complies with Sharia law and the Sunnah of the Prophet (pbuH). *Bid'ah* is used as a as a tool to prevent free thinking of ideas which affects and withers away the critical legal thinking (*ijtihad*) process of the Muslims due to the substantial opposition to those that commit good *bid'ah*.

disputes, neighbours, business, finance, war, the community, and many other areas. Muslims are to adhere to and are subject to the punishments of Sharia law should a violation of Sharia law be committed. Non-Muslims are not subject to Sharia law or punishments.

The primary objective of Sharia law is *rahmah* (mercy). We have already examined how Quran and Sunnah are intertwined with one another. Allah states, "And We have not sent you, [O Muhammad], except as a mercy to the worlds." [32]. The Prophet (pbuH) states, "Those who are merciful will be shown mercy by the Most Merciful. Be merciful to those on the earth and the One above the heavens will have mercy upon you" [33]. Allah and the Prophet (pbuH) have clearly defined the need for mercy and the Islamic scholars (*ulemas*) have agreed (*ijma*) that *rahmah* (mercy) is the objective of Sharia law.

To obtain an Islamic ruling in Sharia law, an examination takes place by the *ulema* against *al-ʾaḥkām al-khamsa* (the five statuses), which form part of *fiqh* (jurisprudence), when deciding a particular matter. They are as follows.

1. Recommended (*mandub*) ruling: a Muslim is not punished for not doing something recommended but is rewarded if he does do it;

2. Obligatory (*wajib/fard*) ruling: a Muslim is obligated to do something, does not do it, and is punished in the next life for not doing it;

3. Offensive/disliked (*makruh*) ruling: where a act is offensive/disliked and required not to be carried out;

4. Unlawful (*haram*) ruling: a Muslim does an act which is forbidden by Allah and therefore will be punished in this world and in the hereafter; and

5. Permissible (*mubah*) ruling: the Muslim is neither forbidden nor recommended to do something.. In Islamic jurisprudence this stage is used as an approval (*ahkam*) for matters that are not forbidden nor recommended in Islam, therefore it is a choice.

Sharia law plays an integral part in determining if issues or matters fall into the *al-ʾaḥkām al-khamsa* and if they are approved by Sunnah. To determine if creativity, innovation (*bid'ah*), or *al-tafkir al-ibda'l* (creative thinking) are compliant with Sharia law, a ruling would have to be provided in any of the above five statuses.

4. Methodology

4.1 Data collection and methodologies

Religious ethnography will be used in this research to examine the responses [34] of seven informants belonging to seven separate traditions of opposing Islamic thinking and interpretations. It focuses on the religious believer, what he has been taught, the spiritual connection, his connection with the religious scriptures and texts and his ability to interpret them.

In-depth interviews are a method of collecting data from informants which will allow the identification of knowledge and processes of interpretation which are often invisible when they are embedded within a cohesive religious belief like Islam. The interviews provides the opportunity to find out the informants responses to

questions making it easier to ask more complex questions and follow-up questions leading to a stronger interview and the ability to compare answers.

Currently, there are seventy-two different interpretations of the Quran therefore a strong possibility that there are seventy-two different definitions of Islamic creativity. Religious ethnography enables the researcher to make explicit the tacit and differing interpretations of Islamic creativity that would be difficult to elicit from reading scriptures and religious texts.

4.2 Interviews

There will be face-to-face and one-to-one interaction between the researcher and the Informants which will be audio taped. The researcher will have the audio data transcribed and placed in a document clearly demonstrating each Informant's response to each question. Using these complete texts, interpretative methodology derived from religious ethnography and discourse analysis will be undertaken to examine the language used or what the Informant or traditions accomplishes using such language.

Using complete texts from the recorded interviews and incorporating interpretative methodology derived from religious ethnography, discourse analysis will be used to examine the language used or what the Informant or faction accomplishes using this language [34]. This will allow the study to examine the responses of the informants allowing the researcher to apply the responses by identifying relationships within the data via a Grounded Theory approach to discover a new theory or framework to Islamic creativity. This is a unique study; therefore, the chance of this research or data replicating any prior theory is minimal, as no such theory exists [35].

4.3 Observation of informants

The study is likely to employ additional ethnographic tools of inquiry such as observation and examination of relevant document to aid the interpretation of the Informant's discourses; determine the informant's nuances of the moment; the informants strategy in maintaining and managing involvement when interacting with the researcher, at the time of recording of the interviews; how meaning is constructed; the context (e.g. situational and background knowledge), and the researcher's own interpretation and observations [2].

4.4 Review of documents

The study examines the *Quran, Sunnah, Ahadith* and *Shariah Law* to determine how Islam assesses creativity and how the informants interpret such scriptures and texts.

4.5 Sampling criteria

The sampling criteria used to identify and recruit the Informants is as follows:

1. at least 2 years' experience as a qualified Islamic Scholar; and

2. understanding in Islamic *Tafsir* [36] ('interpretation' of the Quran); and

3. understanding in *Ahadith* ('sayings of the Prophet pbuh'); and

4. understanding in *Fiqh* [37] ('Islamic Jurisprudence and Islamic Law); and

5. provide sermons to the Muslim community and/or lead a congregation; and

6. understanding in *Sunnah* ('practices of the Prophet pbuh').

 The Informants will belong to the following seven traditions:

1. Sunni;

2. Shia;

3. Wahabi;

4. Salafi;

5. Barelvi;

6. Sufi

7. Deobandi

4.6 Data analysis

   Upon collecting the qualitative data (via interviews and observations), data analysis will be used to uncover a more interpretive analysis to examine the responses provided by the informants. The responses will then be categorised and indexed to highlight important features, patterns and similarities. The research will explore patterns and link similar responses to construct a theory that establishes an Islamic Creativity Framework.
   A Grounded Theory will then be used to look for relationships within the data which may lead to establishing a creative framework [38].

4.7 Questions to ask informants

   The Informants are located in their respective Mosques and establishments in the UK, and their research interviews will be based around the following semi-structured questions:

1. In Islam, what is creativity?

2. Do different traditions have different perceptions on creativity in Islam?

3. Does Islam promote creativity?

4. How do you view creativity?

5. Does Islam limit creativity?

6. Does Islamic Law block the expansion of creativity in Islam due to its stringent rules on ethics?

7. Do you believe Islam should have a greater contribution to creativity?

8. What is the process of determining creativity in Islam in the absence of any guidelines that one can follow?

9. What would you say has been the biggest prevention in the rise of Islamic creativity?

Interviews will be conducted in Urdu, Punjabi, English or Arabic. Materials used to gather research will be a digital voice recorder along with two microphones for better voice quality.

Discourse analysis will examine how meaning is constructed and the power of Islamic interpretation that limits or expands Islamic creativity in society. Qualitative methodology will assist by categorising responses into patterns making it easier to organise and report results. The emphasis of a qualitative approach using ethnographic tools of inquiry is on context (e.g. situational and background knowledge context) and the researcher's interpretation of the context observed. The approach aims to gain contextualised and naturalistic data for analysis.

5. Analysis and interpretation

This study examined how Islam assesses creativity. Seven interviews were carried out with *ulemas* from seven different sects: Imam Nasar (Sunni), Imam Alvi (Shia), Imam Chisti (Barelvi), Imam Rasab (Sufi), Imam Dawud (Salafi), Imam Younas (Wahabi), and Imam Huzayf (Deobandi). The themes the study examined are:

1. What creativity (*bid'ah*) is in Islam;

2. Differing perceptions of creativity in Islam;

3. Islam promoting creativity;

4. Islam limiting creativity;

5. Sharia law and creativity in Islam; and

6. Mechanisms needed to assess creativity in Islam.

5.1 What creativity ("Bid'ah") is in Islam

Islam is a religion that was revealed to Prophet Muhammad (pbuH) and that incentivises the seeking of any knowledge for its believers.[6] It is important to note that Islam views knowledge as a base of human intelligence and creativity as a branch of that intelligence. Therefore, when Islam refers to knowledge it is sometimes referring to creativity too. Islam provides rewards in the hereafter to Muslims for any knowledge gained in this world. Islam also incentivises the thought process of creativity, the journey and the destination of accumulating knowledge and creativity, and those rewards are rewarded separately at each stage. Islam makes it lucrative for Muslims to seek any knowledge, and as the Prophet (pbuH) states, "The best of people are those

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[6] The Prophet (pbuH) states, "If anyone acquires knowledge of things by which Allah's good pleasure is sought, but acquires it only to get some worldly advantage, he will not experience the arf, i.e. the odour, of Paradise." [16, 19]

that bring most benefit to the rest of mankind"[7] [40]. Islam uses itself as a mechanism, providing a platform to Muslims to bounce ideas by using the Quran in which Allah openly challenges mankind to do better than what He has done.[8]

Islam places great importance on creativity and innovation to create an *ummatan wasatan*, a "Middle Ummah" and a balanced society that avoids extravagance. Islam requires its followers to be moderate in belief (*aqidah*), in acts of worship (*ibadah*), in their understanding of Islamic law (Sharia law), and in morals and manners (*akhlaq*). Being moderate will allow Muslims to see both the liberal side of society and the extreme side of society, making it a fair religion that is able to view the whole of society. Therefore, its creativity will then assist the whole of society.

The interviews indicate that all informants understood what *bid'ah* meant in Islam. Imam Nasar (Sunni) explained that the definition of *bid'ah* means to create and that Islam is not against *bid'ah*. Imam Alvi (Shia) highlighted that even though *bid'ah* has controversy surrounding it, it does not mean it does not exist in Islam. He indicated that Muslims are not implementing *bid'ah*. Imam Chisti (Barelvi) interpreted the word *bid'ah* to come from the word *badah*, which means something new in Islam. Imam Rasab (Sufi), like Imam Chisti (Barelvi), explained that it is something new. Imam Dawud (Salafi) provided his interpretation of *bid'ah*, which is what was accepted at the time of the Prophet (pbuH). He explained that there is good *bid'ah* and bad *bid'ah*. Imam Younas (Wahabi) explained that it is something new to Islam and Imam Huzayf (Deobandi) described *bid'ah* as something not at the time of the Prophet (pbuH). The responses of Imam Dawud (Salafi) and Imam Huzayf (Deobandi) placed a negative outlook upon their understanding of *bid'ah*, as things have changed since the time of the Prophet (pbuH).

5.2 Islam promoting creativity

Imam Nasar (Sunni) explained that Islam does promote creativity, but only that which is not against Islam. He provided an example that the translation of the Quran was a new creative idea after the demise of the Prophet (pbuH). He stated that this benefits people and does not go against Islam. He also stated that some technologies that benefit people are allowed under Islam. Imam Alvi (Shia) agreed that Islam promotes creativity. He explained that Islam has asked Muslims to obtain knowledge even if they must go to China. He explained that the word "China" was never said by the Prophet (pbuH) but as knowledge was so important people just accepted that He (pbuH) may have said it. He described that currently people may feel that to be creative one must obtain Western knowledge or knowledge from people that follow a religion other than Islam. He also responded that Muslims have a right over knowledge and should go where knowledge is, even to other religions. Imam Chisti (Barelvi) believes that Islam allows all forms of creativity unless a form of creativity is wrong. He highlighted that if Islam views something as wrong, that thing will not be praised. Imam Rasab (Sufi) emphasised that Islam promoted creativity and it is divided into two categories: the good and bad *bid'ah*.[9]

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[7] [7–9, 39]

[8] [17, 15, Quran 2:23 Challenge to produce a chapter in the Quran [9], challenge to produce the Quran [7], guidance and motivation to reach the skies [41] and providing guidance for ideas [42].

[9] Imam Dawud (Salafi) explained that people create *bid'ah*; Islam does not. Imam Younas (Wahabi) explained in terms of *deen* (Islam) that there is no creativity. We must follow things which are already set for us, in terms of creativity and *duniyah* (world). We create things in this world but must make sure we remain within the guidelines of Islam. Imam Huzayf (Deobandi) described that there are two types of *bid'ah*, the good *bid'ah* and bad *bid'ah*. Imam Dawud (Salafi) comments that promoting creativity vesting in humans and not Islam creates the possibility that Salafi may have negative reflections upon what *bid'ah* is, as Islam promotes creativity.

5.3 Differing perceptions of creativity in Islam

On the question of different perceptions of *bid'ah* in Islam, Imam Nasar (Sunni) explained that some people have a complete ban on *bid'ah*. He further explained that in Sunni sect there are limitations on creativity definition but never a complete ban. He indicated that if Islam was against innovation then things that have been invented under Islam would not have been created. He suggested that Islam does not ban creativity but seeks its progression.

Imam Chisti (Barelvi) explained that there is one interpretation, but different schools of thought have taken control of this issue from different angles. Imam Chisti suggested that due to this control Muslims are not able to be creative. Imam Chisti in his response to those that attempt to control the explanations of *bid'ah* provided an example of Sahih Al Bukahri a collection of Ahadith; and asked if they were a good thing or a bad thing, as they came after the time of the Prophet (pbuH), indicating that *bid'ah* has benefits.

Imam Rasab (Sufi) said that there are different explanations, but the definition is the same. He provided his own examples of Arabic grammar, the book version of the Quran, the prayer timetable, and even the mobile phone. He said that these developments are a benefit and are accepted in Islam. The response of Imam Dawud (Salafi) was that there are different perceptions of *bid'ah* in Islam and that some practiced *shirk*. Imam Dawud (Salafi) emphasised that some sects fall outside the limits Islam has set. Imam Younas (Wahabi) and Imam Huzayf (Deobandi) both agreed with Imam Chisti (Barelvi) that there is one interpretation but different meanings.

There are many different interpretations of the Quran and AHadith relating to *bid'ah* by Scholars, but Allah states, "And whoever opposes the Messenger after guidance has become clear to him and follows other than the way of the believers. We will give him what he has taken and drive him into Hell, and evil it is as a destination" [20]. Allah is giving a warning that if any believer separates from the guidance of the Prophet (pbuH), which includes guidance on *bid'ah*, then his abode will be hell. Despite this clear warning, many Muslim *ulemas*—specifically, those in the Salafi, Deobandi, and Wahabi sects—take the literal meaning of the Hadith: "The most evil affairs are the innovations (*bid'ah*), and every innovation (*bid'ah*) is an error" [22–26]. These sects have reservations to the Ahadith due to the word "Ahadith" not appearing in the Quran. Their position then becomes contradictory, as they rely upon a Hadith despite having reservations to their authenticity as a source of guidance. However, Sunni, Shia, Sufi, and Barelvi are more open to the idea of relying on the Ahadith; and despite the word not appearing in the Quran, they believe that the Ahadith are the guidance from the Prophet (pbuH) and that that is what Allah refers to when He states: "And whoever opposes the Messenger after guidance has become clear."

5.4 Islam limiting creativity

Imam Nasar (Sunni) believes that there are limitations on creativity in Islam. Muslims must comply with the rule or obligations of Islam, and creativity should not contradict Islamic principles or else it will be rejected. Imam Alvi (Shia) stated that Islam has not provided people with freedom but rather has asked them to remain within the Islamic guidelines. Imam Chisti (Barelvi) explained that if there is no Quranic injunction against it or any injunction against it, or if there is no Hadith against it, then Islam will promote that creativity. However, he explained that if there is solid proof or Quranic injunction or creativity goes against the Hadith then Islam will reject that creative idea.

Imam Rasab (Sufi) explained that if Sunnah and Quran are complied with then it is good *bid'ah* and Islam will not restrict it. Imam Dawud (Salafi) explained that Islam rejects *bid'ah* in its entirety. He explained that Prophet (pbuH) stated that if it

is not of the way of the Prophet (pbuH), then it is rejected. Imam Younas (Wahabi) explained that there is a complete ban on *bid'ah* and that it has no place in Islam. He stated that Islam is complete and there is no room for new innovations to be brought about within Islam. Imam Huzayf (Deobandi) stated that Islam does limit creativity, but as there is good *bid'ah* and bad *bid'ah* it must fall into the statuses set out in Sharia law such as permitted, obligatory, recommended, unlawful, and offensive/disliked.

Bid'ah only has legal standing if it complies with Sharia law and the Sunnah of the Prophet (pbuH). *Bid'ah* is being used as a tool to prevent free thinking of ideas. This affects and the *ijtihad* process of the Muslims due to the substantial opposition to those that commit good *bid'ah*.

In response to those that oppose good *bid'ah* the following Hadith states, "He who introduced some good practice in Islam which was followed after him (by people) he would be assured of reward like one who followed it, without their rewards being diminished in any respect. And he who introduced some evil practice in Islam which had been followed subsequently (by others), he would be required to bear the burden like that of one who followed this (evil practice) without theirs being diminished in any respect" [19]. Sects such as Deobandi, Salafi, and Wahabi provide limitations that go far beyond the limitations required by Islam, preventing their followers from being creative by propagating the understanding that innovation is wrong. Sunni, Shia, Barelvi, and Sufi are utilising this Hadith to spread and promote creativity in Islam.

The difficulties due to religious interpretations or applications of *bid'ah*, *qiyas*, *ijtihad*, *kufr*, and *shirk* when addressing the topic of creativity or innovation are based on peer pressure, ignorance, and lack of knowledge in Islamic teachings. This leads to a schism, preventing an *ijma* to finally put these matters to rest. In the absence of an *ijma*, however, Muslims need only look at the inventions and creative thoughts of Muslims that have had a positive impact on Western civilization to reach the conclusion that Islam does not prevent or limit creativity [3].

5.5 Islamic law (sharia law) and creativity in Islam

Imam Nasar (Sunni) disagreed that Sharia law blocks creativity on the basis of ethics. He stated that if a Muslim follow the rules of Islam and Islam will not stop you. He explained that there are certain rules that permit people to do certain things and which are not against Islam. Imam Alvi (Shia) stated that Islam has rules that must be followed, and if creativity benefits people then Sharia law will not block it. Imam Chisti (Barelvi) explained that Islam does not block *bid'ah* and that if the *bid'ah* is beneficial to Muslims then Sharia law will not inhibit it. Sharia law will only block the expansion of *bid'ah* if it seems that the *bid'ah* is taking people away from the right path. Imam Rasab (Sufi) explained that Sharia law does not block *bid'ah* if it agrees with the Quran and the Sunnah and if it is a good thing.

There are guidelines that need to follow Sharia law. Imam Dawud (Salafi) explained that everything in worldly life is permissible unless we have sacred text prohibiting it. Imam Younas (Wahabi) proposed that a *mufti* be approached to seek an answer to this question. Imam Huzayf (Deobandi) said Sharia law does not block *bid'ah* and explained the need to look at the categories of Sharia law to seek compliance with it. These interpretations, however, prevent an open dialogue about creativity in the Islamic world. The importance of Quranic exegesis, Ahadith, and jurisprudence (*fiqh*) are important to when addressing Sharia law, but for any argument to be valid in Islam it must have the backing of, and be in compliant with, Sharia law and the Sunnah, or else the interpretation has no validity.

An Islamic ruling under Sharia law against *al-ʾaḥkām al-khamsa*, which forms part of *fiqh* when deciding *bid'ah*, declares that Islam does not prevent innovation

unless it attempts to change the religious ideology or religious framework that covers the principles of Islam, as then that would be unlawful. The *al-ʾaḥkām al-khamsa* under Sharia law are: the obligatory, recommended, unlawful, offensive/disliked, and permissible. Out of the these only the "unlawful" status prevents certain *bid'ah* against the Islamic principles from taking place. As a result, Muslims can validate their creative ideas and innovations from the four remaining statuses in Islam. Sharia law propagates *al-tafkir al-ibda'l* (creative thinking) by making it a law that all Muslims to be creative thinkers.

## 5.6 Mechanisms needed to assess creativity in Islam

All informants believed that the guidelines to follow when addressing creativity in Islam must include either all or some of the following stages: the intention (of the creator), the Quran, the Sunnah, the Hadith, Sharia law, and the *ulema*. This study provides an Islamic Creativity Framework with reliance on the Quran, the Hadith, and the Sunnah, which embed authority in Islam and provides clear guidance and direction to Muslims to be creative. Abd-Allah, in his study *Innovation and Creativity in Islam*, does not provide a methodology to assess creativity in Islam but provides one to promote creativity. He also uses the methodology of *ijtihad* to further the promotion of creativity in Islam but does not provide a connection or a process linking *ijtihad* to the Quran, Sunnah, the Ahadith, and *qiyas* [43].

Al-Karasneh and Jubran then rely upon *ijtihad* (and Sharia law as a secondary source) as a good methodology to reach creative ideas and new solutions. They then rely upon Quranic verses [44]. The difficulty with their research is that some verses of the Quran cannot be taken in their literal form. The Quran requires an interpretation which is found within the Ahadith and Sunnah and explained by *ulemas*. Al-Karasneh and Jubran have not done this. They have attempted to translate the Quran without any authority and as a result have not actually explained anything, as there is no interpretation to back up the verses of the Quran that they have cited. This study has cited the Quranic verses and backed them up with Sunnah and the Ahadith.

5.7 Conclusion

Having examined the responses from the informants, it is evident that for any new creative product to be accepted in Islam it must go to the *ulema*, who will decide if the creative product complies with the Quran and Sunnah. If the creative product is not compliant with the Quran and Sunnah, it will be rejected. If the creative product is compliant with the Quran and Sunnah it will pass this stage and then go to the five statuses of Sharia law. If a judgement is passed that the creative product is unlawful, then the creative product will be rejected by the *ulema*. However, if a judgement is passed that the creative product is permissible, lawful, obligatory, or offensive/disliked but is acceptable, then the creative product will be accepted.

If the creative product is something new that does not have a reference in the Quran or Sunnah, then the matter will enter *qiyas*. In this process of deductive analysis, if it is decided that the creative product is beneficial then it will proceed to the five statuses of Sharia law, as explained above. If the *qiyas* process is not accepted, it will be passed on to the elite *ulema*, who will apply *ijtihad* to determine its suitability in Islam. Once the *ijtihad* process is carried out and the judgement is passed that *ijtihad* supports the creative product, then it will pass to the five stages of Sharia law. If the judgement is that it is not supported by *ijtihad*, it will be rejected. The diagram below sets out this process (**Figure 1**).
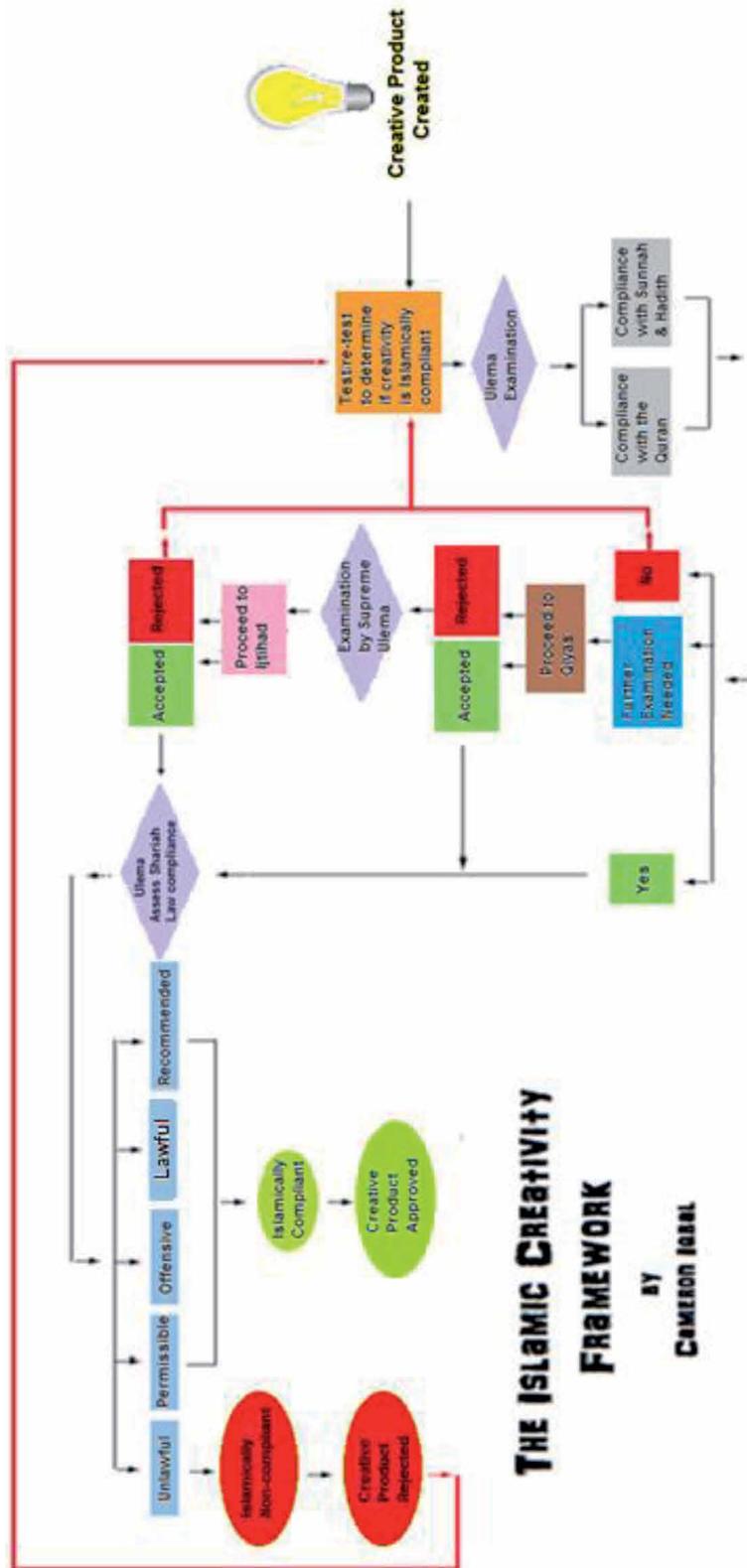
Figure 1.
The Islamic creativity framework.

6. "Al-tafkir al-ibda'l" (creative thinking)

When *bid'ah* is used to counter creativity and innovation the famous Hadith is used to back up the argument opposing creativity: "Every *bid'ah* is misguidance and every path of misguidance goes to hell" [17]. To take this Hadith literally, it can be said that Prophet (pbuH) opposed all forms of *bid'ah*. Before examining this Hadith with the assistance of Sharia law, it is important to first show examples of independent acts of *bid'ah* using personal *ijtihad* in the presence of the Prophet (pbuH), who did not object to them.

In the Ahadith, it is stated that the "Prophet (pbuH) said to Bilal, "Bilal, tell me which of your acts in Islam you are most hopeful about, for I have heard the footfall of your sandals in paradise', and he replied, "I have done nothing I am more hopeful about than the fact that I do not perform ablution at any time of the night or day without praying with that ablution whatever has been destined for me to pray."[10] As the Prophet (pbuH) did not object to Bilal using personal *ijtihad* and creating a new act, it is regarded as permissible that a Muslim can reach a new act of innovation and rely upon personal *ijtihad*. The Sunni and Shia view this as an argument in favour of *bid'ah*, whereas Wahabi, Salafi, and Deobandi view this as being part of prayer and not *bid'ah*.[11]

7. Conclusion

The definition of *bid'ah* has been misunderstood by Muslims. The word *bid'ah* has two: meanings "to create something new" and "the act of innovating." It can also be categorised into two groups: good *bid'ah* and bad *bid'ah*. The Prophet (pbuH) stated that "Every *bid'ah* is misguidance and every path of misguidance goes to hell" [17]. To take this Hadith literally as sects such as Deobandi, Salafis and Wahabi do, it can be said that the Prophet (pbuH) opposed all forms of *bid'ah*.[12] The Sunni, Shia, Barelvi, and Shia sects all accept that creativity is acceptable in Islam and that this AHadith cannot be taken literally as Islam has had substantial advancement in the world. There are teachings among some sects namely Deobandi, Salafi and Wahabi that all *bid'ah* is bad and even the compiling of the Quran into a book would have some sects having reservations regarding that, considering the above AHadith.

The Prophet (pbuH) states, "If somebody innovates something which is not in harmony with the principles of our religion, that thing is rejected" [18]. The Prophet (pbuH) also states, "If a question relates to your worldly matters you would know better about it, but if it relates to your religion then to me it belongs" [47]. The Prophet (pbuH) has confirmed that Muslims know better when it comes to their worldly affairs. However, the Prophet (pbuH) only opposed creativity if it appeared to damage, change or not be in harmony with Islamic principles. It can be taken from the above Hadith that if a creative idea or product does not intend to do that then Islam will accept it and praise it.

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[10] Sahih Bukhari, vol 2, book 21, hadith no. 30 reported by Abu Huraira (Allah be pleased with him).

[11] The Prophet (pbuH) states, "If somebody innovates something which is not in harmony with the principles of our religion, that thing is rejected." [45]. Therefore, if things are good *bida'h* then they are allowed and if they are bad *bida'h* they are not. The Prophet (pbuH) permitted *bida'h*, but only opposed it when it was not in harmony with Islam. Furthermore, this hadith confirms that introduction of innovation or ideas are welcomed if they conform to Islam [46].

[12] The teachings of Abdul Wahab, the leader of the Wahabi school of thought, has led his followers to believe in the strict, literal, or unsupported interpretation of Islamic teachings.

The Quran, Ahadith, Sunnah and Sharia law are the mechanisms needed to assess creativity in Islam, and these all are authorities that Muslims follow. Islam does not seek to reject a creative product or idea even if the Quran or Sunnah has no guidance relating to it but rather proceeds to the stages of *qiyas* and if needed *ijtihad*, to determine the benefit of a creative product or idea before it is deemed accepted or rejected under Islam. This symbolises that Islam will exhaust all possible options before declaring a creative product or idea non-compliant within Islam.

The Islamic Creativity Framework has considered the responses, guidance, and input from seven informants belonging to seven sects. The importance of Islamic Creativity Framework is that all sects can accept that creativity is important in Islam, that reliance on sacred scriptures is significant, and that the seven sects can work together to reach a solution where all sects can agree on. Furthermore, the Islamic Creativity Framework provided in this study would under Islam be deemed as "good *bid'ah*" or "good creativity," as it seeks to bring Muslims together and looks to advance knowledge and creativity among Muslims to overcome the misunderstandings that have existed between different Muslim sects for centuries.

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Section 3

Creative Theories and Approaches

A Design Thinking Approach for Museum Institutions

Luigi Nasta and Luca Pirolo

Abstract

In these recent years, museum institutions are facing challenges such as deepening diversity among audiences and within the workforce, shifting authority and keeping pace with the creation of a digital offering to be provided in the new shared economy. Additionally, museums cannot just deliver knowledge as information anymore. They are forced to seek to be relevant and meaningful for the audiences and the society. Thus, a visitor-centered approach needs to be developed. The design thinking framework can help museum professionals to face the challenges they handle in today's world. Indeed, this approach is focused on people and not on a specific product or service. The goal is to understand the needs of customers, their wishes and, based on this information, find the best solution to respond to the type of problem identified or the strategy to be developed. For this reason, the ratio of this discipline provides that people are stimulated to find alternative, creative, and innovative solutions designed and built on the reality of the facts and not dictated by instinct. The aim of this chapter is to investigate the characteristics of the design thinking approach and to analyze how this framework can be implemented in museum institutions.

Keywords: design thinking, museum institutions, visitor-centered approach, creativity

1. The design concept

Design is an extremely versatile discipline characterized by different interpretations in philosophy and practice which involve considerable efforts to understand its nature. Defining design uniquely is controversial, both because the designers themselves are unable to give a distinctive definition capable of gathering all the themes related to it, and because, over the decades, the term has had different meanings, evolving.

The history of design is not simply a history of objects but of changing points of view on what is the object of the design itself [1]. A starting point on the study is represented by the thought of Herbert Simon [2] who defines design as the elaboration of artifacts to achieve goals. His reflection leads to the relationship between the natural world and the artificial one. "A forest may be a phenomenon of nature; a farm certainly is not. The very species upon which we depend for our food our corn and our cattle are artifacts of our ingenuity" [2]. The artificial object synthesized by men with the desired properties which can or may not imitate nature can be defined as an artifact, created by using the same basic natural materials or different ones.

The artifact is also considered as an interface between the internal environment, i.e. the organization and the design of the artifact itself, and the external one, i.e. the environment in which it is located. "If the inner environment is appropriate to the outer environment, or vice versa, the artifact will serve its intended purpose" [2].

The most obvious and popular definition regarding design is that it represents the shape of products and therefore refers to style and esthetics. In fact, design is often associated with the shape of the product and not with its function [3]. However, despite numerous criticisms, the term has always remained closely linked to the esthetic aspects, reducing it to the exaltation of beauty since, as Raymond Loewy claimed, "ugliness doesn't sell".

Reducing design to simple esthetics distances the concept from innovation. It is a recent trend to extend the meaning of design, following broader meanings that concern various areas of knowledge [4].

Design is described as a problem-solving activity [5], a process that becomes a prescriptive sequence of activities related to the cognitive process of exploration [6]. Over time, the practical applications of design have extended to anything capable of producing artifacts deriving from the usage of creativity to generate a product, a service, or a process innovation [4]. Companies like IDEO, Apple and Decathlon think about the product no longer and not only as an object for which to design a shape, but as an experience and bearer of meanings [7]. Kotler and Rath [8] suggest that product design is a strategic tool for optimizing consumer satisfaction and corporate profitability through the combination of performance, shape, durability, and value in relation to environments, information, and identities. Consumers buy products for several often not obvious reasons which include both functional utility and psychological satisfaction.

The interpretation of design linked to the function can be found in Maldonado [9]. Designing the shape means coordinating, integrating, and articulating all those factors which in one way or another participate in the constitutive process of the shape of the product. More precisely, it alludes to factors relating to the use, function and individual or social consumption of the product, as well as to production. In this sense, design is interpreted as an activity capable of combining all the factors involved in the realization of the shape of the product, referring both to the technical, functional, economic and productive aspects, as well as to the symbolic, cultural and social ones.

The dimension linked to meaning is revealed with Krippendorff [10]. He involves design with the meaning of the products attributed by users and by the relationship with the surrounding environment. Therefore, the meanings depend on the context and the culture. The same artifact can invoke different meanings at different times, in various contexts of use and for different people. Since the meaning is not univocal, it is the responsibility of the designer to observe the actions that imply it, understand them, and establish a dialog with the interested parties.

More holistic is the design definition of the International Council of Societies of Industrial Design: "design is the creative activity whose goal is to establish the various qualities of objects, processes and services and their systems in the life cycle. In addition, design is the central factor in the humanization of technology innovation and cultural and economic changes." This definition expands the concept of design and connects it to management, to the ability to understand consumer needs, to strategy.

Design is increasingly becoming a frequent the answer to the multiple challenges that managers face: growing competitive pressure, managing complexity in organizations, customer orientation and social responsibility.

Talking about design today means recognizing the widespread presence of activities, skills, actions, products related to design within the economic system.

This constitutes an essential point for defining an economic and social improvement strategy based on an advanced development concept that has its strength in the ability to add value to the system of products, services, and businesses.

2. Design in the business context

Within the company context, design can take on different facets based on how it is integrated and conceived within the organization [11]. The value that a company gives to design depends on its history and its evolution. For this reason, a company that has recently approached design will probably integrate it into strategy only after using it as an operating tool.

The design can be considered as an operational tool and therefore linked to the initial phase of the design practice concerning the styling of the product. In this case, the design has an esthetic significance for the product and does not give it any other added value to the organization.

In another case, design can be an important resource for the company but simply linked to the realization of the product. In this circumstance, design is given its autonomy, its time, its space, and the possibility of developing a product starting from a project specification. In this case, the company prepares a project group which, however, is not involved in the organizational and decision-making dynamics of the company, dealing only with the project specification.

Design can also be perfectly integrated into process management and contribute to a company's vision of the future. The ability of design to anticipate the needs of consumers, imagine possible future scenarios and put them into a solution, made it fundamental within companies and allowed it to play a role in all phases of the creation of a product, from the initial idea to its commercialization. This has helped to create designers with diversified training, able to dialog with all the actors in the design process but has also prompted companies to seek outside their borders different skills to reorganize the entire value chain (**Figure 1**).
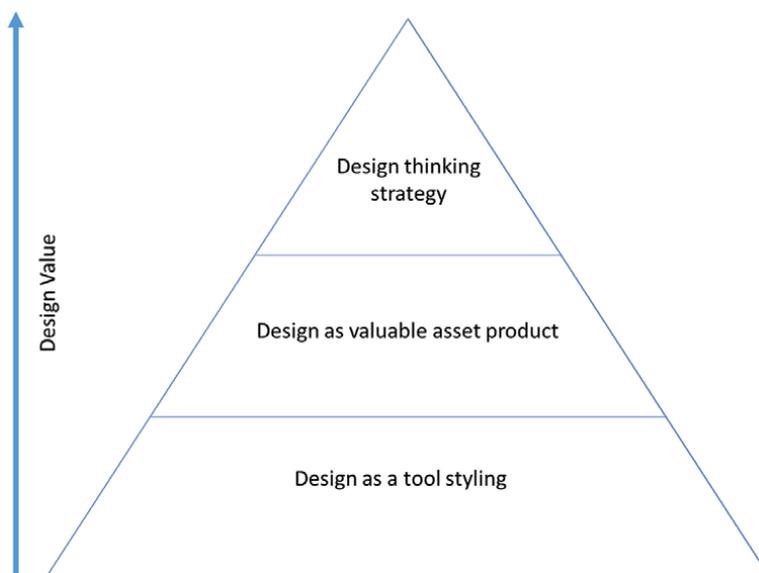

Figure 1.
Design value in the business context. Source: Personal adaption from Celaschi et al., 2011.

The long-term value for the company is created through three key changes: the transition from function to purpose, in which the product becomes important for its social utility and not only for its performance; the increasing importance not only of the final outcome but also of the processes involved used to conquer the motivations of the consumer; in the third instance, the relevance of co-design, where the user is not a passive entity but actively participates in the design of the product.

The creation of a business model in which design and management shorten their distance and work together for a joint vision of the organization, not only creates value for the company by increasing the performance achieved, but directs the company towards innovation and its exploitation with respect for social responsibility.

3. Design thinking: origins and perspectives

Although the concept of design thinking is quite current and today it is considered a useful approach for companies, the roots of its meaning are to be found elsewhere, shifting attention to the literature of the last century, which in addition to influencing the concept of design thinking, represents a model for contemporary exponents of the approach.

Herbert Simon is one of the first to offer idea for the development of some concepts related to design thinking. For Simon, the natural sciences deal with how things are, while the design deals with how they should be through the creation of artifacts that respond to specific objectives. Therefore, it could be said that design is the transformation of existing conditions into preferred ones. However, this transformation does not follow a linear path but rather it tends to adapt to the surrounding environment. The adaptation is explained by Simon with the example of the ant that, in the path to take to return home, adapts to the obstacles it encounters along the way not being able to have an overall and complete vision of the surrounding environment [2]. To carry out the non-linear path that leads him to the solution, the designer uses problem solving: the individual defines alternatives with respect to a goal to be achieved and chooses among the alternatives the best compared to that given goal, but not the best in absolute. This is because man has a limited rationality and therefore when he seeks a solution or wants to achieve a goal, he does not do so in full awareness of all possible opportunities, but only with respect to what he is able to know.

Another point of reference is represented by the thought of Bauchanan [1], who takes up Rittel [12] and his idea of wicked problems. Wicked problems are a class of indeterminate and tiring problems of the social system. They are difficult to define and for which there is no single solution. Each wicked problem is unique, and the designer's effort is to try to minimize the error since each solution is a one-shot operation, an attempt that matters significantly and has consequences. This class of problems concerns issues such as sustainability, climate change or public policy, i.e. the location of a highway, the regulation of taxes or the change in the school system.

The wicked problems approach brings out the uncertainty in which the designer operates having to conceive and design something that does not yet exist. If in a linear approach a designer has a specific problem to solve based on defined conditions, a wicked problems approach, based on indeterminacy, gives the designer a universal scope.

The wicked problems approach contains peculiarities typical of the themes of design thinking. Indeed, the object of design can be applied to any area of human experience. Design thinking is considered a bridge to connect the knowledge of liberal arts and sciences, adapting them to current problems and purposes. Bauchanan [1] underlines the absence of the impossible, considered as a limitation of the imagination that can be overcome through a better use of design thinking, an

instrument characterized by the integration of signs, things, actions and environments that respond to the concrete needs and values of human beings under various circumstances.

Design thinking was also analyzed from a managerial point of view. By discussing the mutual interactions and influences of management and design, managers became curious about the way designers think and operate within the company. Design thinking has become a tool for the entire planning area to contribute to innovation and replace strategic management to face a complex reality [13]. In this sense, design thinking becomes a broader approach, capable of involving the organizational systems of companies, influencing the behavior of managers, and solving complex problems. Not surprisingly, it is increasingly common that managers are asked to be a little more designer by adopting a "design attitude" [14].

Martin [15] and Brown [16], fathers of two different interpretations and applications of design thinking, do not turn to research on design studies and on the management of organizations, but formulate an approach that derives rather from experience gained during practical activity. Despite this, both theories are gaining recognition from designers, companies, and governmental agencies.

Martin sees design thinking as a useful and necessary tool for training managers. For him there are two forms of business thinking: analytical and intuitive. Analytical thinking is based on quantitative data and standardized processes, while intuitive thinking is about how to use instinct to guide creativity and innovation. Analytical thinking is the most common in management schools being easier to measure and more coherent. Martin uses the labels of reliable for analytical thinking and valid for the intuitive one. Companies prefer to privilege reliability, and this implies that they cannot create valid solutions that exploit the three inductive, abductive, and deductive logics.

Business schools generally tend to focus on inductive thinking, based on empirical evidence, and on the deductive one, based on already accepted premises that guide future actions. The design schools emphasize the abductive logic of the way of thinking, based on "what it could be". An abductive approach sees in the project constraint a creative opportunity and a challenge; managers instead perceives it as an obstacle.

The use of design thinking to deal with indeterminate organizational problems favors reasoning and the continuous generation of idea through abductive, deductive and inductive combinations, an activity particularly important for companies that deal with both the exploitation of the existing and the exploration of the new [17]. Organizations that live in routine and that have developed the ability to always produce the same goods, keeping the cost and quality level constant, are unable to innovate. The search for a balance between abductive, deductive, and inductive reasoning that takes the form of generating an idea, predicting the consequences, testing, and dissemination (**Figure 2**) is the best way to innovate, using design thinking.

Another approach is the one proposed by Tim Brown and Tom and David Kelley. They provide a model for innovation that arises from the practice of consulting IDEO, a company that has started to market itself as an innovation organization and not as a design one, thus emphasizing the dependence between the two concepts. The design thinking of Tim Brown and the Kelley brothers is therefore a response to the innovation challenges of organizations that deal with complex issues. The approach starts from the assumption of bringing together what is desirable from a human point of view with what is technologically feasible and economically sustainable [16]. The model adopts a human-centered orientation and therefore to the market and the analysis of consumer needs and their relative satisfaction, representing one of the most important peculiarities of design thinking. One of the most interesting aspects is that design thinking considers all potential innovators, using
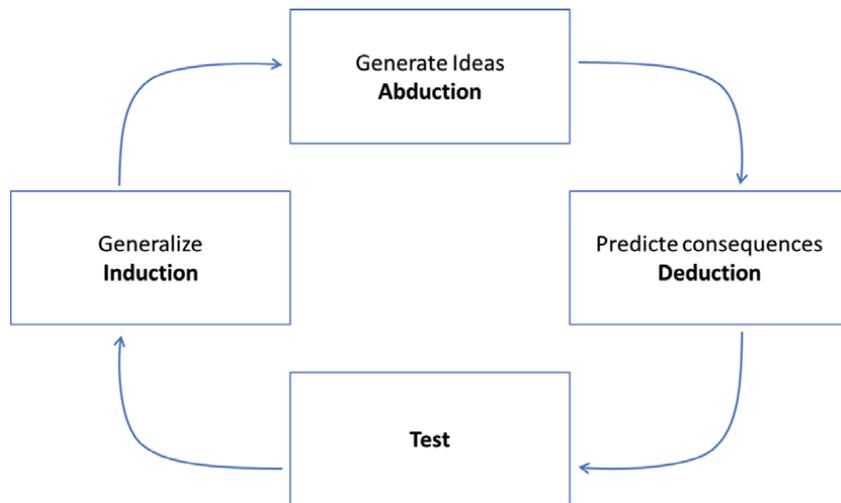
Figure 2.
*The design thinking process. Source: Personal adaption from Martin, 2009.*

the skills that everyone has, in particular problem-solving. Another important topic contained in the approach is that of social innovation and the contribution that can be made through design thinking by creating products, services and organizations to support them for less developed communities in order to improve their quality of life.

Today, to deal with changes in society and the environment, an approach to innovation that manages to integrate with companies and society is necessary to create breakthrough ideas, capable of being implemented and successful. The design thinking approach is proposed as a solution to this need by suggesting a model that through the tools possessed by designers is able to create an innovation capable of integrating people's needs and therefore giving them meaning with what is technologically feasible and functionally possible in the near future and which responds to the economic success of companies and can become part of a sustainable business model (**Figure 3**).

If the classic designer tries to solve each of these constraints, the design thinker will place himself in a position of harmonious balance. In this model, the design has moved from a tactical role to a strategic one, starting to move in different areas and setting aside the idea of building on what already exists and looking for mere improvement features. The approach is based on the belief that the design belongs to everyone and for everyone, that the ideas and skills that everyone has can be expressed through alternative brainstorming methods in which sharing, the importance of team work and exaltation of diversity is enrichment for all and allows important results to be achieved [18].

Design thinking may be able to solve complex problems, which are not limited to products but can concern processes, services, interactions, forms of collaboration, communication, and strategies [19]. However, everything is guided by a human-centered vision, in which the market is put at the center, in which needs are the engine of all innovative ideas, giving people what they want and thus transforming the latent need into demand.

For a company that has understood the value of innovation and considers it a competitive lever, it is essential to use design thinking and its tools to guide growth, improve the quality of activities, decisions, and results.
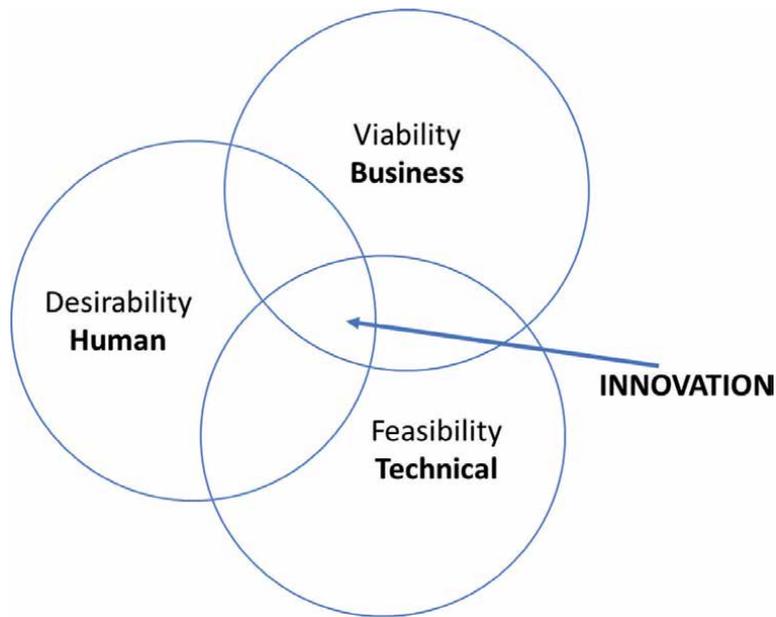
Figure 3.
Innovation in the design thinking model. Source. Personal adaption from Brown, 2009.

3.1 The models of the design thinking process

In the wake of the design methodologies, the design process was divided into various steps to facilitate the planning of the project activities and their scheduling. The first references to a multiphase structure of the creative process come from Poincaré [20], who, through his reflections on the creative thinking process to solve mathematical problems, gave impetus to Wallas [21] who divided the creative process into four phases: preparation, incubation, lighting and verification. This classification was the starting point of the search for movements in the field of creativity in design that sought new models to better describe the stages of a process. As demonstrated by some design researchers, the classification and the respective visualization of the different phases of the design process depends above all on the methodological paradigm in which the creative process in the design is analyzed and described [22–24]. In the design methodology there was a paradigm shift in the 1980s, from the analytical and rational logic, to the holistic one of progressive affirmation of design solutions. The problem-solving paradigm moved towards the interpretation of the design process as a reflective practice [25] and as a co-evolution of problem-solution spaces [26]. In the new design thinking movement, the problem-solving approach is still dominant, but it is holistic and non-linear [17, 19, 27]. Instead of a sequence of stages, most of these models describe the design thinking process as a space overlap system [28] and as an iterative process [29], and therefore can be assigned to new design paradigms of progressive affirmation.

In the domain of design thinking applied to business and innovation, some process models have been published and defined as the most appropriate. These are the "3 I" model [28] developed by the consulting firm IDEO and The Stanford d_ School model developed in 2008 from the collaboration between the Hasso Plattner Institute and the d_School of Stanford University, two of the most prestigious institutes in the field of design.

3.2 The "3 I" model

This model was developed by IDEO, one of the leading companies in design-driven innovation consulting and takes its name from the three phases into which it is divided: inspiration, ideation, and implementation.

Inspiration represents the initial phase in which it is necessary to identify the problem or challenge that must be face. The goal is to observe people and their lives, to understand how they think, feel and act. The inspiration stage can in turn be divided into three sub-phases:

- understand the reason, the opportunity or the problem that pushes people to face a challenge; in other words, begin to understand what are the right questions that need to be asked to solve the problem;

- observe people in their own context of life with the aim of collecting as much information and data available on their way of acting, feeling and thinking to determine the real needs, desires, dreams and problems to be solved or satisfied;

- point of view that indicates the reformulation of a design challenge, transforming it into a statement of the problem to be faced in the following phase of ideation.

The three sub-phases must be covered repeatedly, considering the feedback collected and the possible opportunities for improvement at each iteration, trying to empathize with the people observed to understand them in depth. During the inspiration phase, the design team should be able to build a brief containing a series of constraints that help the team itself identify a framework from which to start, objectives to be achieved and parameters to measure obtained progresses and results and potential ones. It must be generic enough to allow the team freedom of action, develop creative ideas and think outside the box, but it must not be too general either, risking to make the team wander with no grips to cling to during moments of uncertainty and doubt about which direction to take. Once the initial framework has been defined, the inspiration involves understanding what people really want and what they need; it is necessary to use ad hoc tools since traditional methods, based mostly on simple interviews, are limited to asking people for these concepts: unfortunately people are often unable to provide this information since they do not even know what they really need.

Ideation is the phase in which a meaning is giving to everything that has been observed and heard in the previous phase, generating as many ideas as possible and identifying opportunities to be seized, developing and refining, iteration after iteration, the ideas identified, up to choose the best one to implement. Even the ideation stage can be broken down into three sub-phases, which, like the previous ones, must however be a cycle to be covered and retraced continuously: design, prototypes, and tests. The goal is to devise as many solutions as possible, create fast and inexpensive prototypes to build and test them from the initial stages, in order to immediately collect feedback and sensations to understand if the team is heading in the right direction, reducing time and resources on ineffective solutions. Among the good practices in support of the phase are optimism, abstaining from judgments and criticisms, visual representations of the paths and concepts addressed, and the multidisciplinary skills and knowledge of the people involved in the design process. Also, in this case, the key word is to iterate, pursuing perfection, but in small steps until the identification of the solution deemed best and in which to invest in the third and last phase of implementation.

Implementation is the final phase of the design thinking process according to the "3 I" model and consists in giving life to the best solution among those identified in the previous phases. The goal is to present the proposal to the market, choosing the most suitable way to share and promote it and evaluating the impact it will have, both in economic and social terms. This last step can also be broken down into three sub-phases which are:

- storytelling: it helps to communicate the chosen solution to all stakeholders, internal and external to the organization, through the use of a language suitable for each of them, which can be made up of meanings, images and references to past experiences. The goal is to correctly convey to the market the meaning, the value, and the type of impact the solution will have for the people who will adopt it;

- pilot: intended as a pilot prototype, completer and more defined than those created in the design phase. In this case the costs and production times will be greater because the pilot prototype must be tested by potential users as if it were the real product/service that is going to be launched into the market. Like all the phases described above, this one is subject to more and more iterations, at the end of which feedback and impressions are collected to continuously improve the pilot until the final optimal characteristics are identified;

- business model: to correctly launch the asset on the market and implement its commercialization, a reliable business model should be developed. In the business model, strategic decisions will have to be made relating to financing, marketing, production, related auxiliary services, in short, everything needed to transform the idea into a complete product/service/experience to be offered to the market.

All these phases of the process are strictly interconnected and must not be carried out in a linear way but as a circular sequence, with an approach of continuous revisions and second thoughts that consider feedback and impressions to arrive at the optimal solution (**Figure 4**).

3.3 The d_School of Stanford University model

The model has been developed in 2008, from the collaboration between the Hasso Plattner Institute and the d_School of Stanford University. The approach remains, as in the previous case, of a scientific-engineering and iterative type and the phases to be implemented cyclically are five:

1. Empathy: since this is a human-centered approach, empathizing with the subjects involved is the basis of the model, to understand their needs by taking their point of view and to be able to produce solutions suitable and innovative for them. Once again, therefore, the starting point is to understand how the people
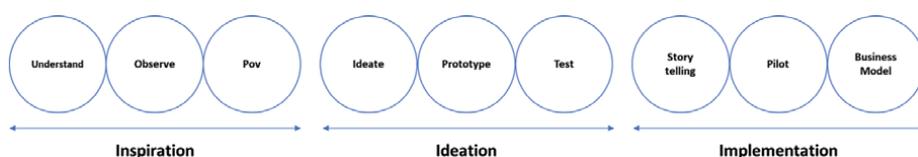
Figure 4.
The "3 I" model. Source. Personal elaboration from Brown and Wyatt, 2010.

who are addressed think, feel and behave, with the aim of deducing their needs and their desires, but also the beliefs, convictions and values they possess, without asking them explicitly. For example, to collect data and information about the customers, organizations might observe if differences or ambiguities exist between what a subject says and what he does instead. To empathize with people, it is necessary to:

- Observe, viewing users and their respective behaviors in their life context, i.e. social, work, family;

- Involve stakeholders in the challenge through meetings and interviews;

- Identify with the users themselves by living the same experiences.

2. Definition: the objective is to define the problems to be faced and the opportunities to be seized, structuring the information collected in the previous stage to produce a point of view from which generate innovative solutions, aimed at satisfying the latent needs of users. The output of the phase is represented by a specific challenge to be faced, which represents the vision of the project; the more the vision will be clear and well defined, the more likely it will be to find a successful solution. Indeed, the better the problem is known, the easier it will be to find the best solution. Vice versa, the less clear a problem is, the more difficult it will be to find a solution of considerable impact. The definition phase also serves to collect and view all the insights gained in the empathy phase, always with the aim of defining the right challenge to start and begin to glimpse possible solutions to the problem. A good vision, in addition to capturing the hearts and minds of the people involved, must:

- Frame the problem and focus the team's attention on it;

- Inspire the team;

- Allow members to make decisions independently and simultaneously;

- Avoid defining universal concepts that are good for each user, which is not only impossible given the great diversity of people, but also counter-productive since generalization makes the team moving away from the peculiarities of the challenge.

The vision is based on the point of view identified and assumed during the phases of empathy and of definition, that is a sort of micro-theory relating to the challenge, the reference environment, and potential users. Defining the point of view in the right way means defining the vision and consequently an innovative solution suitable for overcoming the described challenge. A useful methodology for this purpose is to continually ask the question "how can we....?", thus offering a good starting point for brainstorming, the main activity of the next phase of ideation. Since the process is dynamic and iterative, brainstorming can also be used upstream of the ideation phase, as a transition activity aimed at generating a point of view and a vision.

3. Ideation: it represents the phase in which, developing the divergent and creative thinking of the team, many ideas are produced, to then choose those or

the one to be explored and prototype in the next phase. The solutions generated, in addition to responding effectively to the problem to be overcome, could also open new perspectives, thus making it necessary to revise from the earliest stages. To develop this research and this type of thinking, as anticipated, powerful discussion tools can be used such as brainstorming, related to themes or concepts identified in the early stages which must be deepened to find insights and ideas on which the solutions to come will be based. The design process must allow the team to abandon obvious and banal ideas or to go beyond these using them only as a starting point. Additionally, the design process must allow the team to look for opportunities, even potential ones to be seized, and for new areas to explore, and give fluidity and flexibility to the range of possible solutions with high innovative content. Once again, the goal of the ideation is not to identify the best result, but a range of possible solutions that reconcile the characteristics of the challenge and the reference environment with the needs and requirements of the users. The selection of the best idea will be made later, based on the feedback received and the feasibility and desirability characteristics of the solutions. Once again there is an overlap between the design phase and the subsequent prototype and test phases, which is however necessary to identify the optimal solution. The output of the design phase is given by a small group of ideas to be submitted to the next prototyping phase; the number of ideas to be prototyped must be the right tradeoff between product innovation potential and feasibility understood both in economic and temporal terms. Prototyping each idea produced, as well as just one, would in fact be ineffective, first for economic reasons and, secondly, to not lose most of the innovative content produced during the ideation stage.

4. Prototyping: the conversion of the idea into reality, making the conceived solution tangible. The prototype has the task of conveying the concept or idea behind a solution, therefore it does not necessarily have to be complete or finished. The simpler it is, the more possibilities exist to try different combinations and alternatives before identifying the final optimal solution. In addition, the more people involved can try it, test it, and interact with it, the more successful the prototype will be, because in this way empathy between user and the solution is increased. Like the previous ones, this phase is also based on research and iterations: initially the challenge, the problem and the solutions are less defined and consequently the prototypes generated will be not clear as well, but, as the solution takes a determined shape, even the prototypes will become clearer and more detailed. There are many different forms of prototypes, from tangible products to bulletin boards containing post-its, from role-playing games to story boards; in other words, prototype is anything that can be used to submit a concept or even an idea for a solution to possible users or stakeholders involved in the process. The prototypes, in addition to sharing and communicating a solution to some selected subjects, can be used to seek insights and ideas in the ideation phase and are also useful for testing possible solutions and verifying their potential impact on the market. In general, when building a prototype, the team must avoid excessive attachment to it. Moreover, it is necessary to be extremely practical by ensuring that it responds effectively to a question and, finally, it is always necessary to design taking the point of view of the user, continually making questions like "what do we want to test?" and "what behaviors do we expect to observe?".
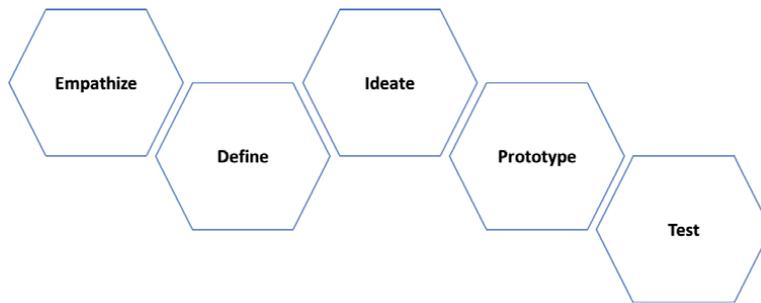
Figure 5.
The d_ School of Stanford University Model. Source: Personal elaboration.

5. Testing: the verification phase is generally performed in parallel with the presentation of a prototype, so much so that it is often difficult to separate the two activities. However, it should be noted that to test a solution or a prototype it is not enough to show it to possible users, but an evaluation system must be designed. In general, the testing phase is aimed at obtaining:

- Feedback to finalize prototypes and solutions;

- Information to increase the knowledge of potential users;

- Understand the point of view: the test can also reveal that not only the optimal solution has not been identified, but that the wrong challenge has also been defined and therefore the whole process must be restarted.

Obviously, if the test is positive, the solution will continue in the implementation phase until it is proposed to the market. The type of test to perform will depend on the type of prototype or solution. However, a generally valid rule of thumb is to always defend and protect the prototype as if the team knows they are right but question it and try it as if they know to be wrong (**Figure 5**).

4. Design thinking for museum management: how to innovate cultural experiences

In recent years, a particular trend is spreading among the various companies: just as the industrial sector is transforming the offer, based mainly on the product, towards an experience-oriented economy, in the same way museums are forced to innovate its offer, in terms of visitor experience and educational opportunities. At the same time, they must also modernize their internal organization to support this transformation. The reason is that the advent of the experience economy has changed the dynamics of the various institutes, cultural and otherwise: they must face a radical change in order not to sink into an increasingly competitive environment, in which the consumer is looking for more engaging and customized experiences.

Since in this context the needs and expectations of consumers become the main objective, design thinking seems to be the perfect methodology to adapt the museum offer to the wishes of visitors, thanks to its human-centered approach and its nature of problem-solving.

But how can museums use the design thinking process to engage and delight visitors? There are several steps to integrate the design thinking mindsets into museum practice:

- Museum professionals must get out from their desks and face-to-face with customers. This can help organizations discover, test, and validate ideas for solving real-world customer needs. In museums, this process is simplified since staff can walk into the galleries during the opening hours and observe and talk to visitors. They have access to them right outside their office doors. By getting away from their desks and into the galleries, they can learn about their visitors' needs and shift their perspective from institution-centered to user-centered. Additionally, museum staff can also talk with a broader range of people like the parents who regularly drop their sons off at the museum for education programs or the millennials who have checked the website several times but have never come to any of the museum events they read about online. By speaking with this audience, the staff gather rich, individual stories, develop insights around how to meet the needs of current and potential visitors, and test their insights with prototypes;

- Before investing time and money on developing new digital or analog products, services or experiences, museums should identify assumptions and test them before starting implementation. For example, a museum might want to redesign the exhibition web pages by starting from the assumptions that some visitors check the website before a visit and some of them arrive at the museum with a very clear agenda in their mind. But then, after conducting some initial interviews, the museum might discover that most visitors do not even consult the website in advance, they are overwhelmed when they arrive and they need guidance and recommendations around where to start and what to see and do. This might lead to new opportunity that consists of providing onsite in-gallery recommendations of what not to miss. Thus, rather than redesign the website, the museum staff can focus on reviewing their daily printed guide and prototyping new in-gallery digital signage as well;

- Many museum projects start with the solution. By jumping to the solution, museum do not ask why they are building something but rather what to build. This often means that they set out to solve the wrong problem and miss potential opportunities. In the example reported above, the museum staff can demonstrate that by recognizing the opportunities around the onsite visitor experience before diving into the details of implementation, they were able to holistically consider the needs of their visitors, from online users to onsite guests;

- Some museums, especially those about science and natural history, are keen to prototype almost everything, from exhibition installations to digital offerings. However, these represent the exceptions since the concept of prototyping is still very limited with regards to cultural institutions. Museum staff are so invested in the details of the solution that meaningful changes are nearly impossible to be provided. And when prototype happens it is done late in the development process. Prototyping is an essential step of the design thinking process and requires to be done by museums if they want to create innovative cultural experiences for their customers.

4.1 The Museo Egizio: how to use the design thinking to rethink the audio guide

The Museo Egizio or Egyptian Museum of Turin is one of the oldest Egyptian museums in the world. Founded in 1824, it ranks second only to Cairo. It represents one of the most visited museums in Italy where it competes with the renowned ones of Rome, Florence and Naples. In 2016, TripAdvisor recognized the Museum Egizio as the most appreciated Italian museum by the visitors.

The audio guide, which provides recorded information while touring the museum, represents the most relevant device used to help the visitor to interpret what the museum has to offer. Given that relevance, the museum management decided to ask a consulting company to implement a training process able to aid the museum staff at developing ideas to redesign the audio guide and, in the meantime, bring the staff together while experimenting innovative working procedures.

After accepted the challenge, the consulting company developed a program focused on two main principles:

• Visitor-centered: the visitor is at the center of the whole process and the museum staff needs to get in contact with him. This is the only way to develop innovative services and involve museum staff in their everyday routines with satisfaction;

• Team based: all the members of the museum staff must be involved in the process of redesigning the audio guide. Everyone can provide an impact and a unique point of view on how things should be done. The creative process can be developed while continuing the museum daily activities just by adopting a flexible modus operandi and creating small interdisciplinary teams. Working with smaller teams has two main benefits: the members can provide unique perspectives to the problem to be solved and the main activities are not interrupted. Few plenaries have been organized by the consulting company to present the results of the research and to bring all the people together.

The consulting company decided to adopt the design thinking approach to help the Museo Egizio redesign the audio guide and they focus on the two phases of the design thinking model described by the d_School of Stanford University since they better fit the museum context: empathy and prototyping.

4.1.1 Empathy

In the past, the museum has been considered a place where objects are collected and preserved. Putting the visitor at the center of the museum experience requires the development of innovative approaches based on empathy. Museum staff needs to understand what visitor wants and design thinking methods can help the organizations at achieving these results.

4.1.2 Visitor observation

One of the main methods to understand what visitors want is to observe them by seeing what they do and how they behave. Taking notes can help comprehending what are the emotions visitors feel and what are their unfulfilled needs.

Museum staff can make observations directly while walking in the corridors or standing in the halls. Direct observation allows to understand visitors' needs and desires. The consulting company asked the museum staff to plan between 30- and 60-minutes session of visitor observation. This amount of time represents the

optimal choice to get important information about the visitor without neglecting the daily activities to be done.

At the end of the observations, the museum staff conducted interviews with the observed visitors to confirm the information collected. Then, they shared this information in quick meetings.

4.1.3 Visitor interviews

Visitor research should be conducted by museum staff since they can develop a meaningful conversation with the visitors which can provide useful information about their desires. These conversations can take place in the halls and they can be shorter or longer. Usually, longer conversations happen with selected visitors. The objective is to add more insights to the information collected during the observations.

4.1.4 Immersion

Putting the visitor in the center means understanding how he acts when he lives the museum experience. This means that is necessary that the museum staff re-walks the same path of the visitors. For example, curators are usually in charge of listening to the audio guides before they are provided to the visitors. However, the curators represent just few members of the museum staff and they cannot provide a fully comprehensive perspective on how audio guides should be modified. For this reason, it is necessary that all the museum staff goes over the visitor journey in the museum. It could be useful to put himself in a specific visitor's shoes such as a parent with children or a business traveler with no time at his disposal.

The results can be surprising since the museum staff, usually involved in everyday routine, does not really know what visitors feel when they enter in the museum. Having time to re-trace their paths allows the museum staff to get to know them in terms of their needs or problems.

4.1.5 Interview with internal experts

Even if the visitor is put at the center of the entire process, it is extremely important to confirm the information collected by interviewing the internal experts of the museum who are in direct contact with the public such as the front-end staff, the social media managers, the security guards. These people can provide useful information to complete the puzzle. Additionally, internal experts can help to bring all the museum staff together since their expertise can represent an important force to building teams and strengthening relationships.

4.1.6 Definition

The work conducted during the first stage allows the museum staff to put together both the pros and the cons of a visitor's museum experience. Starting from this map, the staff can identify what are the problems that is necessary to tackle and the needs to be satisfied with the redesigned audio guided.

4.1.7 Ideation

Once problems have been identified, the museum staff can start thinking about how to solve them. In this stage, techniques like brainstorming are used. As

explained above, brainstorming allows people to show their creativity even if the time available to discuss a specific problem seems limited.

4.1.8 Prototyping and testing

The last two stages of the training process are prototyping and testing. They represent important tools to foster innovation and avoid mistakes in a museum environment. Prototyping means creating examples of the final products to see if the idea has been developed in the right way, if it can be appreciated by visitors and, if it solves the identified problems. In the museum environment, usually paper prototypes are created to test a new signposting or the position of an information desk. Paper prototypes are frequently used since they are cheap and easy to create.

Once prototypes are created, they are tested among the visitors in the museum environment. In the Museo Egizio, for example, visitors identified the main problems and opportunities of the ideas presented by the museum staff. This gave an important feedback on how to improve the following version of the audio guide. Additionally, visitors felt to be at the center of the creative process, and this reinforced the idea that the museum appreciated their contribution.

The design thinking steps need to be repeated more than once until a satisfactory prototype is obtained. Only in this way, museum staff can be assured about the developed ideas and can be satisfied for the effort made during the entire process.

At the end of the training, the Museo Egizio staff was able to collect relevant information, develop ideas and gain knowledge about the audio guide and the visitors' needs. Additionally, they were pushed to experiment a new way to work together where creativity, collaboration and interdisciplinarity were the main driving forces. This brought some members of the staff to realize how much they are important for contributing to the creative process.

4.2 The Queensland museum: a design thinking approach to encourage innovation

The Queensland Museum in Brisbane, Australia, aims at connecting visitors to Queensland by being the repository of the state's natural and cultural heritage. It has several campuses and more than 1 million people visit them every year.

In 2011, because of an organizational renovation, the Queensland Museum decided to establish an internal creative agency with the objective of fostering innovation, increasing audience engagement, and implementing design thinking processes in the organization. The agency had the goal to develop a 5-year strategic plan by reasoning about new exhibitions and experiences to offer to visitors.

One of the main exhibitions the agency thought during that period is Lost Creatures: Stories from Ancient Queensland. Launched in 2013, this exhibition has been used as a test to implement a design thinking process which involved not only the museum staff but also external stakeholders such as volunteers and people from the closest communities.

4.2.1 Empathize and define

During the discovery stage, the agency decided to ask the museum staff to interview different audiences within the museum environment. This allowed to create an "empathy map" that, in turn, provided useful information about what visitors expected about exhibition topics.

Specifically, for Lost Creatures, the agency asked visitors to select the most appropriate words to describe what they expected from their experiences in the

museum. The most chosen words became the experience criteria which provided the agency and the museum staff with some specific goals to be developed.

In addition to the interviews, the museum staff had to undertake a space analysis to identify the main strengths, weaknesses, opportunities and threats; synthesize the work developed in the past and review what has been proposed by the curators; take inspiration from different case studies and settings to inspire more creativity.

4.2.2 Ideate

Building on the experience criteria discovered in the first stage, the museum staff brainstormed some ideas to respond to the visitors' needs. Starting from more than 50 idea, the team selected few of them to take into the prototype and test stage. Among the others, the museum staff focused on the development of geological timeline, iconic specimens, immersive atmosphere using color, lightning and building connections to key fossil sites.

4.2.3 Prototype and test

As in the Museo Egizio case study, the prototype and test stages allow the team to create essential examples of the product/service to be offered to visitors by using basic materials, especially cardboard models, notes, collages, drawings. Then, the prototypes are showed to the visitors in the museum with the objective to collect useful insights on what works and how improvements can be made.

Queensland Museum staff presented three prototypes for Lost Creatures: a "timeline tunnel" of iconic objects, a large-scale reconstruction with the objective of creating a sense of "wow", one of the feeling arose in the previous stage, and modules with the overall theme of extinction.

The prototype and test stages have been repeated several times as the project Lost Creatures evolved in time and, three months after starting the design thinking process, the team decided to approach the visitors with the prototypes. Since prototype tests usually work better at a real scale, the agency decided to show them in the gallery. This helped the museum staff and visitors as well to better comprehend the issues related to spatial design.

In the end, even if the Queensland Museum staff encountered practical issues in delivery the outcomes of the design thinking process, some ideas remained in the final project and the exhibition started in December 2013 with great appreciation of the visitors. Moreover, ideas that have not been implemented Lost Creatures have been developed as separate funded projects such as a digital tourism app for regional paleontology sites.

5. Conclusions

The industrial design world has been using design thinking to move away from just making products to designing services and systems. Similarly, to innovate, museums are moving away from just traditional exhibitions to more collaborative and multifaceted experiences and services.

Design thinking gives museums a simple process to encourage innovation and new approaches. Most people and organizations are inherently creative problem solvers, but the clear processes of design thinking further help instill a creative culture and help build a common language. The process strongly supports innovation through collaboration internally with staff and externally with visitors. Projects

become especially energized by the involvement of many diverse people, including those who might typically feel isolated from design processes.

Design thinking can be used in almost any stage and at any scale in a museum project. The process gives a clear pathway to involve audiences, drive investments and build better staff collaborations. For museum staff and project delivery, advantages to applying design thinking include breaking down the silos of organizational projects which might be isolated in curatorial or exhibition areas; involving staff, audience and people from many fields and backgrounds that helps to energize and widen the innovation process, giving museum staff "fresh eyes" to a project; defining clearer challenges and project scopes that helps avoid designing for too many groups which can result in weak ideas; testing of fast and rapid prototypes that helps avoid wasting investment, i.e. capital, time or emotional attachment in a project, going in a wrong direction; finally, valuing time constraints and forcing faster and stronger choices that helps avoid too much overthinking or stalling of projects.

The visitor centered museum requires to rethink all working methods and curatorial practices. With its focus on both empathy with visitors and interdepartmental teamwork, design thinking is a powerful tool to help the reinventing processes and practices in a way which is both effective and easy to follow.

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A Framework for Assessing the Creativity Manifested in the Emergent Outcomes of Open-Ended Tasks Based on a "Puzzle"

Arulmalar Ramaraj and Jothilakshmy Nagammal

Abstract

In creative disciplines, "basic design" is offered as a foundation course to foster diverse thinking skills and creativity. The tasks are generally framed based on the principles such as "progressive transformation," "borrowing," and "deconstruction." The emergent outcomes of such tasks are unique and very challenging to evaluate. In this context, this chapter aims to discuss a framework for assessing the creativity manifested in the emergent outcomes of generative tasks based on a puzzle. Three tasks based on "TANGRAM," a dissection puzzle with slight variations, were formulated. The task was introduced as a practicum at a faculty development program conducted at the AMS School of Architecture in association with the Council of Architecture, India. Besides, the framed tasks were introduced as an assignment for a theory course and also as a basic design task at the Department of architecture, Sathyabama Institute of Science and Technology, India. The emergent outcomes are explored, decoded, and analyzed. The findings are triangulated and a framework is developed that can be suitably modified so as to investigate the degrees of creativity manifested in the emergent outcomes of an open-ended task.

Keywords: creativity, puzzle-based open-ended task, assessment, triangulation, framework

1. Introduction

Design education is a process that promotes multiple solutions and diverse points of views where unique interpretation and expressions are encouraged [1] to provide different experiences [2]. Basic design is introduced as a foundation course in various creative and design courses such as "architecture," "interior design," "visual communication," "product design," etc. It is stated that introducing problems with a wide gate of imagination unleashes the hidden abilities, encourages the emergence of original and creative ideas [3]. One of the objectives of basic design course is to motivate the students to start questioning and exploring by stimulating sensibility and creative process [4]. Broadly, the tasks are classified as experimental and conceptual approaches [5]. Literature studies reveal that the assessment of the emergent outcomes is subjective. It is against

this background, this chapter explores the emergent outcomes of an open-ended task addressing "puzzle-based learning." The next section gives an insight into "puzzle-based learning" and the tasks framed based on a dissection puzzle.

2. Puzzle-based learning

Puzzle-based learning is a pedagogical experiment with the primary goal to foster domain independent reasoning and critical thinking skills [6], critical thinking and problem-solving skills [7]. Puzzle-based learning encourages to reflect on "What are we learning?" "How are we learning?" and "How we are using what we have learned?" [8].

Puzzles are educational, instigating useful and powerful problem-solving rules [9] and fostering problem-based learning [10]. Puzzles are effectively redrafted appropriately in "science, technology, engineering, and mathematics" context [11]; engineering and computer science [12, 13]; human anatomy and physiology lab [14]; and architecture domain [15]. With a focus on architectural education, the next section discusses the formulation of a "puzzle-based open-ended task" revolving around "TANGRAM," a dissection puzzle.

2.1 An insight into "Tan-A-Morph"

"Tangram" is described as the most ingenious and imaginative puzzle, formed by dissecting a square in to seven or five pieces termed as "tans." Its uniqueness lies in composing the tans as charming, elegant, sophisticated, and sometimes, paradoxical two-dimensional figures [16]. The seven pieces or "tans" are comprised of 16 unit triangles, and the relative edges of all edges are powers of $\sqrt{2}$ [17]. The pieces are dissected at the geometrical angles of 45 and 90° only [18].

"Dissection" or "put together puzzle" was identified to frame an open-ended task for the participants at the faculty development program; to foster thinking skills as part of a theory course, "Theories of thinking," offered in the fifth semester; and as a basic design task introduced to the students pursuing first semester architecture. Among the various types of two-dimensional dissection puzzles, "Tangram" was identified to be appropriate for framing a unique task integrating "design" and "arts," "composition with planes," and "forced perspective."

The framed task was about exploring "forced perspective," the manipulation of human visual perception through illusions on an area of 0.11 square meters.
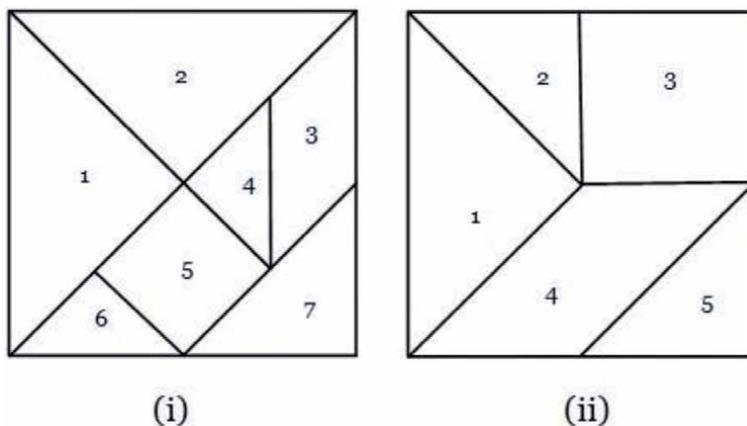

Figure 1.
"Tangram," a dissection puzzle. (i) Seven "tans" and (ii) five "tans."

The silhouette for painting was created by the respective groups by sticking the planes on the given base at right angles to both horizontal and vertical planes. The students created planar composition with all the seven pieces of the dissection puzzle which comprised of five similar triangles, a square, and a rhomboid. For the teachers, three similar triangles, a square, and a rhomboid, a variant of the "Tangram" comprising of five "tans" as shown in **Figure 1** were provided. The students worked with the seven pieces of the dissection puzzle as a basic design task.

3. Assessment of creativity

Evaluating the degree of creativity in the emergent outcomes of open-ended or generative task is challenging. Assessment in studio is also widely debated by many [19]. The assessment involve parameters such as identification of goals and purposes, selection of procedures, methods, procedures and measures, time management, analysis of data, interpretation of results, and formulation of responses to the results [20]. Assessment of creativity need to be both "product- and process-oriented" [21]. With respect to art, architecture, and design, the evaluation revolves around the "product, process, hard and soft skills" [22].

Dorst and Cross developed a method to identify the various factors that played a significant role in analyzing the aspects associated with degree of creativity in industrial design by adopting Pearson's correlation coefficient [23]. Even though literature studies reveal that quantitative techniques have potentials to explore the emergent outcomes, the authors posit that collection, analysis and integration of both quantitative and qualitative data yield rich findings. It is against this background, mixed methods research design is effective to explore, analyze and decode to construct rich knowledge about the emergent outcomes of generative tasks [24, 25].

3.1 Mixed methods approach

Mixed methods research is defined as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches or language in to a single study" [26]. A mixed methods approach focuses on the pragmatic grounds addressing the collection of both qualitative and quantitative data [27]. The choice of the design depends on research question, purpose, and context [28] as well as the research domain [29].

The reasons for mixing methods include the need to construct different and multiple perspectives or more complete understandings, need to confirm quantitative measures with qualitative experiences and need to explain the qualitative measures [30]. Based on the framed research question, the level of integration is observed at three levels such as "design, methods, interpretation, and reporting" for "confirmation, expansion, and discordance" [31].

Triangulation, embedded, exploratory, and explanatory are the various types of designs either planned sequentially or concurrently [32]. Integration of data requires a clear rationale and is always a matter if innovation [33]. Mixed methods approach in academics research produces richer insights in to the phenomenon being studied, enhance the body of knowledge to arrive at robust conclusion and probe new questions for future studies [34]. For assessing the degree of creativity manifested in the emergent outcomes, multi-method triangulation design has been adopted.

3.2 Triangulation

The term triangulation refers to the practice of using multiple sources of data or multiple approaches to analyze data for enhancing the credibility of a research

study. It gives a holistic understanding of specific topics [35] and enhances the internal validity in qualitative studies on complex studies [36]. Four types of triangulation such as method triangulation, investigator triangulation, theory triangulation, and data source triangulation are identified [37, 38].

Among the four types, this chapter focuses on methodological or multi-method triangulation. Methodological or multi-method triangulation entails the gathering of information or data addressing a phenomenon through more than one method, primarily to determine the convergence [39]. As discussed earlier, qualitative and quantitative data were collected to investigate the degree of creativity embellished in the emergent outcomes of the framed puzzle-based open-ended tasks.

4. The emergent outcomes

The emergent outcomes of the framed task "Tan-a-morph" as discussed in Section 2.1 are as shown in **Figure 2**. The first five outcomes were done by the participants at the Faculty Development program conducted in November 2016 at the AMS School of Architecture in association with the Council of Architecture and National Institute of Advanced Studies in Architecture. The last five outcomes were completed by the students of Architecture at the Sathyabama Institute of Science and Technology with seven "tans." The sixth and seventh were done as an assignment for the theory course, "Theories of thinking," by the fifth semester students offered from June to November 2015. The last three were the outcomes of a basic design studio conducted from August to December 2016. With an intention to assess the emergent outcomes of the framed task "Tan-a-morph," this chapter discusses the issues related to the assessment of creativity.

With respect to the investigation of creativity manifested among the emergent outcomes of an open-ended task, the next section focuses on the aspects that need to be probed. Further, the various ways to analysis the outcomes quantitatively are highlighted. However, the authors identified the mixed methods design as a potential tool to assess the degree of manifested creativity.

4.1 Data collection

The emergent outcomes as shown in **Figure 2** were selected for investigating the degrees of creativity. The outcomes were analyzed qualitatively and quantitatively. For the qualitative analysis, the authors investigated the emergent outcomes based
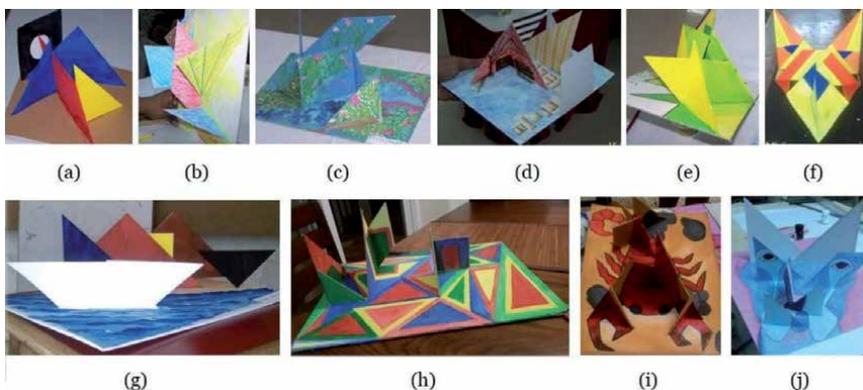
Figure 2.
Emergent outcomes. (a) Suprematism (b) bird with skew planes. (c) Nature. (d) Bio wall. (e) Abstract bird. (f) Abstract wolf. (g) Pyramids and mountains. (h) Kaleidoscope. (i) Scorpion. (j) Dog.

The emergent outcomes	Overall impression score on five point-scale	Rotation				Composition of planes						
		Vertical axis			Horizontal axis (o 180^0)	Parallel planes		Skew planes	Edge to edge	Edge to face	Vertex and planes	Vertex and edge
		0^0 to 360^0	0^0 to 180^0	0^0 to 90^0		Overlap	Non-overlap					
Suprematism	2.6	4.0	4.0	1.3	1.3	2.3	1.3	1.3	1.3	2.7	3.0	2.3
Bird with skew planes	2.5	4.3	4.7	3.0	3.0	3.0	2.7	4.0	3.0	2.7	3.3	2.7
Nature	4.6	4.3	4.3	3.3	3.3	2.3	3.3	4.3	4.3	3.7	3.3	4.0
Bio wall	3.2	4.3	4.0	4.7	4.3	3.0	4.0	4.0	3.3	3.0	3.3	3.0
Abstract bird	3.8	4.3	4.0	4.3	3.7	3.0	2.3	4.3	3.0	4.0	3.7	3.3
Abstract wolf	4.6	3.7	4.3	4.3	4.3	3.7	2.3	2.0	4.0	4.3	3.7	4.0
Pyramids and mountains	3.9	4.7	4.3	3.7	3.7	3.7	3.7	3.3	2.7	4.2	3.3	3.0
Kaleidoscope	4.9	5.0	5.0	4.0	4.0	3.7	3.3	3.3	2.7	3.0	3.7	3.0
Scorpion	4.9	5.0	5.0	4.7	4.7	3.3	1.3	3.7	3.3	3.7	3.7	4.0
Dog	4.6	4.0	4.3	3.3	3.3	4.7	3.3	3.7	3.3	3.7	4.0	4.0

Table 1.
Intraraters scoring and the average scores of the interraters for the various aspects.

on the rotation about the imaginary vertical and horizontal axis positioned at any one of the vertex as well as along one edge of the base respectively. The various aspects identified by the authors are listed in **Table 1**.

With respect to the quantitative data, three architects with minimum 12 years of experiences were identified as the skilled assessors. The skilled assessors evaluated the "forced perspective" on a seven-point scale. Besides, 10 images of the outcomes were shown to the assessors for 15–20 s for rating. The images were shown again for 5 s so that the intraraters were given a second chance to reconsider the scoring.

Secondly, three architects with a minimum 5 years of experience were identified through convenience sampling. A structured questionnaire as in Appendix A with five-point Likert scale for rating the identified aspects was framed. The numbers 1–5 were associated with "strongly disagree," "disagree," "neutral," "agree," and "strongly agree" on various aspects based on the "views" and "composition of planes." The images were shown to the interraters till the three interraters completed the rating.

4.2 Data analysis

The authors decoded the various aspects based on "rotation" and the "composition of the planes." The average scores of the interraters for the identified aspects were calculated as shown in **Table 1**. Pearson's correlation coefficients were determined between the overall impression score and the average scores of the interraters.

The emergent outcomes that scored more than six points on the seven-point scale were narrowed down for further analysis. Such outcomes included "nature," "abstract wolf," "kaleidoscope," "scorpion," and "dog." However, the frequency of average scores more than four points by the interraters including the intraraters were only considered to interpret the degree of creativity in incorporating the "forced perspective."

4.3 Findings

The Pearson's correlation coefficients between the overall impression scores by the intraraters and the interraters were determined as shown in **Table 2**. The aspects

Aspects			Pearson's correlation coefficient	Degree of relationship
Views	0–360^0	Vertical axis	0.80	Very strong
	0–180^0		0.62	Strong
	0–90^0		0.44	Moderate
	0–90^0	Horizontal axis	0.54	
Composition of planes	Parallel planes	Overlap	0.55	
		Non-overlap	0.50	
	Skew planes		0.08	Very weak
	Edge and edge		0.56	Moderate
	Edge and face		0.60	Strong
	Vertex and plane		0.72	
	Vertex and edge		0.78	

Table 2.
Correlation between the overall impression score by the intraraters and the average scores by the interraters for the various aspects.

such as "0–360^0" and "0–180^0" along the vertical axis display strong and very strong relationship, whereas "0–90^0" along both the vertical and horizontal axes, including the "overlapping and non-overlapping of parallel planes," shows only moderate relationship. The relationship between the overall impression score and the "skew planes" was observed to be the weakest. With respect to the composition of the planes, "edge and edge" has shown a moderate relationship, whereas "edge to face," "vertex and plane," and "vertex and edge" display strong relationship.

5. Discussions

As discussed in the previous section, the five outcomes appreciated by the intraraters were decoded as in **Table 3**. Among the five outcomes, one was done with five "tans," whereas the rest were done with seven "tans." Around two fifths were observed to be "metaphors" and the remaining three fifths to adopt the principles of "symbolism." Even though the outcomes were noted to be manifested with diverse views, the visual texture was observed to be on both the sides of the vertical planes as well as on the visible side of the horizontal planes either wholly or partly. It was recognized that the ideas with respect to theme adopted for exploring "forced perspective" as well as the "composition of planes" to be evolved simultaneously.

The outcomes	Symbolism/Metaphor	Theme/Visual texture	Synchronous approach
Nature	Symbolism	On all the sides of the vertical planes and on the horizontal plane	Ideas for the composition of the planes and the theme adopted for painting the planes evolved simultaneously
Abstract wolf	Metaphor	On one side of the vertical planes and partly on the horizontal plane	
Kaleidoscope		On all the sides of the vertical planes and on the horizontal plane	
Scorpion	Symbolism		
Dog		On the horizontal plane and partly on one side of the vertical planes	

Table 3.
Decoding the appreciated emergent outcomes.

Frequency of scores >4	The emergent outcomes	Views				Forced perspective
Five	Kaleidoscope	Vertical axis	0–360^0	Horizontal axis	0–180^0 (along both the sides)	Rich
Six	Nature					Richer
	Scorpion					
	Dog		0–180^0		0–90^0 (along the shorter side)	
Seven	Abstract wolf					Richest

Table 4.
*Frequency of scores more than four points for the 12 aspects.*

However, among the five outcomes that were decoded as shown in **Table 3**, it was recognized that the frequency of scores more than four points were observed to be the maximum for the "abstract wolf" and minimum for the "kaleidoscope." The emergent outcomes such as "nature," "scorpion," and "dog" were recognized to fall under the maximum and the minimum frequencies as shown in **Table 4**.

It was observed that the forced perspective has been manifested richly in the emergent outcome "kaleidoscope." "Abstract wolf" was interpreted to be the richest even though the diverse views were restricted to the rotation along the vertical axis from "0 to 180°" only. With respect to the rotation along the horizontal axis was limited to the longer axis of the horizontal plane with a rotating angle of "90^0."

6. Conclusions

The process adopted to explore the emergent outcomes of a "puzzle-based open-ended task" portrays the mixed method research to be rational. The entire process is mapped in **Figure 3**. This process entails the collection of both qualitative and quantitative data from three perspectives. The authors decoded the emergent outcomes qualitatively to identify the appropriate aspects. The intraraters assessed the overall impression score. Besides, the interraters assessed the identified aspects individually for each of the outcome.

The qualitative data gathered from the three interraters were converted to quantitative data. The correlations between the overall impression scores and the identified aspects were determined. The relationships were analyzed to examine the appropriateness of the identified aspects by the authors. Frequencies of scores for other aspects greater or equal to the value "four," including the overall impression score, facilitated the identification of outcomes with unique ideas exploring "forced perspectives." Further, the qualitative analysis of the five shortlisted outcomes facilitated the coding of the salient features, giving an insight into degree of content as "rich," "richer," and "richest." From the study, it is observed that the "triangulation
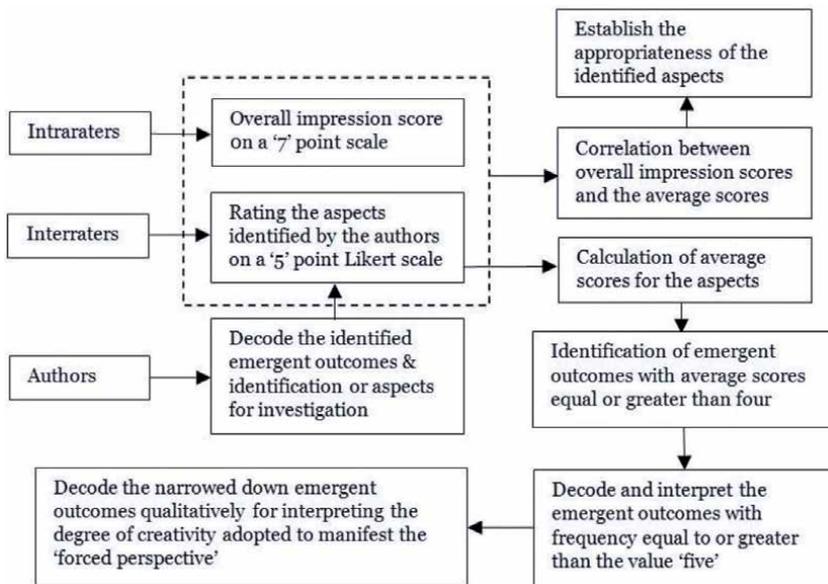
Figure 3.
A framework for investigating creativity.

model" adopting the "mixed methods approach" is effective in exploring the unique characteristics of the emergent outcomes in identifying the best ones too.

As a concluding remark, the authors reinstate that creativity plays significant roles in identifying the appropriate aspects that need to be considered during the assessment phase. Numerous other quantitative techniques shall be adopted to explore and investigate the emergent outcomes of an open-ended or generative task. Besides, confirmatory factor analysis and structural equation model's latent variables have been adopted to analyze the emergent outcomes of a basic design studio in depth [40]. Directions to integrate such analysis shall be incorporated in the mixed method analysis to construct a thick description about the unique outcomes.

A. Appendix

Tan-a-morph						
Name			**Age**			
Gender			Professional experience			
Contact no.			E-mail id			
One (tick your opinion)		**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
$0–360^0$	Vertical axis					
$0–180^0$						
$0–90^0$						
$0–180^0$	Horizontal axis					
Relationship between planes and vertices		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Overlapping of parallel planes						
Non-overlapping of parallel planes						
Skew planes						
Edge to edge						
Edge and face						
Vertex and plane						
Vertex and edge						
Signature with date:						

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Assessment of Creativity: Theories and Methods

Esra Kanlı

Abstract

The history of creativity assessment is as old as the concept itself. Researchers from various cultures and disciplines attempted to define the concept of creativity and offer a valid way to assess it. Creativity is generally defined as the ability to produce work that is novel and appropriate. Researchers in the field attempted to measure creativity from different perspectives and tried to answer the question like "What are the mental processes involved in creative thought?, Which personality traits are associated with creativity?, How can a product can be judged to be creative? and, What are the external forces that affect creativity?". The answers of these questions constitute the most commonly used creativity assessment instruments. This chapter presents a brief overview on assessment of creativity through the eyes of the psychometric perspective and discusses the strengths and weaknesses of various instruments used in the field.

Keywords: creativity, creativity assessment, psychometric approach, divergent thinking, tests of creative thinking

1. Introduction

The belief that creativity is too difficult to measure is still a dominant myth [1] and can be considered as a byproduct of definitional issues. Researchers from various cultures and disciplines attempted to define creativity and offer a valid way to assess it. As creativity is a multifaceted phenomenon, it is a complicated task to define and operationalize it. For the sake of the discussion, one should start with defining "creativity". The usefulness of higher order cognitive constructs is related to their definitions' degree of clarity [2]. Unfortunately, most creativity research oversees the importance of this point. In a content analysis done for the articles published in two major creativity research journals, Creativity Research Journal and Journal of Creative Behavior respectively, researchers found that only 34% of the selected articles provided and explicit definition of creativity [3]. In order to examine a concept scientifically, we should rely on operationalized definitions and the relatively low rates of explicit definitions on creativity, constitutes a major problem for the field. As a result, I will use the following definition provided in Ref. [3] to clarify my perspective for this chapter. Creativity is "the interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context".

Starting with a definition would help but not provide the answer to our question at hand, why assess creativity? Although this question may have hundreds

of answers the most basic and extensive answer would be: because creativity is the apex of human evolution and it is the most desirable skill in the information age. Creative thinking was the main ability that helped humans to move forward towards using a hand ax to complicated machines or produce complex language algorithms. Furthermore, creativity has become one of the most popular skills that schools and organizations search for. World Economic Forum, in its Future of Jobs report, ranked creativity in number three out of ten most important skills for the fourth industrial revolution [4], and also creativity is listed in the competencies part of 21st century skills. As of now, supporting creativity is the common goal of a kindergarten, a research institute or the biggest corporations in the world. The importance of creativity is anticipated to increase in the future due to various societal and economic trends as explained in Ref. [5].

1. Globalized markets require more competition.

2. Product development cycles shortened due to the information and communication technologies (For example, contemporarily any product that has been manufactured is redesigned within 5–10 years and this time period decreases to 6–12 months if the product is a technological device).

3. More and more jobs get automatized if it does not require creativity.

As job market demanded creativity more, the schools started to restructure their goals and curriculum to meet those need too. In the educational context, assessment of creativity is mostly about recognizing creativity and creating ideal conditions to nurture it, not about categorizing the students as "creative" or "not creative". In Ref. [6] possible purposes of creativity assessment have been discussed; these can be summarized as follows:

1. Guide the individuals recognize their own strengths and support them in nourishing them.

2. Develop a better understanding about human abilities like intelligence and creativity. By maintaining that we will gain insight into the working structures of these complicated concepts.

3. Restructure the curriculum and learning experiences in accordance with the needs of the students. If educators understand their students' strengths and weaknesses regarding creativity, they can tailor the educational opportunities for supporting creativity.

4. Imply creativity assessment as a program evaluation tool. Educators typically implement programs to enhance creativity, without pre and post assessments it would be impossible to know which approach worked best.

5. Utilization of standard measures will provide a common language for professionals to discuss various aspects of creativity.

Despite its importance, creativity did not become a major research area in psychology. Till the midst of 20th century creativity was seen as a marginal research topic and only 0,2% of the references in Psychological Abstracts indexes were about creativity [7]. Even the term "creativity" was not widely used before 50's, however there were some influential works and essays written by philosophers and scientists

(e.g. Bergson, Einstein, Kekulé, Poincaré) or early models proposed by researchers (see [8]). Modern creativity research began in 1950s and J. P. Guilford's famous presidential address in American Psychological Association ignited the wick [9]. After Guilford's call various researchers began to work on the field of creativity. Before that, assessment of creativity was not even a concern, especially for the young people or in the educational context. Because previous studies were solely focused on extraordinary creative achievements or eminent creative people. However, Binet's pioneering intelligence test constituted an exception, it included some items to measure "creative imagination" [10]. Historically, some intelligence test developers considered creativity to be a part of intelligence or a totally independent construct [11]. In Ref. [12], authors categorized the approach towards the relations between creativity and intelligence under five groups. These are; creativity is a subset of intelligence, intelligence is a subset of creativity, creativity and intelligence are overlapping sets, creativity and intelligence are coincident sets and creativity and intelligence are disjoint sets. In the light of recent research, it can be claimed that the relation between intelligence and creativity depends on how each construct is defined and measured. Contemporary research widens these horizons. Creativity is now seen as a psychological trait distributed in the general population, that can be developed and measured [13].

The growing mindset which sees creativity as a flexible trait, increased the attention about the levels of creative magnitude. Creative accomplishments were categorized as everyday (little c) and historical (Big C) creativity. Imagine a 14-year-old math fan solving problems enthusiastically and compare it with the work of Fields Medal winner Andrew Wiles. She will not be as creative as Wiles and she does not need to be. Everyday creativity is certainly different from world changing efforts. The little-c, Big-C dichotomy was so sharp that one cannot distinguish the creative levels ranging in between. Kaufman and Beghetto [14, 15] proposed a "Four-C Model of Creativity" (mini-c, little-c, Pro-c and Big-C) to present a new perspective to this problem (see **Table 1**).

Thus, it can easily be seen that every level of "c" requires a different approach and technique for assessing creativity. Over the years, researchers and theorists have proposed several different methods and theories for assessing creativity (e.g., Amabile, Csikszentmihalyi, Kaufman and Baer, Sternberg and Lubart, Torrance) (see [16–20]). These few examples constitute just the tip of the iceberg, there exist dozens of definitions, methods and theories in the field of creativity. As an illustration, in Ref. [21] Treffinger presented more than 100 different creativity definitions and as your definitions guide your assessment approaches, there are at least as many

Mini-c	Learning is closely related to creativity, when we learn a new thing or try to solve a new problem some degree of creativity will be involved. At the mini-c level the creative act or product is new and original for the individual himself. For example, after several trials Sasha baked her first ceramic, although it was just in beginner's level, it was new and meaningful to her.
Little-c	The little-c level is one step further of the mini-c. The product or idea might be valuable to others. Sasha brought her ceramic to her house and her family loved it and put it on top of the dresser so that they use and enjoy seeing it.
Pro-c	In the Pro-c level individual is at a professional level with years of experience and deliberate practice. Sasha majored in art in college and her artwork is now exhibited in galleries. Her work is followed by art experts and she is considered to be a creative artist.
Big-C	People who achieve Big-C level are eminent ones and will be remembered in history books. One's whole career and work is evaluated for this level. Sasha's ceramics have been bought by art collectors and exhibited in art galleries regularly.

Table 1.
Four-C's of creativity.

techniques to assess it. The reader can find information on more 70 different creativity assessments on Center for Creative Learning's web page (see reference [22]). However, the variety of definitions and assessment techniques does not mean that creativity research has no consensus at all. Researchers tried to identify psychological factors that best predict creative outcomes and proposed several assessment techniques that imply these factors as a means of measurement [13]. Indeed, we can even argue that the field of creativity assessment has never been so prosperous before.

2. The psychometric perspective in creativity research

Today it is accepted that creativity is a combination of cognitive, conative and emotional factors which interact with the environment dynamically. As all of these factors are present in human beings and all these variables affects us to a certain degree, it can be argued that a specific combination of them results in creativity. In the historical research of creativity, several researchers tried to investigate the nature of creativity through the eyes of the aforementioned factors. The 4P framework (process, person, product, press) proposed by Rhodes [23] is a widely accepted categorization in psychometric study of creativity.

- Process: Mental processes involved in creative thought or creative work.

- Person: Personality traits or personality types associated with creativity.

- Product: Products which are judged to be creative by a relevant social group.

- Press (Environment): The external forces that effects creative person or process (e.g. sociocultural context, trauma)

In this section, historical and recent research in the field of creativity assessment will be presented. Although, every single creativity test, scale or rating will not be discussed, instead the focus will be on the historical milestones and contemporary methods of creativity assessment. This chapter embraced the integrative review approach with the aim of assessing, critiquing and synthesizing the literature on assessment of creativity.

2.1 Assessing the creative process

Psychometric measures of creative process and potential has been extensively implied in the field. These processes involve cognitive factors that lead to creative production like finding and solving problems, selective encoding (i.e. selecting info that is relevant to problem and ignoring distractions), evaluation of ideas, associative thinking, flexibility and divergent thinking. Nevertheless, from this long list of cognitive factors the assessment of creative process mostly relied on divergent thinking in the creativity assessment tests. Even researchers in Ref. [24] underlined the irony in the study of creativity, although creativity itself requires novel and original solutions to a problem, researchers mostly focused on divergent thinking (DT) tasks. Not only major efforts were put on developing DT tests, even the earliest DT tests are still widely used in creativity research and educational areas. Divergent thinking can be explained as a thought process used to generate creative ideas via searching for many possible solutions. Whereas, convergent thinking is the ability to arrive the "correct" solution. Guilford [25] who came up with these concepts clearly underlined the difference between them.

> *In convergent thinking tests, the examinee must arrive at one right answer. The information given generally is sufficiently structured so that there is only one right answer... An example with verbal material would be: "What is the opposite of hard?" In divergent thinking, the thinker must do much searching around, and often a number of answers will do or are wanted. If you ask the examinee to name all the things, he can think of that are hard, also edible, also white, he has a whole class of things that might do. It is in the divergent thinking category that we find the abilities that are most significant in creative thinking and invention (p. 8)*

In divergent thinking it is important to produce as many responses to verbal or figural stimuli as possible such that, more is better in DT. After the examinee come up with various answers, testers score them. The scoring is based on the concepts of originality (uniqueness of responses to a given stimuli), fluency (number of responses produced to a given stimuli), flexibility (number and/or uniqueness of categories of responses to a given stimuli) and elaboration (to add details to the ideas produced for a given stimuli) [25, 26]. As Guilford pioneered the research on creativity, initial efforts to assess it came from him and his colleagues too. Though, there were others who developed test batteries to measure creative thinking abilities and focused mostly on process components (e.g., Kogan and Wallach, Torrance, Mednick).

Structure of Intellect Divergent Thinking Test: Guilford's famous Structure of Intellect Model (SOI) was mainly about defining and analyzing the factors constitute intelligence and he proposed 24 distinct types of DT [27]. His model covers 180 (6x5x5) intellectual abilities organized along three dimensions namely; operations (evaluation, convergent production, divergent production, memory, cognition), contents (visual, auditory, symbolic, semantic, behavioral) and products (units, classes, relations, systems, transformation, implications). Guilford's SOI battery included several DT tasks like; in figural implications examinees were required to add lines to simple figures to create a new figure or in semantic units, listing commonly mentioned consequences of an impossible event, such as people not needing to sleep. Other examples include the Making Objects task (fluency with figural systems); in which participants make a new object from the provided four and by using alt least two of them or the Name Grouping task (flexibility with symbolic classes) which requires participants, given a set of names, forming subgroups based on different rules.

"Guilfordian" Tests: Guilford's work was so influential that it was followed, replicated and reinterpreted by different researchers in 60s. Wallach and Kogan [28] argued that creativity tests should be administered in a game-like environment and should not apply time limitations. With this in mind, they focused on assessing creativity in children and developed the Instances Test (list as many things that move wheels, things that make noise) and the Uses Test (tell me the different ways you can use knife, tire or like in Ref. [29] toothpicks, chair or bricks). Wallach and Kogan proposed a different perspective than Guilford, not in the content of the test but for the target age group and way of administration (for a detailed discussion on the effects of different testing environments see reference [30]). Testing the divergent thinking ability of children would allow the educators and educational institutions to recognize their creatively able children and provide the necessary support and enrichment in their education.

Torrance Tests of Creative Thinking (TTCT): If we were to make a hits list for creativity assessment tests, TTCT most probably would be the number one. Torrance's name was equated with assessment of creativity but it was not his major goal. TTCT was developed for research and to provide a tool that can be used to individualize the instruction [31, 32]. The TTCT, which are mainly based on SOI battery, are

the most widely used and studied creativity tests [33, 34] and continue to attract attention in international level [35, 36]. Over the course of years, TTCT was refined in terms of scoring and administration and re-normed, which can account for its popularity. The TTCT consist of two different tests, the TTCT-Verbal and the TTCT-Figural, and each test has two parallel forms allowing it to be used as pre-posttests in experimental settings. The TTCT scores were expressed by four factors: fluency, originality, flexibility and elaboration. After the streamlined system introduced, Figural tests scored for resistance to premature closure and abstractness of titles in addition to originality, fluency and elaboration. Flexibility was removed because of the close correlation between fluency and flexibility scores [37]. The TTCT recommend an administration of game-like environment like Wallach and Kogan but apply time limitations.

The TTCT-Verbal is entitled as "Thinking Creatively with Words" and the Figural form entitled as "Thinking Creatively with Pictures". Verbal form consists of six activities each whereas figural form consists of three (see **Table 2**).

Remote Associates Test: Mednick [39], proposed a different perspective to creativity assessment and instead of solely focusing on divergent thinking he argued that convergent thinking should be taken into consideration too. Mednick believed that creative people are able to produce original ideas because they have the ability to form associations in their minds. Mednick analyzed the creative process through stimulus-response (S-R) perspective, he thought producing unusual or original responses to a stimulus required creativity and defined creativity based on this point of view.

> ....define the creative thinking process as the forming of associative elements into new combinations which either meet specified requirements or are in some way useful. The more mutually remote the elements of the new combination, the more creative the process or solution ([39], p. 221).

Mednick argued that people can achieve a creative solution through serendipity, similarity and mediation. His analysis showed that people's associative hierarchies

TTCT-Figural	
Picture Construction	Participant uses a basic shape and expands on it to create a picture.
Picture Completion	Participant is asked to finish and title incomplete drawings.
Lines/Circles	Participant is asked to modify many different series of lines and circles.
TTCT-Verbal	
Asking	Participant asks as many questions as possible about the picture.
Guessing Causes	Participant lists possible causes for the pictured action.
Guessing Consequences	Participant lists possible consequences for the pictured action.
Product Improvement	Participant is asked to make changes to improve a toy.
Unusual Uses	Participant is asked to think of many different possible uses for an ordinary item.
Unusual Questions	Participant asks as many questions as possible about an ordinary item (this item does not appear in later editions).
Just Suppose	Participant is asked to "just suppose" that an improbable situation has happened then list possible ramifications

Table 2.
TTCT- figural and TTCT-verbal subtests (adapted from reference [38]).

or set of responses to stimulus situations differ. Noncreative people have steep hierarchies, with a strong or dominant response to a given situation. As an example, if someone says *pros*, and if I cannot think anything else besides *cons*, that will be my dominant response to that stimulus and I will display a steep associative hierarchy. Whereas, the creative person has a flat associative hierarchy with multiple responses to a given stimulus. For example, for the stimulus word "table" a creative person might come up associations like chair, class, wood, leg, food whereas a non-creative person might come up with strongest associative links like chair, class and wood and stuck there.

For the operational definition of his theory, Mednick developed the Remote Associates Test (the RAT). RAT consisted of 30 items originally, each item included three stimulus words and the participant was required to find a fourth word that links them all. As an example; given stimulus set is; 'book/shelf/telephone' and the fourth word that link them all will be 'book'. Some argued that, as test requires a single correct answer, it does not seem to require creative thinking [40]. However, one should note that the RAT itself is not aimed to measure creative thinking directly; it is measuring the capacity to think creatively and also in order to reach a single answer one should think divergently in RAT. Weisberg [41] joined this discussion by giving the example of a marathon runner, if one wants to identify a runner who has the potential to be a good marathon runner, he should measure lung capacity instead of running speed.

The Test for Creative Thinking – Drawing Production (TCT-DP): The discussion on TTC-DP should start with an annotation that it is not solely based on measuring creative processes (especially traditional divergent thinking tests) instead designed to mirror a more holistic concept of creativity. Though, as the theoretical basis of the test reflects mostly the cognitive processes involved in creative production, I preferred to discuss it under this heading. Urban [42] explained the approach in developing TCT-DP as a more holistic and gestalt-oriented one and aimed to consider not only divergent thinking but also aspects like content, gestalt, composition, elaboration, mental risk taking, breaking of boundaries, unconventionality and humor. The TCT-DP was developed by Jellen and Urban [43] and the test consist from a 'big square frame' with five fragments in the square and one fragment out of it. The participants are required to complete the drawing as they wish. TCT-DP has two parallel forms and although participants are not informed about the time limit during administration, it has a fifteen-minute duration for each form. TCT-DP is both an individual and group-oriented test and can be used with test-takers of most ages, from 4 to 95 years. The evaluation manual for TCT-DP includes a set of 14 key criteria ([42, 43], see **Table 3**).

Evaluation of Potential Creativity (EPoC): EPoC, similar to TCT-DP is not solely a process assessment, although it has strong cognitive factors it synthesized several traditions of measurement. The developers [44] embraced the multivariate approach proposed by researchers [45], which is, the combination of the cognitive, conative-affective and environmental factors influences creative capacity. EPoC was developed for children aged between 5 to 12 years old and aims to evaluate the creative potential of school-aged children. The test has two parallel forms and measurement relates to two fields of expression, graphic and verbal, and implies divergent-exploratory (find numerous original responses based on a given stimulus) and convergent-integrative (produce an original work integrating several elements in a creative synthesis) ways of thinking [13, 44]. EPoC's forms are composed of eight subtests, administered individually and it is considered to be a modular domain-specific tool (see **Table 4**). EPoC is the most up to date creativity assessment instrument and the team is working on the extension of the test battery for new domains of creativity like music and science.

Continuations (Cn)	Any use, continuation or extension of the six given figural fragments.
Completion (Cm)	Any additions, completions, complements, supplements made to the used, continued or extended figural fragments.
New elements (Ne)	Any new figure, symbol or element.
Connections made with a line (Cl)	Between one figural fragment or figure or another.
Connections made to produce a theme (Cth):	Any figure contributing to a compositional theme or "gestalt".
Boundary breaking that is fragment dependent (Bfd)	Any use, continuation or extension of the "small open square" located outside the square frame.
Boundary breaking that is fragment independent (Bfi)	Any use or extension located outside the square frame independent of "small open square".
Perspective (Pe)	Any breaking away from two-dimensionality.
Humor and affectivity (Hu)	Any drawing which elicits a humorous response, shows affection, emotion, or strong expressive power.
Unconventionality, (Uc, a)	Any manipulation of the material.
Unconventionality, b (Uc, b)	Any surrealistic, fictional and/or abstract elements or drawings.
Unconventionality, c (Uc, c)	Any usage of symbols or signs.
Unconventionality, d (Uc, d)	Unconventional use of given fragments.
Speed (Sp)	A breakdown of points, beyond a certain score-limit, according to the time spent on the drawing production.

Table 3.
Evaluation criteria for TCT-DP (source [42, 43]).

Field of expression	Exploratory-divergent thinking	Integrative-convergent thinking
Graphic	Abstract form	Abstract forms
	Concrete object	Concrete objects
Verbal	Story endings	Story with given title
	Story beginnings	Story with characters

Table 4.
Distribution of the tests by field of expression and the mode of thinking evaluated for each parallel form (source [44]).

For convenience TCT-DP and EPoC has been presented under assessing the creative process and the discussion regarding their psychometric evidence is included in the next part along with other process assessment tools. As the reader may guess, there exist numerous tools for creativity assessment. Furthermore, there is a growing interest for domain-specific creativity assessment but domain-specific measures of creative potential are beyond the scope of this chapter, interested readers may check the suggested sources (i.e., For example, see [46–48]).

2.1.1 Issues of reliability and validity in creativity assessment

The most important question regarding any measurement instrument, whether it is a thermometer or test of creative thinking would be; is it reliable, does it produce consistent outcomes? To ensure reliability psychometric instruments must show consistent results in tests of reliability like test-retest reliability and split-half

reliability. Research studies have showed that divergent thinking tests are reliable [30]. However, there are important points for further consideration, for example, some studies found that performance on DT tasks is affected by instructions (if you instruct people to be creative, they score higher). Weisberg [41], highlighted this situation by asking the question 'If you instruct the examinee to be smart in the IQ test, will he be smarter?'. Weisberg himself gives the answer to this question; as children are used to answer questions exists in IQ tests, their score will not change with the instruction to be smart. However, questions in creativity tests are different in nature, most of them do not have a single correct answer and children are not familiar with this kind of questions. Thus, additional instruction might not be flaw for tests of creativity.

Once the reliability of a testing instrument is maintained, questions about validity arouse. Validity is a complex concept that can be ensured in a testing instrument via different analyses like discriminant, face, criterion and predictive validity. Tests of creative potential are reliable yet major discussions and suspicions exists about their predictive and discriminant validity.

To start with the Guilford SOI model, it is known that there exist enormous amount of assessment data and the archives are still available. SOI data was analyzed extensively within the years and the results generally supported the model [49, 50], or some researchers said that revisions needed [51] or concluded that the model has serious problems [52]. The results are pretty much same for Wallach and Kogan, although tests are reliable there are mixed results about its validity.

TTCT has been the most widely used and researched test of creativity, thus having extensive data to support its reliability and validity. Research about TTCT report good reliability scores for scoring and test-retest reliability [53, 54]. The majority of predictive validity studies for TTCT was run by Torrance himself, beginning in 1958 they included all grades 1 to 6 in two Minnesota elementary schools and in 1959 all students in grades 7–12 took TTCT. They followed up these students in four time periods (7-12-22-40 years) and collected data about their creative achievements. The longitudinal studies have shown that [20, 37, 55, 56] TTCT results correlate to adult creative achievement thus having predictive validity (for a detailed discussion see [57]). Though, Baer [58] raised some questions about the relevance of criterion variables (subscribing to a professional journal, learning a foreign language), do questions asked for the creative achievements in adult life are solely related to creativity? One can justifiably argue that, these criterion variables are strongly related to intelligence too. In addition, Torrance tests also correlate with intelligence then the predictability of creative achievements might be based on intelligence not on divergent thinking ability [41]. On the other hand, Plucker [59] presented more positive results concerning the predictive validity of the divergent thinking tests. He used multiple-regression analysis to reanalyze the Torrance data and examined its predictive power and provided support for the tests' usefulness. Weisberg and Baer make other criticisms including the design of the study and interested readers should refer to these sources (see [41, 58]).

Mednick 's Remote Associates Test enjoy mixed support in terms reliability and validity too. Although RAT showed to be reliable [60], validity of the test is problematic [61]. It is important to note that the criterion/predictive validity of RAT, TCT-DP or EPoC have been subject to less investigation compared to divergent thinking tests like SOI or TTCT. TCT-DP has been normed in several countries like Germany, Korea, Poland and Australia for different age groups. The reliability studies showed fair to very good scores in terms of parallel test, scoring and differential reliability [42, 43]. Urban stated that the question of validity is hard to answer for TCT-DP as there are no instruments directly comparable to it [42]. So, they examined correlations with intelligence and verbally oriented divergent thinking tests

and expected low or slightly positive correlations to ensure the instruments validity and attained supportive findings for the validity of the test [42]. As a modern creativity assessment instrument, EPoC was initially developed and validated in France with French sample. Internal validity was acceptable and for external validity researchers reached satisfactory results by proving that EPoC scores are independent from intelligence scores, moderately correlated with personality-relevant dimension like openness to experience and highly correlated with classic divergent tests [13, 44]. Although, EPoC shows promising validity results, extensive research is needed to support its criterion and predictive validity.

Extensive discussion regarding the reliability and validity of creativity assessment is mostly based on the divergent thinking tasks and tests. One major problem is about the scoring systems and several researches showed that fluency can act as a contaminating factor on originality scores [62]. To resolve fluency problem a new calculation named Creativity Quotient (CQ) was proposed by researchers [63]. CQ formula rewards response pools that are highly fluent and flexible at the same time. The discussion on fluency scoring is ongoing and some researchers advocate that fluency is a more complex construct than it is originally thought.

The debate on the predictive validity of divergent thinking tests is still ongoing, it seems like there exist two camps of researchers, one supporting the predictive power of DT [59, 64] and the other opposes [41, 58]. In an extensive review Kaufman and his colleagues [24] summarized the methodological issues in studies of DT tests' predictive validity and pointed out that scores may be susceptible to intervention effects, administration procedures can affect the originality and fluency scores, statistical procedures may be inadequate, score distributions often violate the statistical assumption of normal distribution and creative achievement in adulthood may be domain specific and the DT tests used are almost always domain general. Runco [65] with all these criticism in mind, advocated for DT tests by saying;

> *Theorists who dismiss divergent thinking as entirely unimportant have ignored recent empirical research. . . . Additionally, some critics seem to expect too much from divergent thinking. Again, divergent thinking is not synonymous with creativity. Divergent thinking tests are, however, very useful estimates of the potential for creative thought. Although a high score on a divergent thinking test does not guarantee outstanding performance in the natural environment, these tests do lead to useful predictions about who is capable of such performances. . . . Divergent thinking is a predictor of original thought, not a criterion of creative ability. (p. 16)*

In the early 60s and 70s creativity assessment was pretty much equal to DT tests however after several years and hundreds of research, the field should embrace a wider perspective. We now have more complex systems theories of creativity and it would be more prosperous for the field, if the upcoming research focus on developing and testing contemporary instruments more.

2.2 Assessing the creative person

Autonomous, self-confident, open to new experiences, independent and original are some of the character traits that creative persons possess and the assessment of creative person deals with it. Measures that focus on the characteristics of creative person are self-reports or external ratings of past behavior or personality traits and they have been reviewed extensively in the literature [66]. Creative personality traits are diverse and can be perceived to be both positive and negative. Such as; perseverance, tolerance for ambiguity risk taking, psychoticism, dominance or

non-conformity. One of the leading theories of personality is the five-factor theory. These five factors are neuroticism, extraversion, openness to experience, conscientiousness and agreeableness. Openness to experience is highly associated with creativity measures such as self-reports [67], verbal creativity [68], and psychometric tests [69].

Researchers study the common personality characteristics and past behaviors of people who are accepted as creative and develop instruments to measure personality correlates of creative behavior. There exist numerous instruments of personality scales and attitude checklist such as; *The Khatena-Torrance Creative Perception Inventory, Group Inventory for Finding Talent, Creativity Achievement Questionnaire or Runco Ideational Behavior Scale.*

The Khatena-Torrance Creative Perception Inventory: This inventory consists of two self-rating scales called What Kind of Person Are You? (WKOPAY) and Something About Myself (SAM). It is designed to identify creative people 10 years or older [70]. There are 50 forced-choice items in each inventory and asks test takers for example, if they have courage for what they believe or select true or false options for the sentences like; I have made a new dance or song. The inventory has satisfactory reliability data and validity data was moderate.

Group Inventory for Finding Creative Talent (GIFT): GIFT is a self-report for 1–6 grader to assess their creative potential [71]. Students give yes/no answers to a series of questions aiming to assess flexibility, curiosity, perseverance or hobbies such as; I like to take things apart to see how they work. Later in 1982, Davis and Rimm developed a new personality scale called Group Inventories for Finding Interests (I and II), known as GIFFI. These instruments were designed for junior and senior high school students and are very similar to GIFT [72]. Reliability and validity data for GIFT and GIFFI were moderate and researchers stressed that additional data is needed to support their psychometric structure.

The NEO Personality Inventory - NEO-Five Factor Inventory: Costa and McCrae's [73, 74] inventories are one of the most popular five-factor measures of personality theory. For openness to experience part, they used down to earth-imaginative, uncreative-creative, conventional-original, prefer routine-prefer variety as adjective definers and fantasy, esthetics, feelings, actions, ideas and values as scale definers [73]. This type of items has been used in numerous studies and most of the studies did not find any personality differences among cultures except in some studies it has been shown that European-American cultures tended to be more open to experience than Asian-African cultures (for a detailed discussion see [24]).

Creativity Achievement Questionnaire (CAQ): Self-reports of activities and attainments can be used to measure creativity. CAQ developed by researchers in Ref. [75] and assesses achievement across 10 domains of creativity. It is a self-report checklist consisting 96 items that load on to an Arts (Drama, Writing, Humor, Music, Visual Arts and Dance) and a Science factor (Invention, Science and Culinary). The respondent indicates to which extent the phrases in the items represent him/her. For example, within Scientific Discovery scale items range from "I do not have training or recognized ability in this field" to "I have won a prize at a science fair or other local competition", to "My work has been cited by other scientists in national publications." The CAQ possess high levels of evidence of reliability and acceptable evidence of validity [75] and has been used in several studies (see [76, 77]).

Runco Ideational Behavior Scale (RIBS): In everyday life, generating creative ideas is a sign of creative performance and RIBS's purpose is to measure this idea generation. Ideation involves idea generation and attribution of value to it; thus, it can be an adequate creativity criterion. Runco and his colleagues developed a set 100 items and reduced it to 23 to measure ideational behavior [78]. Sample items include,

"I am able to think about things intensely for many hours" or, "I often find that one of my ideas has led me to other ideas that have led me to other ideas, and I end up with an idea and do not know where it came from". Psychometric integrity of RIBS in terms of reliability and validity has been proven to be adequate [78] and RIBS has been used in several studies and adapted to other languages as well (see [79, 80]).

"Person" perspective or conative factors in creativity assessment mainly take into account that significant personal characteristics and existing creative behavior are best predictors of future creative behavior. Feist, an influential personality researcher, for example investigated the personality characteristics of scientists versus scientists, more creative versus less creative nonscientists and artists versus nonartists. In general, he showed that creative people are more open to new experiences, less conventional and less conscientious, more self-confident, self-accepting, ambitious, dominant, hostile and impulsive [81, 82]. In sum, self-reported creativity has attracted considerable attention in the field because it is fast and easy to score. Although, researchers willing to use these instruments should take into account the validity issues and the possibility that respondents may not be telling the truth. All kinds of self-assessments generally correlate to each other but the correlation data with performance assessments are contradictory [83–85]. Thus, citing from reference [24] "although self-assessments have a function and purpose, they are not useful in any type of high-stakes assessment".

2.3 Assessing the creative product

Think about the Nobel, Oscar or Grammy prizes, how the winners are designated? For example, do the Nobel committee requires the nominees to take TTCT or fill the creativity questionnaires or a taxi driver's opinion will be count as an expert opinion in determining the nominees for chemistry? As explained in theories of Csikszentmihalyi and Amabile any idea or product to be seen as creative it should be valued by others or recognized experts in that field [86, 87]. Measuring the creativity of a product can be the most important aspect of creativity assessment yet it did not receive as much attention as process or personality variables. Some researchers even believe that product assessment is probably the most appropriate assessment of creativity and referred as the "gold standard" of it [88]. Researchers developed several instruments to evaluate creative products, such as Creative Product Semantic Scale or Student Product Assessment Form. These instruments ask educators to rate the specific features of students' products. Though, above all Consensual Assessment Technique is the most popular way of assessing products. A brief explanation of each is provided below.

Creative Product Semantic Scale (CPSS): The CPSS is based on a theoretical model that conceptualizes three dimension of product attributes: novelty (the product is original, surprising and germinal), resolution (the product is valuable, logical, useful, understandable) and elaboration and synthesis (the product is organic, elegant, complex and well-crafted) [89]. The instrument relies on the idea that untrained judges can evaluate the creativity of a product by using a validated and reliable instrument [90]. The CPSS is scored on 7-point Likert-type scale, ranging from 1 to 7 between bipolar adjectives such as old-new. CPSS has shown to have adequate reliability values.

Student Product Assessment Form (SPAF): SPAF was developed by Renzulli and Reis [91], and aimed to assess the various types of products developed by students in enrichment programs. SPAF is designed for use with gifted learners and provides ratings of nine creative product traits (e.g. problem focusing, appropriateness of resources, originality, action orientation, audience) [92]. SPAF again, like CPSS have evidence of reliability although validity issues remained to be addressed.

Consensual Assessment Technique (CAT): Researchers need external criteria in creativity research to reach evidence of validity but an absolute criterion of creativity is not readily available (criterion problem) [24]. In CAT, the creativity of a product is judged by the experts in that field. These experts can be a group of mathematics professors to a group of kindergarten teachers depending on the product at hand. CAT was formulated by Amabile [87, 93] and since then has been applied in the creativity research extensively. When using CAT, the participants are asked to produce something (an actual product like haiku, collage, poem etc.) and experts rate the creativity of these products according to their perception of a creative product. CAT's procedure is working similar to the real world and it does not provide standard scores, only comparative scoring is possible.

CAT has been proven to be reliable in several studies [58, 85, 88, 93, 94], inter-rater reliabilities ranged between .70 to .90. The average number of judges involved in the CAT studies run by Amabile [93] was just over ten. Using expert judges ranging between 5 to 10 is recommended, fewer than 5 experts may results in low inter-reliability levels and using more than 10 (although desirable) can be expensive and hard. Although, CAT steadily shows high reliability in various studies, using experts in creativity assessment is not without controversy. For example, Amabile states that determining the necessary level of expertise for judges is important and it is recommended that the experts should have formal training and experience in the target domain. Furthermore, researchers reported mixed results about the expert and novice ratings. For example, Kaufman and his colleagues showed low correlations among novice and expert raters [95], whereas in another study higher correlations reported [96], in more recent work researchers approached the expertise problem from a different perspective and argued that it should be understand as a continuum [88]. CAT also possess strong face validity yet, face validity (an instruments capability to measure what it looks like to measure) is not sufficient enough. For example, experts can agree a product is not creative and still be wrong (e.g. van Gogh was not valued as a creative artist by the experts in his time). Predictive validity discussion is even more complicating, it has been shown that CAT scores do predict later CAT scores, meaning they are stable across time in the same domain. However, does this mean CAT scores can predict later creative achievement? Historiometric research data supports this argument, for example analysis of Mozart's music pieces in his early life predicted his later creative achievement [97].

2.4 Assessing the creative press

Various environmental factors contribute to creative potential and have deep effects on it. Parental practices, trauma, birth order, culture, teaching practices and group interactions may affect creativity. Following the previous example of Mozart, we know that he was born in Salzburg and to a musical family (his father was a music teacher, composer, conductor and violinist). Imagine what would happen to the same Mozart if he would have born in small village in the Alps as son of a shepherd, would he be able to develop as a musical prodigy? Although creativity is highly related to cognitive factors, it is impossible to disregard the impact of environment.

As environmental factors are identified as important contributors to creative potential, studies aiming to determine the presence or absence of these factors in an individual's environment become really important. There are instruments for assessing classroom and learning environment like Classroom Activities Questionnaire-CAQ (cited in [13]). However, the majority of the instruments for assessing environmental effects on creativity are mostly about the organizational structures, such as KEYS: Assessing the Climate for Creativity [98]. CAQ has not been widely applied in research studies therefore lacking the psychometric data,

KEYS on the other hand, which was designed to "assess individuals perceptions and influence of those perceptions on the creativity of their work" ([98], p. 1157) possess evidence of reliability and validity and is widely applied in the organizational creativity field.

3. Conclusion

Creativity has various definitions, theories and also understood therefore assessed in many ways. Enhancing students' creative thinking skills has become one of the major goals of education. Unfortunately, Kim's comprehensive research on TTCT is disquieting. The normative data of TTCT 1974, 1984, 1990, 1998 and 2008 (272,599 participants) were re-analyzed and it was found that creative thinking scores either remained static or decreased, starting at the sixth grade [99]. There can be millions of reasons behind this failure. The inability to embed creativity in classroom practices can be one reason whereas the development and implication of up to date creativity assessment is the other. The field should move forward to using comprehensive theories as the basis of assessment, renew the norms of existing creativity tests such as TTCT and pay more attention to the validity studies of the creativity assessment instruments.

This chapter introduced a brief overview of existing tools of creativity assessment and to reach a "perfect" measure, researchers should take these approaches' and instruments' strengths and weaknesses into account (a brief overview is provided in **Table 5**).

Furthermore, the argument that Sternberg [100] made by claiming that the evaluation of creativity is always local has to be kept in mind. Judging any thought or product is relative to some set of norms and this perspective raises questions for tests like TTCT or Unusual Uses, because these tests assume that some sort universal creativity exists and they measure it. Sternberg believes that creativity should be assessed locally because it has culture dependent elements just like intelligence and he suggests that "we should agree that our evaluations of what usually is viewed as constituting creativity – novel, surprising, and compelling ideas or products – represent local norms" ([100], p. 399).

Type of Assessment	Examples	Advantages	Disadvantages
Process based assessment (e.g. divergent thinking tests)	Torrance Tests of Creative Thinking	Well researched having years of research data available	May only tap limited aspects of creativity
Person based assessment (e.g. Assessment by others)	Group Inventory for Finding Creative Talent or other instruments	Creativity is rated by a teacher, peer, or parent who knows the individual.	Questions about validity and reliability
Person based assessment (e.g. Self-assessment)	Asking someone to rate his or her own creativity	Quick, cheap, and has high face validity	People can be subjective about their level of creativity
Product based assessment (e.g. Consensual assessment technique)	Having experts rate a creative product	Allows for very domain-specific information about creativity,	Time consuming and expensive

Table 5.
Brief overview of creativity assessment (adapted from [24]).

The laypeople, the philosophers, the artists, and the creativity researchers all agree that creativity is a complex phenomenon and we know less about its scope and measurement than we wish to know. However, from a historical perspective in recent years more research has been conducted on creativity and the field of creativity can said to be at its prime. Hence, upcoming efforts of understanding and assessing creativity has the potential to produce more reliable, valid and comprehensive methods and theories. As discussed in this chapter, creativity assessment has its own limitations but it is recommended for future efforts to focus more on building a theoretical basis and providing multifaceted, multimodal assessment systems to measure creativity in order to overcome the aforementioned limitations.

Conflict of interest

The author declares no conflict of interest.

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Using Ideation Grids to Power Collaborative Creativity in Face-to-Face and Remote Innovation Sessions

John Knight, Elliot Ross and Dan Fitton

Abstract

   This chapter outlines a design-led approach to ideation. Ideation is a structured way to develop innovative ideas via collaborative workshops. The chapter starts by contextualising ideation within an overview of the ways in which design supports innovation both as a definable mindset as well as via a standardised methodology. People, behavioural approaches and methods for design innovation are described in section three. Design Thinking is positioned from this analysis as a practical asset in the innovators' toolkit and also as a natural inheritor and embodiment of applied creativity. The chapter concludes by detailing how ideation works in practice and describes an evolved set of techniques, principles and methods for maximising the value of the approach through ideation grids that can be used in face-to-face and remote innovation work.

Keywords: design thinking, ideation, collaboration, human-centred design, concept development

1. Introduction

> *'There's a way to do it better - find it.'*
>
> *Thomas A. Edison*

   Edison's words are as relevant to today's start-up scene as they were at the turn of the twentieth century when a flurry of electro-mechanical invention was the touchstone of innovation. In this sense, the innovator's talent is therefore a combination of illuminating a problem or opportunity with insight and identifying an improvement with imagination. The improvement might be incremental or revolutionary. Edison embodied an approach that was built on systematic experimentation. Design Thinking holds the promise of reducing the time taken for this kind of deductive effort through creative collaboration. This chapter provides an overview of how Design Thinking has evolved and how the stages of convergence and divergence can be harnessed to enable non-designers ideate effectively.

   Design Thinking (DT) has developed from its academic roots in the 1970s into a widely adopted business-critical capability today [1]. The value of DT continues to diffuse through ever-increasing numbers of innovation agencies and consultancies,

aided by a number of do-it-yourself toolkits that have been devised by high-profile design organisations such as LUMA and IDEO. The popularity of DT, within many fields, has embedded the notion that design is a practical means to help drive innovation (at the level of new ideas and concepts) as a distinctive and human-centred approach that rivals traditional marketing-led and scientific/engineering strategies. The popularity of 'design-led' organisations, the visibility of high-profile advocates including Jonny Ives, a growing awareness in the media and prevalence of an agile, diverse, empowered and lean oriented workforce have all contributed to DTs notoriety.

DT is itself an innovation and one that 'productises' the problem-solving strategies creatives apply when envisioning new experiences, products and services in three ways. Firstly, through advocating a human-centred design methodology based on research and iterative solution development. Secondly, through a defined and distinctive (if not unique) mindset of creative thought cultivated in art and design schools. Lastly, it embodies a set of traditional applied practices and principles that span the diversity of design of new products and services from the archaic (drawing) to the modern (ethnography).

2. The design thinking mindset

The notion that designers are 'futurologists' in speculating about what could be is a strong current in the literature, as is the idea that design is about realising how things ought to be as utopian endeavour. Buchanan [2] argues that DT can be used to tackle 'wicked problems' that defy deductive thinking or logical progression from problem to solution. Rittel and Webber [3] coined this phrase 'wicked problems' to describe the kind of intractable issues where 'the problem is not understood until after the formulation of a solution' [4] that are amenable to creative strategies.

Unpicking the kinds of pithy problems (e.g. climate change) typified by fuzzy or wicked problems and creating good solutions to them is, so the rationale for DT suggests, best done by reframing (via provisional concepts and iteration) rather than applying sequential problem-solving techniques. Lawson cites Schön's [5] use of such cognitive (re)framing where problem definition and solutioning are in a continual dialogical loop only resolved when problem and solution are harmonised into a viable future state. This influential construct (reframing) underlies a popular visualisation of effective creative thinking (the double-diamond model [6]) where creative thinking progresses through phases of convergent and divergent thinking:

- Convergent thinking – thinking is reductive, narrowing and solution oriented

- Divergent thinking – thinking is generative, open-ended and outward

3. The design thinking traditions

DT is the product of at least three distinct and related traditions that span design but also connect to proximal practices as diverse as anthropology, business consulting, open innovation, agile-style product development and lean manufacturing techniques. Service design is also an influence in positioning designers as creative facilitators of collaboration rather than as creative specialists. In the broadest sense, DT encompasses holistic set of principles, techniques and methods that cover all aspects of innovation, specifically through the lens of creativity and also importantly underpinned by a broad humanistic approach that spans the methodological realisation of those principles through bottom up integration of human needs within supporting

research and concept development (Ethnography) to practical ways of empowering people to innovate themselves (Participatory Design).

3.1 People-centred innovation

DT's overarching approach aligns to a Human-Centred Design (HCD) perspective, where innovation is focused on ensuring new products and services capitalise on human capabilities as well as their limitations. Optimal innovation with new technology augments and enhances human physical and cognitive abilities in order to achieve goals that would otherwise be difficult (or impossible) to achieve by humans or machines alone. In most cases, user involvement is focused on refining pre-defined solutions through incremental 'tweaks'. This means that the scope of innovation is generally limited to shaping the way a solution is manifested as a marketable product or service (e.g. screens for a shopping cart flow) rather than the broader solution itself (e.g. online purchasing).

This strand in DT emerged from socio-technical design [7] in the 1970s and is explicitly aimed at addressing the introduction of new technology. Balancing human needs with the potential risks and benefits of technology was extended in Participatory Design (PD). The PD movement [8] originated in the Scandinavian and Nordic countries during the 1970s and was overtly political in promoting social democracy especially in designing interactive systems for the workplace. This focus was predicated on the realisation that new systems often failed because of conflicting interests among stakeholders and also that workers loss of control of their work had a detrimental effect of productivity and industrial relations. Lastly, Human-Computer Interaction (HCI) synthesised these two traditions into a multidisciplinary approach that unequivocally focuses on innovation through developing novel ways of interacting with technology and removing barriers to adoption through advocating usability. HCI research usually focuses on conducting primary research with representative users in order to understand their wants, needs and barriers to adoption, and using the resulting insights to ideate potential concepts that are then used to develop representations of the future solution through low-fidelity prototypes. These enable researchers to test and refine potential solutions before full development to make sure that they meet users' needs and are likely to be adopted by broader audiences.

3.2 Behaviour-centred innovation

DT extends human-centricity beyond participation into a deeper level of innovating to meet latent human needs via ethnographic-based research. This extends the scope of innovation out, so that potential solutions emerge as insightful possibilities from the research activity itself rather than field work being used for validation. This ground-up approach increases the likelihood that solutions are grounded in human needs and in some cases meet latent needs that would otherwise be difficult to elicit let alone manifest through tangible product or service concepts.

Ethnography research methods are integral to this strand as is the work of Suchman [9]. She contends that activity is conditional on any given situation in which it takes place and that behaviour is therefore of an improvised rather than planned nature. Allied methods including ethnomethodology [10] have been developed which also lend themselves to understanding complex work situations such as air traffic control, where possibilities to innovate are highly constrained. A more pragmatic set of methods have integrated this approach under the banner.

Contextual Design [11] involves field research (usually in a workplace setting) but with less focus on the granularity of everyday life observed and with more a

priori structuring of observational data through boundary type constructs such as personas and workflows that help innovators share knowledge and develop ideas around.

Cultural Probes [12] extends the approach and reduces the role of the research to gather data on people's non-instrumental latent needs. This is done by proxy so that participants produce their own representation and prototypes using a kit or materials including cards, diaries and throwaway cameras that are given to them.

In conclusion, the various approaches to behaviour-centred innovation use field work not only to generate insights but also locate innovation within existing human practice rather than as a separate activity done by others.

3.3 Method-based innovation

The Design Methods movement [13] is the earliest (and perhaps the most accessible) contributing tradition to DT. Predating the digital revolution of the new economy, the Design Methods movement focuses on defining easy to use, reusable tools and techniques for innovation that can be used by designers and non-designers alike. First among these is Synectics which predates 'designerly' cycles of convergent and divergent thinking and is a clear precursor of ideation.

The Design Methods approach is underpinned by two principles. Firstly, that design can be distilled down into discrete techniques that anyone can apply to a given problem or opportunity. Secondly, that solutions are rarely uniquely novel and rather are invariably composed of common components, an approach that draws on the work of Christopher Alexander.

4. Ideation

DT's closest equivalent to synectics is ideation. Ideation is usually done in groups, on the rationale that cohort size correlates with quantity and quality of outputs. Idea generation is also most commonly positioned as the replicating creative cognitive processes employed by designers and is usually conducted as a structured activity that optimises the fuzzy challenge of developing novel ideas. Ideation teams usually consist of between 5 to 10 participants and facilitation aims to foster a 'designerly' working environment where the focus is on uncritically, producing many ideas. Similar techniques are found in engineering (e.g. TRIZ) [14].

Popular idea generation techniques include vernacular examples such as 'round robin' and 'crazy 8 s' as well as more solidly research-based techniques that often draw on the work of Edward de Bono [15]. de Bono published a number of works that introduced foundational terms and techniques such as 'lateral thinking' through best-selling books, such as 'Serious Creativity' (ibid). The various techniques described in these publications, not only have a natural affinity with DT, but are arguably the tangible foundations of this way of problem solving outside of the design methods school.

A number of studies have explored idea generation methods within the tightly defined context of early concept development. Past research by the authors into the effectiveness of random input [16] suggest that this method generated more numerous and of higher quality ideas than a control group who did not apply the method to an ideation challenge. The study was undertaken with a group of male and female graduates (n = 30). All participants were given a brief relating to a challenge to produce 'ideas to improve the workplace'. The study involved randomly assigning subjects into four groups. Each group consisted of three to four ideators, who had recently graduated and were under the age of thirty. The cohort was then assigned

to either morning or afternoon sessions (giving eight groups in total – ABCD x 2) who were given ideation challenges under differing conditions.

Stress was also found to affect idea creation. Participants who were less physiologically stimulated produced less and poorer quality ideas than those who were moderately excited, although too much stress is known to negatively impact creativity. It maybe that some controlled physical and mental stimulation might enhance group creativity within a certain threshold. These findings helped inform the authors during the development of the Ideation Grids method described in the following section. These evolve traditional Synectic principles and idea development techniques into an easy to use, structured and optimised ideation tool.

5. Ideation grids

Ideation Grids are a design thinking method that applies crowd-sourcing to develop ideas and is focused on pushing ideators past their first and likely least innovative idea, to generate a wide variety of novel solutions. These are elicited through short challenge rounds using predefined challenge cards as stimuli. Ideation grids are based on seven elements comprising:

Ideation topic – a succinct phrase that communicates the problem or opportunity for which ideas are sought.

Ideation session – a moderated, group workshop (physical or digital) where ideators' generate solutions using ideation grids usually within a maximum duration of an hour.

Ideation grids – a paper or digital nine-square grid used to collect participant ideas during each challenge round.

Challenge round – an eight-minute moderated session where participants produce an idea each minute, this activity is usually repeated a number of types with different challenge cards.

Challenge cards – a short phrase that prompts participants to develop ideas for a specific challenge in each challenge round.

Ideators – workshop participants (n = <10) recruited to represent differing perspectives on an ideation topic.

Moderators – ideation grid facilitators (n = <3) who prepare, run and write up the outputs of a session.

The authors have successfully applied Ideation Grids to many situations and problems. Preparation for sessions typically includes logistical activities, such as identifying suitable participants and a conducive environment. This can be a physical space or a digital whiteboard. The ideal group size is between five to ten people and sessions should be a maximum of two hours and ideally under an hour. Running a sequence of shorter sessions is more effective than trying to fit many rounds into one long one. Giving participants time to reflect on an ideation challenge can garner more and better ideas. Breaks used judiciously, can improve quality and quantity of ideas.

Participant numbers can be increased, but the authors have found that larger cohorts need to be split into smaller groups comprising of a maximum of ten participants each with their own moderator. This can be achieved through breakout rooms if conducting this exercise remotely. Participants' profiles are important considerations too. Generally, a good mix of levels (junior to senior), background, experiences and roles (e.g. customer service to sales) works better than homogeneous groups. Over-representation of a single level or grouping tends to skew the ideas that are generated toward the dominant group's perspective. If the majority is also senior, then this has the negative affect of also inhibiting others who are junior

or extroverted. In some cases, it is better to split groups by level, group or when the topic to ideate requires extreme focus than a broader set of viewpoints.

Planning then moves to identifying the right ideation topic and refining what often begins as an ambiguous (or overly specific) starting point. Ideally topics have been developed collaboratively and are also the product of some level of domain research. Ideal ideation topics are one sentence phrases that communicate the problem or opportunity to develop ideas around. Getting them right is an art. Too wordy or long and they can slow down creative thinking and lead to discussion. Too narrow or too ambiguous and they invite questions and clarification and the resulting outputs tend to lose relevance. It's also good to have more than one topic, whether each one is a slight variation on a single theme that focuses attention on different aspects of a problem or opportunity or whether they direct thinking toward a particular type of solution. Having multiple topics 'up your sleeve' enables the moderator to quickly move forward if a topic stalls or is failing to inspire participants. Using the syntax 'How might we...' to preface pithy topic is also effective to spur creative thinking.

Having dealt with the logistics and identifying strong ideation challenges, focus shifts to the defining the right structure for the session and identifying a set of ideation challenge cards that are most relevant to the topic at hand (See below). Structure can be loose, especially if participants have been involved in sessions before. Generally, too much structure and timeboxing of individual activities reduces group output, similarly, too loose and the sessions can lack direction, often resulting in a dominant participant taking the lead and implicitly or explicitly taking over.

Nine square grids (either paper or digital) are printed out or originated digitally for each participant and for each round of challenges. Five participants and three rounds will need fifteen grids prepared, three sets of challenge cards for each participant and the agreed ideation topic.

The sessions themselves ideally start with a recap of any supporting insights and domain research. This is a good framing activity to get participants thinking about the topic. Sometimes, an icebreaker activity is also used at the start of the session. Then the ideation topic is presented to the group. It's good to present this in quite a factual almost official manner without prompting clarifications and allowing for the silence that follows while people cogitate on the problem.

The first challenge round starts when each participant turns over (paper) or makes the text font visible (digital) to reveal the challenge. The moderator the asks the group to spend one-minute writing or sketching an idea in each square of the grid. Ideas can take any form, from an image that represents the concept, a short phrase on a sticky note or even a sketch or illustration. In all cases the ideas must be quickly identified and noted down, as to avoid overthinking the possible constraints of a given digital platform. Showing examples of good outputs in their rawest from is a good way to get participants in the right mindset where they are neither too precious about creating high-quality drawings, clever one-liners or overly long detailed, descriptions.

During the eight minutes that participants are producing ideas the moderator keeps time as well as keeping the group focused on the activity, sharing strong ideas with the group and generally keeping momentum. Sometimes, ideas are shared out among the group if time permits and, in some cases, voting can be done to quickly prioritise outputs. The process is then repeated until all the challenge cards have been used.

5.1 Ideation challenge cards

Challenge cards are pre-defined physical postcard sized boards or sticky notes (including digital variants) that are placed on the first square of the ideation grid.

This is usually the top left square but position is not as important as ensuring participants understand the challenge. The cards instruct participants to ideate on the focus of the card. Running multiple rounds using different challenges produces large numbers of ideas and potential solutions that cover a broader range of options. Ideas from single rounds are often more obvious and are already known by participants. This can inhibit creative thinking as participants have invested in ideas before the session and are sometime reluctant to shift focus. Using the 'What if..' syntax to preface the challenge helps provide consistency and also helps spur thinking in the direction of the challenge.

Challenge cards help break the 'primary generator' effect [17] whereby participants lock onto one idea (usually the first one they think of) that blocks thinking of alternatives. Challenges also help to clear out the most obvious solutions from consideration, so that participants can shift focus to less obvious ones and novelty. As the challenges are predefined and used by all participants they also act as a leveller reducing scrutiny and encouraging people to produce many ideas rather than worrying if theirs are inferior to others. Predefined timeframes can also be used to catalyse thinking about a particular even horizon in the future and in some cases the past, to see if an existent idea could be reused. Other challenge strategies include laddering whereby each grid square is used to show incremental developments from each idea to another. This is effective in clearing out presumptions about what is possible and encourages more creativity. Similarly, linking uses the grid to show individual ideas developed by adding or removing elements from one to another. This is a very practical way of ideating on a practical situation where a problem or opportunity is deeply embedded in an organisation and its culture.

5.1.1 Literal

Starting by eliciting the most obvious ideas is a good opening framing activity and is also effective icebreaker. Asking for the most mundane, boring, unexciting ideas encourages participants to share ideas openly and usually garners some humour. It also level-sets what is acceptable as an idea and reduces judgement as everyone usually has an obvious idea they endorse but are usually reticent to share as it is so obvious. It also sets an implicit anchor point for subsequent stages. At a deeper level, top-of-mind ideas also offer valuable insights into participant's understanding of the ideation topic and can be used through output analysis to map out the current situation and 'as-is' solutions as a starting point for more future oriented activities. Ideas are not just starting points for change but also embody a specific mindset and articulation of a problem or opportunity.

5.1.2 Lateral

This challenge often produces the most potent ideas in ideation sessions. The randomly generated nature of the resulting concepts are almost always novel and are usually readily built upon by participants in the sessions, creating even more ideas [13]. The random nature of their genesis helps reduced ownership as they are attributed to the method rather than the individuals who identified them. This challenge applies classic analogous thinking and can be done in one or multiple stages depending on participants readiness. At the same time, participants can sometimes baulk at being asked to engage in what often seems as a rather odd diversion activity. Moderators often have to make a call on whether to stick to the method or, if the group is already catalysed to ideate, to go with the flow.

This challenge requires an additional step by the moderator. Firstly, before the session a number of random stimuli topics are identified that will be used to

trigger analogous thinking. An arbitrary word, picture, or even sound is chosen as a catalyst to stimulate new and engender lateral ways of thinking about a problem or opportunity (e.g. how might we reduce packaging). The predefined stimuli, (e.g. Tiger), helps ideators' anchor thinking outside conventional boundaries by forcing convergence on a single and unrelated topic. Participants write down characteristics pertaining to the stimulus (e.g. fierce, endangered, alert, fast etc.) in order to think divergently. Participants then apply these characteristics to the problem at hand. In this example, alert and fast characteristics could stimulate ideas around *alerting* consumers to the impact of packaging on wildlife or reduce the gap (*fast)* between food producers and consumers.

Having up to six random stimuli helps if one fails. Diversity is important too, a good set might comprise widely disparate topics such as, ant, airport, light, Curie, satellite and eagle, for example. An alternative way of introducing randomness is to pick subjects arbitrarily from a book and also using oblique strategies [18] for reframing.

5.1.3 Look forward

Having harvested the most obvious ideas and applied lateral thinking through random input to elicit less obvious ones, it's good to reign in thinking back to focus on the ideation topic with time as the variable. The time horizon can be very specific and focus on a particular date in the near or distant future or be more ambiguous. Too distant dates tend to elicit ideas you might find in science fiction that while entertaining tend to trivialise the activity and limits practical solution ideas. Similarly, too near timelines result in trivial outcomes often, Using multiple dates in rounds is affective too as does including a range. A very close by date that encourages quick fixes, a mid-point and near future is a good set to get ideas form. Lookback is a variation on this challenge based on Bill Buxton's innovation model [19]. In this case ideas are based on reverse-engineering and looking for historical precedence to current or future problems or solutions that are the same or similar to the ideation topic.

5.1.4 Lightbulb

This challenge usually produces the strongest and most viable ideas in session and ideally should be applied at the later stages of a session after the obvious and 'blue-sky' ideas have already been elicited. It involves participants creating eight alternative solutions to the same ideation topic, with a prompt along the lines of 'now give us your best ideas'. Sessions can exploit the competitive potential of this method, by voting and awarding the best ideas (not participants themselves) including the most mundane, most lateral, quickest win and best overall solution. Dot voting is an effective way of doing this and also minimised group dynamics that might bias outcomes [20].

6. Conclusions

Ideation Grids embody a design tradition built on aligning innovation to human values. They are also an effect and practical tool to support any organisation wishing to harness the power of crowdsourcing ideas. While there is an art to maximising the method's effectiveness through skills and expertise in identifying the right ideation topic, selecting participants, defining challenges, moderating and analysing outcomes, they are simple enough for anyone to get started with and

leverage the power of creative collaboration to ideate. This method was developed for face-to-face ideation sessions where close interactions between participant are enriched through natural by non-verbal communication. However, we have applied this method successfully during the Covid-19 pandemic with remote participants connected through digital platforms. We found that group dynamic effects were reduced, and that the affordances of digital mediums improved group working; making documentation of outputs easier and enabling the possibility of leveraging globally diverse participants across multiple sessions a practical reality.

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Examining the Structures and Textures of Gender-Based Japanese Advertisements

Sri Aju Indrowaty, Djatmika, Dwi Purnanto and Tatang Hariri

Abstract

For the non-Japanese native speakers, including foreigner Japanese learners, watching a Japanese advertisement commercial (CM) can be entertaining due to their unique language and visual presentation. There are some Japanese commercials based on display, for example, the 2D advertisements in magazines or posters and the 3D video-based advertisements accompanied by side comments that can always be seen on YouTube videos. This research is based on Japanese commercials (CMs), in the form of YouTube videos, with the same product types but showing gender differences for men and women. Thus, the main research objective is to examine the structure and texture of Japanese commercials (CMs) in terms of how they market the same product type for both men and women. This research has find that most of the Japanese advertisements for men's products use a more straightforward style of speaking with an opening and closing commercial structure, and there is a short description of the commercial content. Advertisements for women's products, meanwhile, are more varied in their opening, closing, and content, as well as in the product introduction and narration. The tenses used in men's products usually contain present tenses and imperative sentences, which are also prominent. While some advertisers typically use the present tenses for women's products as well as men's products, they also use past tenses and different Japanese dictionary formats. Proper sentences also used in the advertisements for women's products. As for lexicon, or word choice, used for men's products, only *zo* and *ore* are used. The lexicon in women's products, meanwhile, is more varied with *kashira*, *wa*, *wayo*, *wane*, *no*, *noyo*, *none*, *koto*, and *kotoyo* that being used. For advertisements with high selling power, the structure comprises just an opening and closing, and they are more straightforward and less wordy.

Keywords: Japanese advertisements, structure, texture, gender

1. Introduction

Advertisements are a form of communication where the advertiser seeks to send a message to promote the product and service. The use of language in advertising is typically easy to understand, so the receiver understands the message clearly. In simple terms, advertising is a message that offers a product or service to people through a medium. Advertising, according to Amstrong and Kotler [1], covers all

the cost that sponsors incur to make presentations and nonpersonal promotion in the form of ideas, goods, or services.

In an advertisement, there are various language variations. Prasetyo [2] expresses that these variations come about due to the differences in society, such as gender, age, status, and social class. According to Chaer and Agustina [3], language variations are also caused by the human factor itself through its creative power. The diversity in language results not just from the speakers, who are not homogeneous, but also from the various social interactions that they take part in.

Regarding gender differences in some communities, male dominance is well known to exist in all cultures [4]. The fact that women employ more variations is often associated with their greater linguistic conservatism. This is an element of their social relations in society, and in some cases, this can lead to them becoming linguistic innovators [4, 5]. Gender differences are included in the scope of socio-linguistics. Bell [6] acknowledges that there are two types of language behaviors, namely, male and female speech behaviors at the phonological level and the inter-action behavior between men and women.

In Japanese, there is a clear difference between the male and female language use, with the use of particles at the end of a sentence. The *Shuujoshi* (終助詞), therefore, becomes a gender mark for identifying a speaker. Likewise, in the various aspects of language, there is a greater tendency for women to use more respectful language variations than men do [7].

Japanese are known for their polite and ordinary language. Polite variation and ending sentence are characterized as copula—*desu*; noun predicate, adjectives—*na*; and *masu* for a verbal predicate. On the one hand, the variation is usually at the end of the sentence and is characterized by the copula of *de aru* for the noun predicate and adjective or *na*, *ru* for the dictionary form of verbal predicate. These two language variations are commonly used in a Japanese commercial (CM). Japanese commercial language variation is also diverse in word choices and writing or character variation. In these word variations, there is frequently a mix of Japanese and English [8].

Language use in advertising has become a growing domain that overlaps with various disciplines like anthropology, sociology, linguistics, discourse analysis, and media science. In Japanese advertisements, there are symbolic figures and the multiple letters of Kanji, Kana, and Romaji. The Hiragana and Katakana letters came from Japan itself, while Kanji comes from China. Hiragana letters are used to express the Japanese language originating from Japan, while Katakana letters are used to write down loanwords or words taken from foreign languages [9, 10].

In Japanese advertisements, symbolic images and different lettering are used (specifically of Kanji, Kana, and Romaji). The Japanese language recognizes using more than one type of lettering system, and the Japanese also have two different social dialects based on the gender differentiation of the speakers. Namely, the female language variety (*Joseigo*, *Onna-Kotoba*) and the male language variety (*Danseigo*, *Otoko-Kotoba*). Based on the discussion, it will be interesting to see how the advertising language of commercials (CMs) on YouTube varies for product types that both men and women use.

2. Theoretical perspectives

2.1 Gender-based advertisement

The concept of gender is different from sex, although they are connected. Gen-der emphasizes the difference between males and females on a casual basis, as seen from the perspective of behavior, perception, and place. At the same time, sex is the

biological identity as male or female at birth. The gender differences between men and women have a long history, and they are formed socially through religious and state teaching.

Unquestionably, men and women are different. **Table 1** shows the differences between men and women, and as expressed by Helen McDonald [11].

From the description in **Table 1**, it can be seen that men are characterized as being masculine, dominant, loud, aggressive, logic, and rational, as well as having an instrument orientation and always asserting themselves in things. Men typically do not like expressing what they feel in words or telling stories, instead they prefer practical stuff like technology, utility, and sport.

Meanwhile, women complement their femininity, and they are characterized as weak, passive, not willing to do sacrifices, and very dependent. They solve a problem more with their feelings and rely on women's intuition, so women are more emotionally oriented. Women are familiar with things related to beauty, shopping, and socializing, and they like to express their feelings in words. According to Jewwit, masculinity can be divided into subtypes of variation. First, there is the *gladiator retro-man*, a man who is sex-derive active and under control. Second, there is the *protector man* who is protects and cares for everybody. Third, there is the *clown* or *buffoon* one. Fourth is the *romantic man*, who prioritizes in equal relationships and respects women more. Next is the gay man, while the six and the last of these the *wimp*, who is weak and passive [11]. Such a label on gender characteristics results in gender inequality.

Men and women have been differentiated in social roles according to the differences in gender and biological functions. Gender differences are related to differing between men and women in mentality and position, leading to a big division at work. Women are placed in domestic situations often, such as taking care of the children and educating them. At the same time, men are seen in more public cases such as organizing education, earning a living, and fighting on the battlefield. Men's general work is perceived as being more valuable than women's domestic labor. Gender differences in the process resulting in gender roles considered are not the

	Are (or should be)	Like
Men	Masculine	Cars or technology
	Dominant	Getting drunk
	Strong	Casual sex with many Partners
	Aggressive	
	Intelligent	
	Rational	
	Active (do things)	
Women	Feminine	Shopping or makeup
	Submissive	Social drinking with friends
	Weak	Committed relationship
	Passive	
	Intuitive	
	Emotional	
	Communicative (talk about things)	

Table 1.
Differences between men and women.

ones that cause a problem, yet gender roles and gender differences cause gender inequality. Gender difference would not cause a problem if they did not lead to gender inequality, but the problem so far is that these differences have led to an imbalance for both men and women.

Japanese have a social-based dialect known as *Joseigo* or *Onna Kotoba* (the female language variety), which differs from *Danseigo* or *Otoko Kotoba* (the male language variety). The female language is used explicitly by women to reflect their femininity side. The existence of language style that distinguishes expressly between genders is a characteristic of the Japanese word [10]. Female language use in modern Japanese is characterized by several aspects, including the use of *shuujoshi* with lexical elements, such as using the first personal pronoun and the use of interjection, and it is also characterized by the use of various respectful languages (*Keigo*). As viewed from the aspect of *shuujoshi*, there are some differences between the words that usually men and women use in everyday speech.

In the Japanese male dialectic, particles that are common, such as *zo, ze, kai, dazo, and daze* are used. In contrast, in the female version of the dialect, the particles *kashira*, *wa*, *wayo*, *wane*, *no*, *noyo*, *none*, *koto*, and *kotoyo* are mainly used. The use of particles *zo, ze, kai, dazo*, and *daze* in the male variety reflects the masculinity of the speaker as someone who shows characteristics such as being firm, brave, strong, full of confidence, and quick to make decisions that women cannot. In contrast, the female language uses the particles *kashira*, *wa*, *wayo*, *wane*, *no*, *noyo*, *none*, *koto*, and *kotoyo* in the persuasion make the speeches often doubted, so it does not show firm or strength in their language. Such particles are used by women to show politeness and to soften the part of communication, and they are included as opinions, conclusions, decisions, thoughts, and questions of the speaker. Hence, women seem friendly and polite to another speaker. The use of the first-person pronoun shows that women have not much alternatives compared to men.

In a formal situation, men usually use the neutral first-person pronoun like *Watashi* or *watakushi*, whereas, in informal situations, they can use the first-person pronoun *boku*, *ore*, *washi*, *ware*, or *jibun*. In a formal case, women use the first-person pronoun like *watashi* or *watakushi*. In informal situations, women can only use the first person-pronoun one, namely *atashi* (*atakushi*), for a reason.

In various parts of the world, including Japan, the media conveys to us the role of men and women by using particular perspectives. Therefore, it becomes a means of affirming gender myths, so the media plays an essential role in promoting masculine values through both printed and electronic media.

2.2 Text structure and texture

The rational thing to develop various forms of communication is not only a matter of composing words into a correct, coherent text. More important, the need is to have the desired effect on a specific discourse and recognize the conventions that people follow in negotiations and convey in everyday means in a professional context. In a sense, communication is more than just words, syntax, and even semantics. This is a matter of understanding, which can be written as "why and how the members of the professional community or certain disciplines communicate the way they do" [12].

Each text is built in stages with specific units of discourse, and this is called the text structure. Furthermore, the quality of a correct text structure also depends on other linguistic characteristics such as grammatical correctness and a word choice that is suitable for the genre of a text. The different types of writing are presented below:

1. *Descriptive text*: a descriptive text describes an entity or a phenomenon. This unit presents the person, object, or event that is explicitly being described.

2. *Report text*: a reported text begins with a general classification of the entity being described. This section introduces the objects, people, and phenomena discussed in a report text. After that, the second part of the report text contains some descriptions of the primary entity introduced. The description is related to the parts of the body, its types, or its classification.

3. *Procedure text*: a procedure text consists of instructional texts for making or producing objects. Three discourse units must be present. Namely, the part which is the goal, material, and step. For procedure texts that convey how to complete a task, however, there are only the target and action units. The materials unit for this is optional and is often absent.

4. *Recount text*: three-part units are used to construct a recount text, which includes orientation-events-reorientation. The first orientation and event are mandatory parts, while the third unit, reorientation, is an optional one.

5. *Explanation text*: an explanation text has two parts; one contains general statements or an introduction to something described; and another unit contains explanations for the phases of a process of making something, or the arrangement of events in a coherent manner.

6. *Exposition texts*: an exposition text comprises three discrete units, with the last group being different. Hortatory exposition text is built on a thesis-argument-recommendation basis, while an analytical exposition text is built on the basis of thesis-argument-reiteration. Hortatory exposition text in the first part is used to introduce the topic, while at the same time putting the reader in a particular situation. In the text, the writer-speaker wants to express an opinion so that the reader or speaker can take a pro or con position. Exposition text is then followed by a presentation of the outline of the argument that is used to support the opinions expressed in the thesis.

7. *Discussion text*: a discussion text part includes the issues, arguments (for and against), and the conclusion-recommendation. In the problem, the writer states the topic to discuss. Further, to reinforce the statement and arrange the reader in the discussion, the writer gives a preview of the issue to be addressed. Often, the writer provides information about how many points of view will be presented in the preview section to support the issues raised in the statement.

8. *Narrative text*: concerning its social and functional objectives, a narrative text must be made by compiling several units of discourse, some of which must be present while others are optional. The unit of speech that begins a narrative text is called as orientation. This section must be current because it describes the time and place in which the events are being told. Besides, this section also introduces the characters involved in the story.

3. Methodology

This research is a descriptive qualitative research conducted to construct a description of the facts studied. The primary data source was Japanese advertisements on YouTube for product types being marketed to both men and women.

Based on the statement, primary data are used in the form of complex linguistic and details about the environment of their use in the condition. These primary

linguistic data include a part of the text, grammatical, and the selected lexicons structures for denoting the male-female language variety. The technique of data analysis comprised four procedures, namely, domain analysis, taxonomic analysis, componential analysis, and cultural theme analysis. Each of these analyses is described further below.

The selection of these four data analyses was based on Santosa's view that the general qualitative inductive data analysis can be divided into four major stages, namely, domain analysis, taxonomic analysis, componential analysis, and cultural theme analysis [13]. Simply, domain analysis was used to distinguish which facts were or were not data. On learning that a point referred research data, it was placed into the correct domain according to gender.

The taxonomic analysis was used to organize or classify the data based on their category, resulting in some or many types. The componential analysis was then used to organize and link the data based on domains, form categories, functional categories, or other categories. This complimentary analysis sought to identify a common thread of relationships between fields and types to connect a relationship between them (pattern). This relationship-cultural interaction patterns then become the basis for identifying theoretical and cultural theme bases.

Furthermore, the relationship pattern between the categories in the context of the situation and culture surrounding the subject of the research is interpreted by cultural theme analysis. This qualitative analysis model, according to Spradley (from Santosa), can be seen in **Figure 1** [13].

Based on the model, it can be pulled out that the stages of analysis of content are performed cyclically rather than by the linear analysis. For example, after completing a taxonomic analysis, a researcher can return to domain analysis studies after performing a componential analysis, or can return to taxonomic and domain. Likewise, when the researcher found a cultural theme, he/she can return to an area, taxonomic, or componential analysis.

Based on the statement above, the domain, taxonomic, componential, and cultural theme analyses in this research are detailed in the description below.

3.1 Domain analysis

Domain analysis, according to Gabrich (in Santosa), is a natural organic part of the structure of a cultural phenomenon [13]. The structure consists of elements that form directly or indirectly. Elements' purposes are to develop a cultural, social, or linguistic phenomenon associated with the arrangement. Based on the statement, the domain in this research is shown in **Figure 2** below.

Based on **Figure 3**, we can interpret how the domain in this research is "gender," which is divided into the two contexts being analyzed. The selection of these two contexts is to identify the various language structures according to gender basis to find the data needed, following a formulation of the research problem.
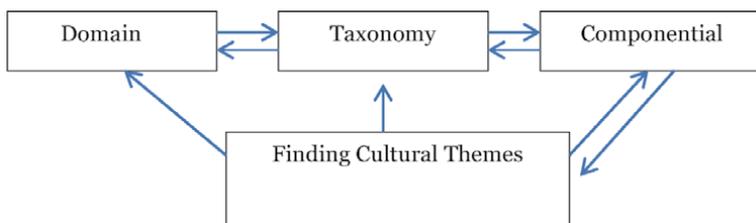
Figure 1.
Spradley's ethnographic analysis modeling. Source: From Santosa [13, pp. 65-69].
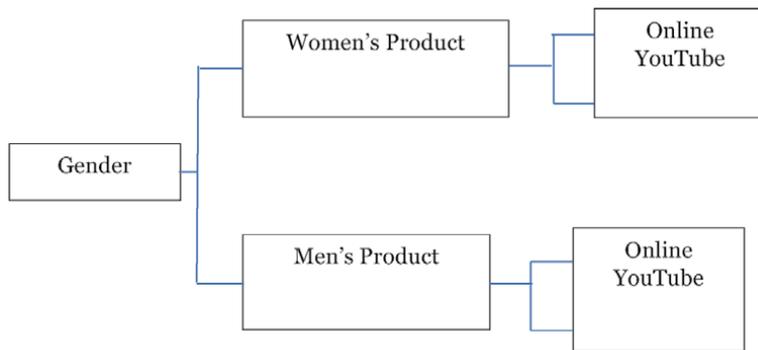
Figure 2.
*Domain analysis. Source: From Santosa [13, pp. 65-69].*
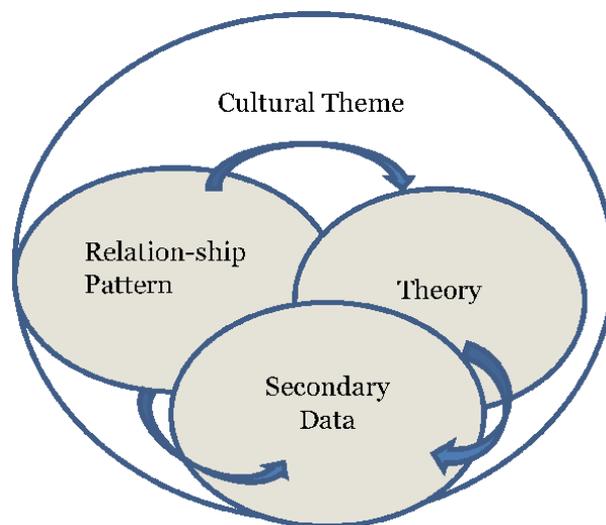
Figure 3.
Cultural theme analysis. Source: From Santosa [13, pp. 65-69].

3.2 Taxonomic analysis

A taxonomic analysis is the second stage after domain analysis. The taxonomic study is to reduce the amount of data that are large by organizing it into gender-based division groups. The definition of data classification, including organizing knowledge into logically separate categories, can be seen in **Table 2** [13].

Based on **Table 2**, the classification of data taken from the two sets of commercials, both men's and women's, was determined. A further division of the advertisements, as to classify the data, was to divide them into three groups, namely, text structure, grammatical structure, and lexicon structure. These three data classification groups resulted in male-female language varieties. After obtaining some of the data, they were tabulated and compiled based on the componential analysis.

3.3 Componential analysis

The componential analysis connects between the components or aspects (in this case, between domains and categories) from the domain and taxonomic analyses. First, this analysis can be used to link the areas in the vertical group containing

Data	Men's products on YouTube			Women's products on YouTube		
	Text structure	Grammatical structure	Lexicon	Learning text	Grammatical structure	Lexicon
1						
2						
3						
4						

Table 2.
Taxonomic analysis.

YouTube/online advertisements	Male commercials			Female commercials		
	Text structure	Grammatical structure	Lexicon	Learning text	Grammatical structure	Lexicon

Table 3.
Componential analysis.

men's and women's commercials. Second, this analysis can also be used to relate to the area and vertical types and text forms [13]. **Table 3** shows the componential review of this research.

3.4 Cultural theme analysis

After completing the component analysis, the next study relates to cultural themes. Santosa explains that cultural theme analysis is an analysis that looks for a "theory" in the research being conducted [13]. In general, the cultural theme achieves by putting the red thread of relation pattern obtained from the componential analysis into the actual use of language context and adds to by reflecting on the development of data sources and existing theories.

A complicated analysis of cultural theme analysis makes a lot of research proportion. All aspects and components between the relationship patterns, contexts, theories, and secondary data must be elaborate and work simultaneously to find more theories and explanations that are strong enough. The cultural theme analysis process can be identified in **Figure 3**.

In **Figure 3**, it can be seen that the relationship pattern obtained from the componential analysis still has to be reconstructed through theory, the secondary data, and the surrounding cultural context. Related methods must try to justify the relationship pattern with arguments that both support and oppose the model. Secondary data from relevant research are then used to support the relation pattern. Next, the cultural context of the Japanese commercial must be placed in the relationship pattern appropriately in the cultural context that surrounds within. This is referred to as theorizing the relationship pattern to see the possibilities for transferability to other settings.

Thus, the cultural theme analysis is mainly based on the domain, taxon, and componential review. The text, grammatical aspects, and selection of lexicon structure from the advertisements in men's and women's commercials were analyzed. The male-female language variety was consequently obtained. Because, the

sociolinguistic approach to various languages only exists within the presence of speech, speaker, and interlocutor thus far. From this new sociolinguistic perspective in Japanese, and there will be language variety in the context of discourse, namely those of Japanese commercials.

4. Finding and discussion

The following data are a presentation of commercials for the same product types but differ by gender.

4.1 Men's watch commercial

It is shown in **Figure 4**.
Otoko to Onna: ああ,しょうがないわ
(Men and women)
Aashouganaiwa
(Oh, I cannot help)
Otoko: おれが時計メイカ
(Men)
Ore gatokeimeika
(I am a watchmaker)
Otoko to Onna: 時計?
(Men and women)
Tokei?
(Watch?)
Minna: チックタ、チックタ、、チックタ (Sound of Watch)
(All)
Chikuta Chikuta
CM: 生きる一秒を Handa Watch World
(Commercial)
Ikiruichi-byou o Handa Watch World
(Live for one second) Handa Watch World
The following is the text structure and texture (**Table 4**).
The texture of the data is shown in **Table 5**.

Figure 4.
A YouTube commercial for men's watch. Source: https://www.youtube.com/watch?v=WzkJhoiZb6w.

Text structure	Parts of the text
Minna: ああしょうがないわ *Aashouganaiwa* (Oh, I cannot help) *Otoko*: おれが時計メイカ *Ore gatokeimeika* (I am a watchmaker) *Otoko to Onna*: 時計? *Tokei?* (Watch?)	Opening and introduction to the product
Minna: チックタ、チックタ、、チック タ (Sound of watch) *Chikuta Chikuta* CM: (生きる一秒を) Handa Watch World (*Ikiruichi-byou o*) Handa Watch World (Live for one second) Handa Watch World	Closing and showing of the product, color and price

Table 4.
Text structure from Japanese YouTube men's watch commercial.

Texture	
Verb type (dictionary verb)	ああしょうがないわ *Aashouganaiwa* (Oh, I cannot help)
	おれが時計メイカ *Ore gatokeimeika* (I am a watchmaker)
	生きる一秒を(*Ikiruichi-byou o*) (Live for one second)
Kandoushi, yobikake	ああ (aa)
Tense	Present tense

Table 5.
Texture from Japanese YouTube men's watch advertisements.

4.2 Women's watch commercial

It is shown in **Figure 5**.

Kitagawa Keiko: 辛かった時、ふう、楽しかった時、一人じゃんないと
した時、その全てがあったから、今、次の新しい一本踏
み出せる。何か始める時がその人の春だと思う。。 citizen Xc, Sakura pink debut.

Tsurakattatoki, fuu, tanoshikattatoki, hitorijannai to shitatoki, sonosubete-gaattakara, ima,-ji no atarashīichi-ponfumidaseru. Nanikahajimerutokigasonohito no haru da to omou..Citizen Xc, Sakura pink debut.

(When it was difficult, and when it was fun when you were not alone because it was all there was, so now I can take the next step. I think this is the time to start something is that person's spring. Citizen Xc, Sakura pink debut.)

Table 6 shows the corresponding text structure and texture.

The texture for the data is shown in **Table 7**.

Figure 5.
Commercial for women's watch. Source: https://www.youtube.com/watch?v=-8gHf2791cc.

Text structure	Parts of the text
辛かった時、ふう、(*Tsurakattatoki*) When it was difficult 楽しかった時、一人じゃんないとした時、(*fū, tanoshikattatoki, hitorijannai to shitatoki*) and when it was fun when you were not alone その全てがあったから (*sonosubetegaattakara*) because it was all there was	Opening
今、次の新しい一本踏み出せる。何か始める時がその人の春だと思う。。 (*ima,-tsugi no atarashīichi -pon fumidaseru. Nanikahajimeru to kigasonohito no haru da to omou*) I think the time to start something is that person's spring Citizen Xc, Sakura pink debut Citizen Xc, Sakura pink debut	Closing

Table 6.
Text structure from Japanese YouTube women watch commercial.

	Texture	
1	Verb type (past verb)	辛かった時(*Tsurakattatoki*) When it was difficult
		楽しかった時 (*tanoshikattatoki*) When it was fun
2	Verb type (dictionary verb)	今、次の新しい一本踏み出せる (*ima,-tsugi no atarashīichi -pon fumidaseru.*
2	*Kandoushi, yobikake*	ふう(fuu)
5	Tense	Present tense

Table 7.
Texture from Japanese YouTube women's watch commercial.

4.3 Men's suit (ツーツ/*suutsu*) commercial

It is shown in **Figure 6**.

*Morichou*ロードサイド点生15調年記念yumei brandスーツからカシュアルまで店内全ての商品が15%OFF。今だけの期間限定ロードサイド全て店にて開催中!

Figure 6.
*Men's suit (ツーツ/*suutsu*) commercial. Source: https://www.youtube.com/watch?v=tcOrCJwPdcs.*

Morichouro — do saido-ten nama 15-chou nenkinenyumeibrandsuutsukarakashuaru made tenaisubete no shouhinga 15-pa-sento OFF. Imadake no kikangenteiro — do saidosubetemisenitekaisai-chū!

In commemoration of the famous Morichou 15-year road show; all items in the store start at casual discounts of up to 15%. Now, for a limited timed time in all roadside stores!

Table 8 shows the text structure.

The texture for the data is shown in **Table 9**.

4.4 Women's suit (ツーツ/*suutsu*) commercial

It is shown in **Figure 7**.

CM (commercial): Hu Hu u スーツ始めちゃう、Fresher's は 洋服の青山 スーツ 始めちゃう
Hu Hu u suutsuhajimechau, furesshaa' swayoufukunoaoyamasuutsuhajimechau.
(Hu Hu u Start the suit. Fresher is Aoyama's clothes. I will start my suit.)
Table 10 shows the text structure.
The texture for the data is shown in **Table 11**.

4.5 Men's shoes commercial

It is shown in **Figure 8**.
Ninja: その像4代目を決めるぞ
Sonozou 4-daime o kimeruzo.

Text structure	Parts of the text
*Morichou*ロ-ドサイド点生15調年記念*yumei*brandスーツからカシュア ルまで店内全ての商品が15%OFF。 *Morichouro ¯ do saido-ten nama 15-chou nenkinenyumeibrandsuutsukarakashuaru made tenaisubete no shouhinga 15-pa-sento OFF.*	Opening and product excellence (discounted)
(In commemoration of the famous 15-year road show of Morichou, all items in the store start at casual discounts of up to 15%) 今だけの期間限定ロ-ドサイド全て店にて開催中! *Imadake no kikangenteiro ¯ do saidosubetemisenitekaisai-chû!* (Now for a limited timed time in all roadside stores!)	Closing and discount time limit

Table 8.
Text structure from Japanese YouTube men's suit commercial.

	Texture	
1	Verb type (present verb)	*Morichou*ロードサイド点生15調年記念*yumei*brandスーツからカシュアルまで店内全ての商品が15%OFF。 *Morichouro - do saido-ten nama 15-chou* *nenkinenyumeibrandsuutsukarakashuaru made tenaisubete no shouhinga 15-pa-sento OFF* (In commemoration of the famous 15-year road show of Morichou, all items in the store start at casual discounts of up to 15%)
2	Verb type (dictionary verb)	今だけの期間限定ロードサイド全て店にて開催中! *Ima dake no kikangentei ro - do saidosubetemisenitekaisai-chû!* (Now for a limited timed time in all roadside stores!)
2	Imperative form	今だけの期間限定ロードサイド全て店にて開催中! *Imadake no kikangenteiro - do saidosubetemisenitekaisai-chû!* (Now for a limited timed time in all roadside stores!)
5	Tense	Present tense

Table 9.
Texture from Japanese YouTube men's suit commercial.

Figure 7.
*Women's suit (*ツーツ/suutsu*). Source: https://www.youtube.com/watch?v=07ROEaDyJS8.*

Text structure	Parts of the text
CM (commercial): Hu Hu u スーツ始めちゃう、Fresher's は 洋服の青山 スーツ始めちゃう *Hu Hu u suutsuhajimechau, furesshaa' s wayoufukunoaoyamasuutsuhajimechau* (Hu Hu u Start the suit, Fresher is Aoyama's clothes. I will start my suit)	Opening and closing

Table 10.
Text structure from Japanese YouTube women's suit commercial.

(I will decide the fourth generation of the statue)
Servant 1: それじゃ座........どうぞ、
Sore jaza........Dōzo,
(Then, sit down, please)
Servant 2: 親方を買ったもみもみ...
Oyakata o kattamomimomi ....
(You bought them too, master ...)
Servant 3: 親方遊びませんか
Oyakataasobimasenka.
(Do you play or not?)
Servant 1: こんなできめえようか
Konnadekimeyouka.
(Do you need these?)
Ninja:いい反発だ

	Texture	
1	Verb type (present verb)	Hu Hu u スーツ始めちゃう、Fresher's は 洋服の青山 スーツ始めちゃう *Hu Hu u suutsuhajimechau, furesshaa' s wayoufukunoaoyamasuutsuhajimechau* (Hu Hu u Start the suit, Fresher is Aoyama's clothes. I will start my suit)
2	Verb type (dictionary verb)	Hu Hu u スーツ始めちゃう、Fresher's は 洋服の青山 スーツ始めちゃう *Hu Hu u suutsuhajimechau, furesshaa' s wayoufukunoaoyamasuutsuhajimechau* (Hu Hu u Start the suit, Fresher is Aoyama's clothes. I will start my suit)
2	*Kandoushi* form	Hu Hu
3	Tense	Present tense

Table 11.
Texture from Japanese YouTube women's suit commercial.

Figure 8.
Men's shoes commercial. Source: Midori, https://midori-fw.jp/i_20181124/.

> *Ii hanpatsuda*
> (Good for bouncing)
> Ninja: オレは。。。。。。 (Throwing shoes)
> *Ore ha.*
> (Me?)
> CM: 高判発ソール採用で驚きのクション滑りにくいのは当たり前、疲れにくい
のは5リップ4代目緑安全。
> *Kōhan-hatsu so - rusaiyou de odoroki no kushonsuberinikui no waatarimae, tsukarenikui no wa 5 rippu 4-daime midorianzen.*
> (Strangely, not easy to slip shoes by adopting high-powered soles. They have
five levels of tiring and also four green levels of safety.)
> **Table 12** shows the text structure.
> The texture for the data is shown in **Table 13**.

4.6 Women's shoes commercial

It is shown in **Figure 9**.
CM1: うん、誰か長調甘酒を作ってるんですけどaゾーソ農兵方法とやるこ
とがたくさんあるんでどんなシーンでも対応できる働きやすい靴がいい
んですよね。ネットで買える時代だけど自分の足に合うものでわからな
いからデーさんと相談しながら選ぶ事って大事なんだなあと感じます。

Text structure	Parts of the text
Ninja: その像4代目を決めるぞ *Sonozou 4-daime o kimeruzo* (I will decide the fourth generation of the statue) Servant 1: それじゃ座........どうぞ、 *Sore jaza........Dōzo,* (Then, sit down, please) Servant 2: 親方を買ったもみもみ... *Oyakata o kattamomimomi....* (You bought them too, master.. .) Servant 3: 親方遊びませんか *Oyakataasobimasenka* (Do you play or not?) Servant 1: こんなできめえようか *Konnadekimeyouka* (Do you need these?) Ninja:いい反発だ *Ii hanpatsuda* (Good for bouncing) Ninja: オレは。。。。。。(Throwing shoes) *Ore ha* (Me?) CM: 高判発ソ-ル採用で驚きのクション滑りにくいのは当たり前、疲れにくいのは5リップ4代目緑安全。 *Kōhan-hatsu so - rusaiyou de odoroki no kushonsuberinikui no waatarimae, tsukarenikui no wa 5 rippu 4-daime midorianzen* (Strangely, not easy to slip by adopting high-powered soles. They have five levels of tiring and also four green levels of safety)	Opening Describing the shape of the shoes (content) Closing and describing the excellence of the shoes

Table 12.
Text structure from Japanese YouTube men's shoes commercial.

	Texture	
1	Verb type (present verb)	その像4代目を決める *Sonozou 4-daime o kimeruzo* (I will decide the fourth generation of the statue)
2	Verb type (dictionary verb)	:いい反発だ *Ii hanpatsuda* (Good for bouncing)
3	*Kandoushi* form	ぞ (Zo)
4	Tense	Present tense

Table 13.
Texture from Japanese YouTube men's shoes commercial.

Un, darekachouchouamazake o tsukutterundesukedo a zousonouheihouhou to yarukotogatakusanaru n de donna shi — n demo taioudekiruhatarakiyasuikutsu-gaiindesuyo ne. Netto de kaerujidaidakedojibun no ashini au monodewakaranaikaradē-san to soudanshinagaraerabukotottedaijinandana to kanjimasu.

(Yes, I make long-lasting sweet sake, but I have a lot to do with the Zoso farming method, so durable working shoes must handle any scene. This is an era of online shopping, but I do not know if they fit my feet, so I feel that choosing while consulting with Mr. Dee is essential.)

Figure 9.
Women's shoes. Source: https://www.youtube.com/watch?time_continue=16&v=pXPdSbbR-5w.

Text structure	Parts of the text
CM1: うん、誰か長調甘酒を作ってるんですけど**a**ゾーソ農兵方法とやることがたくさんあるんでどんなシーンでも対応できる働きやすい靴がいいんですよね。ネットで買える時代だけど自分の足に合うものでわからないからデーさんと相談しながら選ぶ事って大事なんだなあと感じます。 *Un, darekachouchouamazake o tsukutterundesukedo a zousonouheihouhou to yarukotogatakusanaru n de donna shi — n demo taioudekiruhatarakiyasuikutsugaiindesuyo ne. Netto de kaerujidaidakedojibun no ashini au monodewakaranaikaradē-san to soudanshinagaraerabukotottedaijinandana to kanjimasu.* (Yes, I make long-lasting sweet sake, but I have a lot to do with the Zoso farming method, so strong working shoes must handle any scene. This is an era of online shopping, but I do not know if they fit my feet, so I feel that choosing while consulting with Mr. Dee is important) CM 2: あなたの足に新たな出会いを靴のTezuka。 *Anata no ashiniaratanadeai o kutsu no Tezuka* (Teuka shoes for a new encounter on your feet)	Opening Describing the background for the importance of strong shoes Closing

Table 14.
Text structure from Japanese YouTube women's shoes commercial.

	Texture	
1	Verb type (present verb)	～なんだなあと感じます *(nandana to kanjimasu)* so I feel that ... ...
2	Verb type (dictionary verb)	... って大事なんだなあと感じます。 *(ttedaijinandana to kanjimasu)* feel choosing that is important
2	Kandoushi form	*Un*
5	Tense	Present tense

Table 15.
Texture from Japanese YouTube women's shoes commercial.

CM 2: あなたの足に新たな出会いを靴のTezuka。
Anata no ashiniaratanadeai o kutsu no Tezuka.
(Teuka shoes for a new encounter on your feet.)

Table 14 shows the text structure.
The texture for the data is shown in **Table 15**.
The data for other products can be summarized as in **Table 16**.

Data	Product	Learning	Texture	
7	Men's facial product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓
8	Women's facial product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
9	Men's wallet product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓
10	Women's wallet product	Opening, content, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
11	Men's hat product	Opening, content, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
12	Women's hat product	Opening, content, product excellence, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
13	Men's jeans product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
14	Women's jeans product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
15	Men's slipper product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓
16	Women's slipper product	Opening, content, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
17	Men's glasses product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓
18	Women's glasses product	Opening, content, closing	Verb type Kandoushi form Tense	✓ ✓ ✓
19	Men's shampoo product	Opening, closing	Verb type Kandoushi form Tense	✓ ✓
20	Women's shampoo product	Opening, content, closing	Verb type Kandoushi form Tense	✓ ✓ ✓

Table 16.
Other Japanese YouTube commercial form.

5. Conclusions

Based on the explanation, it concluded that most Japanese advertisements for men's products use a straightforward speaking style with an opening and closing structure. There is a short description of the content. At the same time, the advertisements for equivalent women's products are more varied in their opening, closing, and substances, as well as with many narrations and product introduction.

The tenses used for men's products are usually the present tense, with imperative sentences featuring a lot. Advertisements for women's products also use present tense, but there is the use of the past tense and different dictionary forms. Besides, proper sentences feature more in advertisements for women's products.

As for the lexicon or word choice, only *zo* and *ore* are used for men's products, while the lexicon used to advertise women's products is more varied, with *kashira*, *wa*, *wayo*, *wane*, *no*, *noyo*, *none*, *koto*, and *kotoyo* being used.

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Creativity and innovation go hand in hand. This book presents a plethora of creative interventions in education, culture, expressions, communications, and other areas. Each chapter brings forth a core idea well attested on the scales of creative interventions. It is a collaborative effort to bring forth multidisciplinary creativity in the ever-evolving world of design, communication, and possibilities. There is really no logical order to the book. You do not necessarily have to start at the beginning, just find a chapter that interests you and read. I hope that you find the book stimulating as well as informative.

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