



WHEN THE SETTING IS RIGHT, IDEAS WILL FLOW- A BUSINESS CLASS CASE STUDY

CUANDO LA CONFIGURACIÓN ES CORRECTA, LAS IDEAS FLUYEN - UN ESTUDIO DE CASO EN EMPRESARIALES

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ABSTRACT

Generating new ideas is the call of the day as teachers seek to differentiate the students' capabilities in unique and creative ways preparing them to face uncertainties in the work environment. A critical component of this process is to ensure that students are taught how to come up with new ideas, and making the classroom environment conducive to creative thinking. This study offers an observation of a business classroom experience that led to highly effective flow of ideas through the use of tools and techniques that create a safe environment for students, which can also be applied to any organizational setting. Participants were first taught to develop the rules of engagement required for a safe environment and then were trained in utilizing different creative thinking tools. The impact on the participants' creative and innovative abilities as evidenced in their final design sprint project was found to be significant. The implications of these findings for management and leaders in education and organizational settings are highlighted.

KEYWORDS

creativity inducing environments, creative thinking tools and techniques

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INTRODUCTION

Need for safer environments in the classroom and beyond to trigger creativity

The need for creative curricula is important in order to develop a creative professional's adaptability to deal with the turbulent and highly dynamic environment of the creative industries (Mietzner & Kamprath, 2013). An emphasis on creativity and innovation is found to be the basis of strengthening entrepreneurial competence in managing schools (Syam, Akib, Patonangi & Guntur, 2018). While the availability of creativity training programs has been regarded as a crucial part of the contextual influences that encourage a supportive culture in organizations that enhance creative behavior (Woodman, Sawyer & Griffin, 1993) as well as in schools, the actual course has been disseminated in rather dull formats.

Creative problem-solving ability and an ability to create an environment conducive to growing creative leaders leads to helping firms better equip themselves to develop and sustain innovation (Williams & Foti, 2011) and when we offer this type of training to our students, we provide a highly skilled and sought-after employee to these firms. In fact, early studies showed that not only are repressive climates seen to destroy creative thinking and clarity of goals (VanGundy. 1984), but without the environment to support search and discovery of new ideas, all the creativity training in the world would be useless (Kanter, 1986). As our students are trained to be part of the future workforce, it behooves us to train them as leaders who will create such safe environments, in their organizations, that will encourage creative behavior. This article is thus a direct and necessary response to such a need in today's Educational Institutions.

The main objective of our study is thus, to understand how to design an effective creativity course in educational institutions that will strengthen and enhance the future workforce being currently trained in our colleges and universities. The importance of well-designed creativity courses, rests in how exposure to creative team environments has been observed to moderate the relation between shame and creative expression among team members, allowing for greater creative behaviour (Gonzalez-Gomez & Richter, 2015). Stability of such an environment rather than a constantly changing environment also provides more support for creative processes (Haley, Taylor & Morrison, 2014).

This study's primary contribution to the literature is that it empirically outlines and tests in real-time, the effectiveness of the various tools and techniques described in the creativity and innovation literature in combination with the design of the classroom environment on students' creative behaviors. It offers the layout of the course along with the list of all the tools and techniques used that can be easily adapted and adopted by academics thus acting as a quick reference for academics and practitioners interested in training their members in creative thinking. Such an outline is not easily available for academics in the current literature, although several suggestions alone have been researched and presented in the past.

This study presents the results of one such environment and creativity training process at the graduate level in a business classroom. The article is structured in

the following manner. It begins with a literature review of the overall state of creativity in general and business educational programs at colleges and universities. It then continues with a review of designing creative environments and the tools used to train students in creative idea generation processes. Based on the literature, the techniques and tools that were selected are highlighted and described in the sequence that they were presented to the student participants in the Methods section, which provides the details of the sample, context, experiment, process and treatment used in the study. The article then presents the observed and self-reported results following the creativity training course and finally concludes with discussion of the findings, as well as implications for academics and practitioners.

LITERATURE REVIEW

The overall state of creativity in general and business educational programs in colleges and universities

Schools systems have often designed structures and teaching methods that inhibit students from pursuing diverse ideas or they are punished for deviating from the set norms of what is accepted in a classroom (Houtz, 2003) which have a tendency to kill creative ideas and inspiration. In a famous Ted Talk on, "How Schools kill Creativity," Sir Ken Robinson argues that we must readjust our education systems to match the transformational ways in which the world is changing, citing that creativity in now as important to education as literacy. The essence of his talk emphasized the need to encourage students to be comfortable with being wrong and to fail, else they will never come up with anything original. We must thus create classroom environments and teaching methods that allow failures, which will encourage students to take chances and risks to generate successful novel and useful ideas for the society.

Business education in particular, has been criticized for not meeting the needs of the students in helping them develop creative and critical thinking abilities (Baker & Baker, 2012). While decades ago, the persistent idea was that traditional business schools are not the place for creative thinking, that bias has since then been questioned often enough to result in making creativity a critical component of business school training by the accreditation association which calls for business schools to sharpen the creative problem solving skills of students to enable innovation (AACSB, 2010).

Past studies have shown that the main factors that inhibit creative behaviors are scarcity of material resources, large class sizes, and teachers' unwillingness to change their methods (Matos, Ramos and Rodrigues, 2018). Resistance has been both from teachers and students but the structure of the classroom environment, the process of dissemination, the time and cost constraints also play a vital role in inhibiting creative outputs (Matos, Ramos & Rodrigues, 2018). Studies specific to business schools have shown compared to marketing or international business students, students in quantitative business disciplines of accounting, finance, economics, and information systems outperformed in some categories of creative thinking (Schlee & Harich 2014) indicating the dearth of creativity in the classrooms for critical subjects.

The general idea is to begin encouraging students to question assumptions, train them to generate ideas and become comfortable with failures while rewarding creativity. In the past MBA programs have been plagued with traditional analytical and decision-making skills and undoubtedly require far better innovative strategies for their classroom instructions (Baker & Baker, 2012). This need acts as the driving force for the main objective of this article which intends to layout a simple yet effective blue-print of designing environments and tools and techniques that encourage creative behaviors in academic and even work settings.

Designing a safe creativity inducing environment

Supportive environments are evidenced through sharing of ideas and voicing opportunities, both of which are found to be very helpful in being more creative in teams (Serban & Roberts, 2016). Studies have found that an organization's creative climate model should entail: idea time, risk-taking, challenge, freedom, idea support, conflicts, playfulness/humour, trust/openness, and dynamism/ liveliness (Marwa & Milner, 2013; Driver, 2001). When such creative climate models are adopted by groups with a focus on the 'attitude to work' and the 'working atmosphere' it leads to generation and implementation of new ideas (Moultrie & Young, 2009). Additionally, comparing innovative schools with traditional schools, a distinctive feature observed in the former was the presence of a leader who supported innovation, ownership of ideas by employees, clear norms for diversity, continuous development and consistency between the processes and products (Siege & Kaemmerer, 1978). When the leader gives importance to thinking styles and clarity of roles, along with industry and organizational knowledge, it increases creative selling performances (Groza, Locander & Howlett, 2016). Given that the business classroom can be seen as a microcosm of the real-world workspace, specific to the process of participants' ownership of ideas, research in the service industry setting found, that when managers increase job autonomy, variety, feedback and identity, it has a positive influence on creative behavior (Coelho, & Augusto, 2010). Building on the above models, the same level of autonomy, ownership, feedback, variety and identity was provided to the students in this case, to encourage their creative outputs.

Further to provide a safe environment for our students, the facets of a supportive environment as shown in the table 1, formed the foundational basis for the design used in this case. The model outlines the importance of eliminating fear in the environment so that participants feel comfortable to generate any kind of idea and voice their opinions without fear of retribution (Driver, 2001).

Table 1. Creating safe environments in classrooms for creative thinking (Driver,2001)

Allowing time for creative thinking
Rewarding creative ideas and products
Encouraging sensible risks
Allowing mistakes
Imagining other viewpoints
Encouraging explorations of the environment
Questioning assumptions
Refraining from evaluating/judging
Fostering cooperation rather than competition
Offering free rather than restricted choices
Encouraging dissent and diversity
Setting students up for success rather than failure
Requiring little if any rote learning

Creating Rules of Engagement for Team members in a Classroom

It is observed that groups on the whole are able to produce a larger variety of ideas than individuals, specifically face-to-face groups more than computermediated groups and smaller groups rather than individuals, showing significantly better preparation and incubation of ideas, respectively leading to more creative satisfaction among face-to-face group members (Kristensson & Norlander, 2003). Further, individuals who collaborate with, and bring together diverse ideas of people in their network tend to improve their own creative performance (Kauppila, Bizzi & Obstfeld, 2018). Hence, when we train students in creative thinking, we encourage them to work in groups and even form dyadic-relationships in teams, since, among team characteristics, high quality, dyadic co-worker relationships lead to the establishment of more favourable creative team environments (Bornay-Barrachina & Herrero, 2018).

During the process, co-definition, co-production and co-evaluation in the formulation of design concepts in online settings and outside the classroom, were encouraged, as they have been observed to aid in creative interactions in cloud computing environments (Jimenez-Narvaez & Gordoni, 2014).

Since challenging and enabling workers to use their talents and skills in a creative manner has shown to lead to more positive outputs in the workplace (de-Haan, Naus, & Overboom, 2012), it became an inherent part of the creative exercises in this case.

Among all these studies, a very important finding in this field has been the imperative need for clear outcome goals that can even transform preferences for creative behavior into tangible supervisor-rated creativity among employees (Aleksic, Cerne, Dysvik, & Skerlavaj, 2016). The importance, hence, of identifying, asking and framing the right question was one of the key factors highlighted to the students. Clarity of norms, the communication modalities, task interdependencies and proximity to team members were also an integral part of the student driven design of how they would engage with one another since all these factors are known to increase creative behaviors (Kratzer, Leenders & Van Englen, 2006).

On the other hand, while ambient cultural disharmony can disrupt creativity, ambient cultural harmony is not seen to promote creativity (Chua, 2013). This underlines the importance of knowing when to constrain motivations, utilize tools and conceptual structures through ongoing questioning during their development phase, to help sustain creative processes, rather than hamper them (Coughlan & Johnson, 2008). Design spaces and design systems that are intended to define, negotiate, and legitimize the designs that emerge from the creation process are equally important to the sustenance of the creative behavior (Davilo & Ditillo, 2017), leading us to develop our rules of engagement exercise for the team members.

Tools and Techniques for Creative Thinking

Providing access to downloadable digital supporting materials and creative play frameworks have been shown to be very valuable to creative outputs as it encourages communication skill development, innovative thinking and immersive exploration through experiential play among team members (Vear, & Mcconnon, 2017). More recent innovative methodologies include, mapping humanenvironment relations as seen applied in sports and leisure research (Merchant, 2017). The students were thus introduced to empathy maps to aid planning and implementing market research.

Visual training environments that use new, original, unique and creative approaches, that include inspiring, logical, versatile and demonstrative materials, encourage students to communicate in a noticeable way (Rutka, Rudzite, & Romanova, 2017). Functional support tools like adequate lighting, psychosocial support such as spatial possibilities for both privacy and communication, and inspirational support, in the form of brainstorming rooms, dynamic planning and imaginative interior design, have all been shown to increase creative outputs (Hoff & Oberg. 2015). Specific visual support materials like posters, books, 3-D models, videos, and live-models, along with functional ergonomics, simplicity and aesthetics of the physical environment and a role model that students can emulate in terms of, how to communicate and be comfortable and expressive have observed to be most effective in encouraging students' creative behaviors (Rutka et al, 2017). While control of lighting was possible to some extent, the students were provided with several online and hard copies of different tools, posters, visuals, playing cards, images and videos to explore a range of possible ways to trigger creative thinking and efforts were made to ensure a more nurturing environment as well.

METHODS

Sample

This was a trial creativity class for graduate students. Five graduate students were enrolled in a five-week module-based program. The students were all executives in companies ranging in age between 25-36. There were three female and two male participants.

The Context

This was an elective course offered to students, who self-selected themselves into the course.

Experiment Details

The ad hoc case study was carried out as part of the trial process to see its effectiveness in addressing the needs of graduate students in a business elective course. The first four weeks of classes entailed training in design and use of tools and the final class entailed a design sprint, which was observed for its effectiveness. The below section on process and treatment outline the details of the experiment.

Process

The five-week module was oriented around addressing obstacles faced in different work environments that have been observed to be hindrances to creative expression and outputs.

Treatment

The first module introduced them to the concept of creativity, with examples from different settings of what creative outputs look like. This was followed by a series of steps.

Step 1: A general list of problems in workplace environments, that were detrimental to creative thinking, was generated. These included: Immediate criticism of an idea when it is voiced; Talking over one another; Wasting time discussing, rather than generating ideas; Judging an idea during the brainstorming stage; Each having their own idea of what needs to be done; Not knowing how to come up with new ideas.

Step 2: Students were introduced to the three-component model (Figure 1)



Figure 1. Three component Model for Creative Thinking in the Classroom

The model comprises of the following three components: Component 1: Creating the ideal workspace Component 2: Establishing the rules of engagement in the creative process Component 3: Layout of a basic structure, and empowering all team members with access to fun tools of the day! Keeping it fun yet a little ambiguous, challenging and exciting.

Explanation of Component 1: Creating a safe setting. Participants were asked to ensure the following features were accounted for in order to create a safe place to voice creative expressions.

- a. To ensure fresh air is available so everyone can breathe freely.
- b. Check if everyone is comfortable with one another
- c. Set up large workspaces where ideas can be drawn, shared and described visually so that everyone is on the same page. Participants were provided with posters, markers, props, whiteboards, video projectors, think-cards and other stationaries.

Explanation of Component 2: To provide comfort, participants were offered guidance in the process of forming teams, by understanding and accepting each other (not just tolerating one another).

a. They were trained to interpret personality traits' assessment reports, which had to be noted down and then compared with their fellow-team members to identify both similarities and differences in their traits. Wherever there were gaps in presence of traits among members they were taught how it provided an opportunity for each of them to learn (Table 2).

Assessments	essm	ent-Te	eam	Mer	nber	s Ter	npla	te
Assessments		r2	r3	r4	10	Qualities	Qualities	
Gough Scale	Capable, clever confident, humorous, informal, insightful, honest, intelligent, well mannered, wide interests, reflective, sincere, resourceful, self confident Score = 11	Capable, Clever, Confident, Humorous, Insightful, Honest, Well- mannered, Resourceful, Self Confident, Unconventional, Score=6	Capable, Cautious, Confi dent, Humorou s, Individualist ic, Insightful, Honest, Intelli gent, Well mannered, Inv entive, Original , Reflective, Si ncere, Self- confident, sex y Score=7	Capable, clever, confident, humorous, insightful, honest, intelligent, wide interests, inventive, original, sincere, self- confident, unconventional Score=8	Capable, Clever, Confident, Humorous, Individualistic, Informal, Insightful, Honest, Intelligent, Wide Interests, Original, Reflective, Sincere, Resourceful, Self Confident, Unconventinal Score = 11			ifferences / gaps provide creative pportuniti es

b. Next, they were provided with a template of the "Dots and Depth" profile, a tool that was created for this class (Figure 2). Each of the dots represented the different areas of expertise possessed by each member. The width or size of the dot represented the depth of their expertise (for ease, they were asked to provide a number between 1-9 to indicate the depth of their expertise in the area, with 1 being very superficial and 9

being very deep). (this tool focuses on divergence in knowledge).

Figure 2. Template for drawing team members expertise and depth in different fields

Dots and Depths Team Member Profile



c. Participants were then provided with a short creativity assessment questionnaire. They had to then, match the models of creativity assessment with the needs of the various roles in a design team (Betancur, 2017), using all of the above information, to form their team. Forming the multi-disciplinary team with well-matched roles provides ownership and expertise in a creative project (Figure 3).

Figure 3. Identifying team members for specific roles in a team based on their qualifications



d. Finally, they were asked to establish the rules of how they would engage with one another throughout the creative design process. Here, they were

shown examples of different problems that could arise while engaging in the creative process, and were asked to think, how they would manage these issues without disrespecting other members or dominating the process yet ensuring full freedom of expression without judgement (Figure 4).

Figure 4. Rules of Engagement -Adapted from "The Art of Design Thinking", Betancaur, J. (2017)



Explanation of Component 3: Various idea generation tools (Figure 5) were provided to the students. Participants were then presented with brief exercises, representing different situations, wherein they had to apply those tools. This was practiced, till the participants became comfortable with all the tools and knew how to use them as per the need of the situation.



Figure 5. Idea Generation Tools

Following their training in all three components, the students were advised about the final project on the last day, which was a design sprint. The design sprint (adaptation of design sprint by Betancur, 2017) entailed using all three components. They had to develop a clear goal with respect to one of the ideas generated by the team and had to design the product or service based on marketbased research using all the instruments, tools and techniques provided to them.

The below list represents the instruments and templates provided to the participants, which was to be used on the last day of the program during a design sprint (150 minutes duration).

1) A Creativity Assessment Scale (Gough Scale)

2) Dots and Depth profile template

3) Matching assessment, dots and depths with roles to take on, during design sprint.

4) Formation of the rules of engagement template for their team

5) Layout of the design sprint steps and process (Figure 6) (combining all elements from creativity literature)- Posters with the below steps were put up all around the room for them to complete, hence encouraging them to walk, pace, think, discuss, and feel comfortable without any constraints.

Figure 6. Training in creative design sprint steps and process



6) Once the team was formed, using the above instruments, they were asked to engage in the following steps:

- I. Step 1 of the Design Sprint:
 - i) Framing the question
 - ii) Using tools for idea development
 - iii) Listing ideas and categorizing them
 - iv) Evaluating the ideas (Tables 3 and 4, and figure 7)

Table 3. Evaluation of Ideas through user research

005				empi		
Tag-along Observatio n	Day-to-Day Routines	Users Goals/ Ambitions	Users Fears/ Challenges	description of an ideal	User response/ feedback to current prototype	User's story they wanted to share
User 1						
User 2						
User 3						
User 4						
User 5						
for each user wit story as the User	ile this as a separate sheet or each user with Name and tory as the User's Persona Map (on next slide)		User's Story User's Daily User's Idea User's Fear	`)

Observation of User Template





	Evalua	Evaluation Criteria (on a scale of 1-5) or Yes/No or Low-Medium-High					
	Empathy with User	Ethical Impact	Tangibility for User	User Impact	Social Impact	Total Score/Impact	Ranking of Ideas
Product Idea description							
Idea 1							
Idea 2							
Idea 3							
Idea 4							
Idea 5							
Idea 6							
Idea 7							
Idea 8							
Idea 9							
Idea 10							
Idea 8 Idea 9 Idea 10 Legend: Empathy- Ethical imp	matches more than 5 of th pact-does not violate thro User will be able to touch	ugh deception or ma	· · · · · · · · · · · · · · · · · · ·				

Table 4. Final evaluation of ideas

Evaluation Table

Social Impact-social responsibilities to local/national/global communities

II. Step 2 of the Design Sprint- Sketching it! - A labeled illustration of their product or service (steps 2-5 combine, Betancur's design sprint steps with the TRIZ principles and provision of functional tools and space based on the creativity literature).

III. Step 3 of the Design Sprint - Story Boarding it! (step-by-step explanation of how the product or service would work, using a comic-strip style presentation)

IV. Step 4 of the Design Sprint- Prototype it! using props if necessary or a 3D model or any visual tool, and using it as a model to communicate/present (giving them the freedom to understand that it doesn't have to be perfect!)

V. Step 5: Validate it! - Build-Share-Fail-Learn (use of TRIZ principles here, which was one of the idea generation and evaluation tools taught to them)-[Repeat-Succeed (this was outside of the design sprint- as a follow up)]

RESULTS

Two methods were utilized to assess the outcomes. The first was the actual output and the second was the personal reporting by the students.

Objective observations

Although the class was only for 2 hours and 45 minutes the participants continued their creative process in a joyful and enthusiastic manner for nearly four hours completing every single step in a precise and accurate manner, and asking and wanting to stay for a longer time. The final product was an extremely novel idea of a new type of service-based product, unseen in the market till date.

Personal reporting

The team members stated, they had never had so much fun or so much clarity on how to be creative. Some of them followed up with the templates at their workplace. One of them requested us to conduct a special workshop for their team in another class to help them generate ideas.

DISCUSSION AND CONCLUSION

Identifying the need for a safe and fun environment that leads to creative thinking along with the importance of guiding participants in establishing proper rules of engagement to sustain that creative output, and training them in using different idea generation tools was the main purpose of our study. Participants were presented with three critical components to design an environment that supported creative thinking. The impact of these components was observed in the form of the quality and number of ideas the participants generated. The results indicated that encouraging participants to determine their own rules of engagement during a creative thinking process, setting up of the location and ambience, and providing training in creative idea generation methods resulted in a highly conducive environment that increased the quality of the creative outputs. During the five-week workshop style creativity class, we were able to test this three-component model. Utilization of the model provided immense clarity to the participants about the process of structuring a design team, building a creative and safe environment, and also learning to respect one another's skills, knowledge and opinions while following a collectively established set of rules of how to engage in a team that ensured higher levels of creative outputs. The process also helped them become aware of their own behaviors and attitudes which had been helpful, or detrimental, to idea generation.

Given that the list of issues generated at the beginning matched with different issues faced at a common workplace, the process itself gave them a good idea of how to handle such situations in the future. Additionally, having a toolbox full of templates, idea generation tools and techniques and a list of well-described processes based on a simple three-component model gave them the confidence to explore more opportunities in their future wherein they could repeat these steps and keep practicing, modifying, adapting and sharing in different settings, whenever needed.

When teachers choose to apply this model, they can have different outcome goals according to the subject or field it is being applied to. If conducted as a single workshop, it would be helpful to provide at least 5 hours of time to the participants. Two hours to train them in the use of tools and techniques, and three hours for the design sprint. If being conducted in regular classrooms, the steps can be broken up over a period of several classes, and using class content as the context, their applications can be assessed in a final class project or in a specifically designed short assignment.

The smaller number of students definitely added to the benefit of the program but future studies may be carried out with larger groups of students as well. It would also be beneficial to try this process in majors other than business alone to understand its reliability.

Implications for Management and Leadership in Educational Institutions

One of most critical aspects of this study is its implications for leaders in educational institutions. The findings highlight the importance of ensuring safe and supportive environments for students in classrooms, that will allow their ideas to flourish. Colleges and universities strive to offer world-class training that differentiates their students from others in order to provide them with an advantage when they interview for competitive positions. To make certain this happens, the management in educational organizations can definitely begin this process by supporting the concept of establishing an ideation room or design thinking room in every school. These rooms can have large open spaces with non-linear seating arrangements, art tools, sewing machines, poster boards, 3-D printing machines and many other engineering design tools as well, that will inspire and motivate their students to think creatively and innovate freely. Further, when designing creativity courses, leaders can encourage their faculty to convert the courses from lecture only sessions to using hands-on and practical modes of teaching, thus encouraging greater engagement and participation from students. Support from top-down would also embolden the faculty to use innovative teaching methodologies across the curricula, encouraging creative thinking in every discipline, be it accounting, finance, science, technology, arts, literature, marketing, film-making or business management. Leaders can themselves use these tools and techniques for the senior management teams when generating ideas and strategies for the institution. Forming rules of engagement as found in this study, will allow the entire organization to function in a joyous and nonjudgmental manner while brainstorming, strategizing or making decisions that impact the welfare of the entire student population.

This simple case study has significant implications, as seen above, in both business classrooms as well as in organizations. Creative thinking is one of the most sought-after traits in the current workplace and this study outlines steps and methods to create environments that help enhance such skills among students and employees. Such methods would add great value to the development of creative skills in students in our institutions, who will go on to become effective and supportive leaders as they apply these concepts in the workplace which will help increase the firm's innovative strategies and sustain its competitive advantage.

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