

Chapter 4

Guiding students towards an entrepreneurial mindset using the Berkeley Method of Entrepreneurship

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Introduction

This chapter presents a novel teaching and learning approach, called the Berkeley Method of Entrepreneurship (BMoE), which, in addition to the traditional elements of theory and practice, stresses the importance of including elements related to entrepreneurial mindset in the entrepreneurship curriculum. The method uses behavioral games and debriefing sessions as tools, and results in students with an entrepreneurial mindset, who, therefore, create more start-ups, ultimately leading to economic growth. Readers of this chapter will gain the following three insights:

- *Mindset is of great importance for entrepreneurs and should therefore be included in entrepreneurship education.*
- *The mindset of successful entrepreneurs can largely be captured by a set of identified behavioral patterns.*
- *Games and debriefing sessions are suitable tools for teaching and learning mindset. They provide the students with a mean for exploring their own mindset and behaviors, and give a starting point for a possible change.*

Entrepreneurship matters (Sidhu *et al.*, 2015a). In modern open economies it is more important for economic growth than it has ever been. Hence, citizens should be trained to start companies. One opportunity to create new companies is in areas of innovation and new inventions. In most countries, universities generate lots of new innovations. Thus, the

universities that not only innovate (through research) but also train entrepreneurs will be at the forefront of growing their countries' economies (Bramwell & Wolfe, 2008). Today many universities have extended their traditional missions (education, research and outreach) to also include innovation and entrepreneurship. The newer goal is often expressed as; education, research, and outreach-and-innovations. Hence, entrepreneurship and innovation are being included in curricula at adaptive universities (Sidhu *et al.*, 2015a).

As entrepreneurship is included in curricula in higher education, it is important that the corresponding courses are filled with relevant material, and hence it is important to understand what "makes a good entrepreneur" and "what creates a vibrant entrepreneurial culture". Entrepreneurship is a community with its own strong culture, i.e. there is an unformulated understanding of what it means to "become an entrepreneur and belong in the entrepreneurial community" (Johnsson *et al.*, 2016a). Our understanding of entrepreneurship originates from the innovative culture in and around Silicon Valley, CA, USA.

Traditional pedagogical approaches in teaching and learning are centered on theory and practice, whereas the mindset part, i.e. the "become and belong" aspect (how to be and act) is often left out. It is our belief that a successful entrepreneurship course should, in addition to the traditional elements of theory and practice, include elements related to entrepreneurial mindset. Further, it is our belief that an action-reflection approach is suitable for the mindset related part. For the action part, we propose games as a suitable vehicle, and for reflection we propose debriefing sessions as a suitable tool to use. We believe that using behavioral games and debriefing sessions will help the students to adapt their mindset to that of a successful entrepreneur. Ultimately, leading to more entrepreneurs, more start-ups, and an economic growth.

In this chapter we will present the basic concept of BMoE, i.e. what it is, why it has been developed, where it has been used, and how the pedagogy is built up. Thereafter we will explain the concepts of Behavior and of Games, and we will give examples of entrepreneurial behaviors and corresponding BMoE-games. Then, we will give you a suggestion of how you can proceed in case you would like to use BMoE and start guiding your students towards a more entrepreneurial mindset. Next to last we will present research on which BMoE is based and ideas for future relevant research related to BMoE. Finally, a summary is given.

What is Berkeley Method of Entrepreneurship (BMoE)?

BMoE - a new method for teaching and learning entrepreneurship - is under development (Sidhu *et al.*, 2014; Global Venture Lab Report, 2013) at Sutardja center for Entrepreneurship and Technology, UC Berkeley, USA.

Teaching and learning BMoE

Entrepreneurship is an applied discipline, yet we are teaching and researching as if it were part of the natural sciences (Simon, 1996). Entrepreneurship cannot be taught in the same way as other traditional science subjects, we cannot teach it prescriptively as we teach e.g. maths or physical. These subjects are taught in a manner where something is proven to be always true, and where students can practice on these formula which are always true. In entrepreneurship, we are teaching students to do things that have never been done before, and in an environment which has not existed up until this time. Therefore, we cannot rely on teaching "recipes" for things that has worked in the passed. Neither can entrepreneurship be tested in the same way as other subjects, i.e. by repeating what has been read in a textbook. Just because a student understands the ideas and theories presented in a textbook, does not mean that the student can do the things that are required for entrepreneurship and innovation. Instead, the students would benefit from extending their theoretical and practical understanding of entrepreneurship, with an understanding of the entrepreneurial mindset (Bootcamp, 2015). Generally, the mindset is a way of thinking which influences the way someone sees and acts upon a situation; the mindset is reflected in the person's behavioral patterns. BMoE stresses the importance of explicitly including mindset in the entrepreneurship education.

For whom is BMoE intended?

Entrepreneurship is often thought of as the act of commercializing an innovation. Entrepreneurship is also about the capability of translating Science, Technology, Engineering and Mathematical (STEM) understanding into useful innovations. The economic engine over time has, been technology (Todays engineer, 2007). Clearly, a good understanding of STEM subjects is a useful prerequisite for innovations and entrepreneurship. However, the vice versa also holds and an understanding of fundamental ideas and mindsets from entrepreneurship can be useful for STEM learning in general (Duval-Couetil *et al.*, 2011). Entrepreneurs are more willing to be outside their comfort zones, and real learning occurs when a person is challenged and outside this zone (Sidhu, 2014). The relationship between STEM learning and entrepreneurship is therefore bi-directional. STEM is a useful pre-requisite for innovations and entrepreneurship, and understanding and applying the entrepreneurship mindset is advancing STEM learning. Therefore, entrepreneurship education is not only to be the engine of economic growth and wellbeing through the creation of jobs and new ventures, but also to develop individuals who understand entrepreneurial processes and have entrepreneurial skills and ways of thinking (Täks *et al.*, 2015). For both the students that do select entrepreneurship as their career path, as well as for the students that do not, the mindset part of the education is important and creates value.

Where has BMoE been used?

BMoE has already been used in practice at different occasions; boot camps, courses for undergraduate and graduate students, networks and conferences for academia and industry. The occasions serve different purposes that complement each other.

- The BMoE-bootcamp is only one week long and facilitates immersive learning for new venture creation. The material is presented in a high speed with the goal of giving undergraduate students a glimpse of, and an appetite for, a complete venture creation journey. The BMoE-bootcamp attracts about 100+ undergraduate students per occasion, and is offered twice per year at the Sutardja center for Entrepreneurship and Technology at UC Berkeley. Concepts from BMoE are also included at the EIA-bootcamp, organized by European Innovation Academy. The EIA-bootcamp is 3 weeks long and attracts 300+ international students every year.
- The courses are semester-long, and provides the interested undergraduate and/or graduate students with a deeper understanding of the theoretical material, more time to digest the material, and also more time on learning about the mindset of successful entrepreneurs. Concepts from BMoE have also been incorporated in entrepreneurship courses around the globe, e.g. Sweden, Finland, Chile, etc.
- The network (called Global Venture Lab at UC Berkeley) is an international alliance of academic institutions sharing common research and educational programs. The goal of the network is to share and discuss best practices between academic institutes and to foster innovation and entrepreneurship in a university environment with the intent to help create new companies and industries.

BMoE pedagogy

BMoE is focused around learning rather than teaching and the students are pushed to proactively develop their own understanding rather than waiting for someone to teach them what they need to know. The students are trained to frame problems and find ways to solve them and then reflect on what they have learned from the process. The pedagogy of BMoE is based on the following five (5) principles, see also Figure 1:

- Students are learning by doing (Kolb, 1984).
- Instructors host the environment for students to interact directly with the problem. Students make their own decisions and learn inductively (Prince and Felder, 2006).
- Behavior training for students is done through games and exercises (Verzat *et al.*, 2009).

- Learning outcomes prosper when focusing on goals and processes instead of grades.
- Learning leverages on mimicking real-world entrepreneurial situations (Prince, 2004).

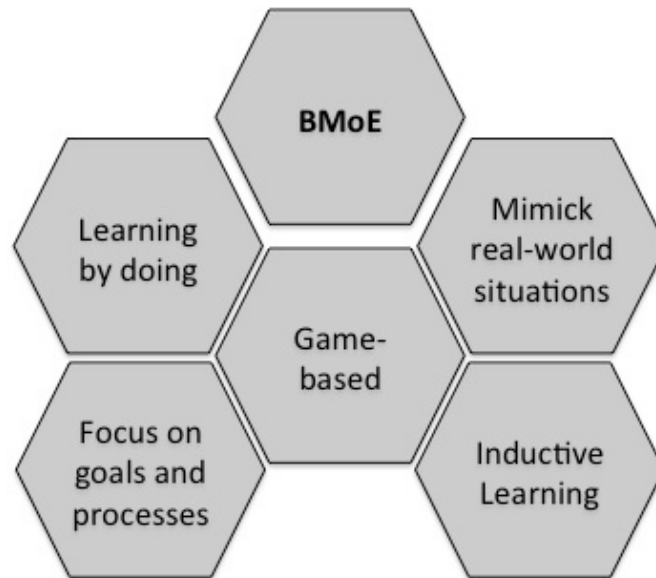


Figure 1: The five principles of BMoE.

Mindset and Games

BMoE is based on a two-folded hypothesis:

1. the mindset of an entrepreneur can be described as a set of behavioral patterns, and
2. an inductive game based teaching approach is a successful vehicle to introduce and re-enforce behavioral patterns to students.

BMoE mindset

The mindset of successful entrepreneurs has been studied and a proposal describing their most dominant characteristics is given through ten (10) behavioral patterns. The proposal is based on extensive interaction with entrepreneurs in the Silicon Valley area, and on literature review e.g. Hwang & Horowitz, 2012. The set of behavioral patterns is listed in Table 1. A more thorough description of the behaviours is found in Sidhu *et al.* 2015b. It is important to note that this is an ongoing research, which implies that the ten (10) behavioral patterns should be interpreted as best current status. It cannot be excluded that more patterns will be added, or current patterns modified/removed. The ten behavioral patterns describe the typical mindset of successful entrepreneurs. If everyone in a community acts like this, there will be a vibrant entrepreneurial culture.

<i>Nb</i>	<i>Behavior</i>
<i>1</i>	<i>Pay It Forward</i> “Agree that you will get help from others, and pay it forward.”
<i>2</i>	<i>Story Telling</i> “Realize a something new by induction, and then learn to communicate the story with a new language.”
<i>3</i>	<i>Friend or Foe</i> “If you can’t tell: Learn to trust others without expecting anything in return.”
<i>4</i>	<i>Seek Fairness</i> “Make deals that seek fairness (in positive sum transactions), not advantage (in zero sum transactions).”
<i>5</i>	<i>Plan to Fail</i> “It is necessary to be Wrong sometimes. Plan to Experiment. Plan to Fail. (Fail Fast) Analyze, Adapt and repeat. The smarter you think you are, the harder this is going to be.”
<i>6</i>	<i>Diversify</i> “Diversify your networks. Connect to people you would not normally, then go and listen. Open Up. And connect them to others.”
<i>7</i>	<i>Role Model</i> “Be a role model for other entrepreneurs and innovators.”
<i>8</i>	<i>Believe</i> “Believe that you can change the world.”
<i>9</i>	<i>Good Enough</i> “Perfection is no good but good enough is perfect.”
<i>10</i>	<i>Collaboration</i> - Individual vs team and competitors vs partners

Table 1: Ten (10) behavioral patterns characterizing and entrepreneur.

BMoE-Games

BMoE includes behavioral training as well as reflections on mindset. For this, an inductive game-based teaching approach is used together with debriefing sessions. Various games, referred to as the BMoE-games, have been developed. A game can be defined as a structured playing, usually undertaken for enjoyment and sometimes used as an educational tool. Or a game may be described as an “artificial situation” in which players engage in an artificial conflict against one another or all together against other forces. Games are regulated by rules, which may take the form of procedures, controls, obstacles, or penalties (Verzat *et al.*, 2009).

The key components when describing BMoE-games are captured by the eight aspects:

BMoE-Game:

Key words: *important keywords.*

Time needed: *time needed to run the games.*

Material needed: *material needed to run the game.*

1. Behavioral Pattern: *link to the BMoE-behavior(s) in Table 1.*
2. Learning purpose: *present the analogy with entrepreneurship.*
3. Setting up the game: *include the instructions and rules.*
4. Playing the game: *describe the action.*
5. Winning the game: *how is the game evaluated.*
6. Alternatives: *variants of the game.*
7. Instructor experience: *examples of common challenges that may occur.*
8. Reflection topics: *what to discuss in the debriefing sessions.*

The idea is to let the games invoke a certain behavior or mindset of the student, e.g. Story Telling (behavior-2) or Collaboration (behavior-10). After the game, the students should reflect about his/her own behavior and compare it with that of successful entrepreneurs. The result of the reflection can be either an ignition for the student (confirming that he/she wants to become an entrepreneur), an extinguisher (confirming that the student does not want to be an entrepreneur) or a wake-up call (ok, I need to learn more about this mindset).

EXAMPLE: Story Telling Game

Out first example relates to the BMoE behavior-2 “Story telling” and has been used at different occasions (Johnsson *et al.*, 2016c). In the storytelling game, the students will be exposed to a game in which their communication and story-telling attitudes will come to play. After the game, it is important to allow for reflections in debriefing sessions, in which the outcome of the game can be discussed and lessons learnt.

In the storytelling game the students are paired in groups of two. They are asked to sit with their backs against each other, i.e. their heads facing in two opposite directions. Person-A will thereby be able to see a figure shown on the screen, whereas Person-B will not be able to see the figure. Person-B is given paper and pencils. The instructor give the students about 5 minutes to work, during this time the figure that Person-A sees on the screen should be transferred to the paper that Person-B has. Person-B is not allowed to turn his/her head around, i.e. the only way to transfer the figure is by communication between the two students.

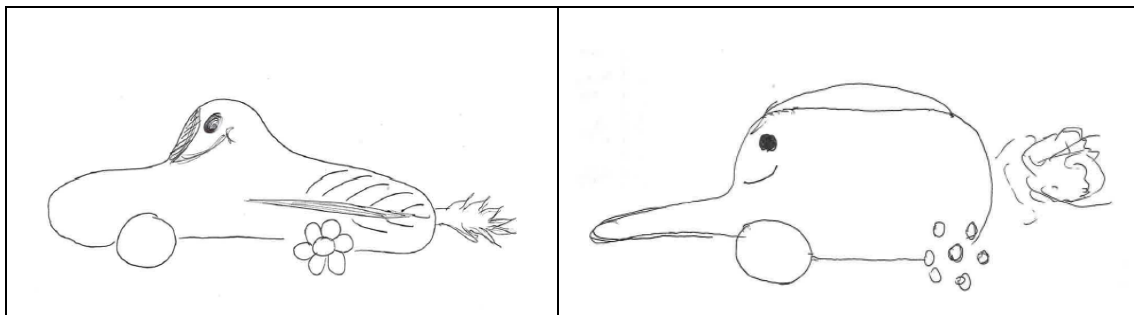


Figure 2. The right car was used as the instruction-figure. The left car is the outcome from one of the groups participating in the storytelling game.

After the game is over, the students are asked to have a look at the figure that has been drawn and to discuss it. It is imperative that the instructor also let the student reflect around and speak about the entrepreneurship-analogy of the game. An entrepreneur (represented by Person-A) often has an idea in his/her head, the role of the entrepreneur is to make sure that the idea is understood by the other team members or to potential customers (represented by person-B). Making sure that two persons understands an idea in the same way is not easy and requires effort from both parties. The entrepreneur (Person-A) should explain the idea but, equally important is that he/she listens to the questions that are asked. By listening to the questions, the entrepreneur (Person-A) can get an understanding of where misunderstandings are. The team-member (Person-B) should listen but also ask questions and state confirmation phrases. The act of transferring a figure/idea from one person to another is an act of team-work. Very often, the act of listening to questions or stating confirmation phrases are not considered, so when the game is executed, there is often an active speaker (Person-A) and a passive listener (Person-B). After the debriefing sessions, the students state that they have a better understanding for the importance of story-telling.

A more complete description of the Story-Telling Game is included in Appendix A. The Appendix uses the template mentioned above and developed specifically for the BMoE-Games, when presenting the information relevant for the game. Additional BMoE-games have been

developed (Johnsson et al, 2016 – ECIE), some examples of these and their corresponding behaviors, are:

- Puzzle Game (Behavior nr 2: Friend or Foe (i.e. Trust))
- Rejection Therapy Game (Behavior nr 5: Plan to Fail (i.e. Resilience))
- Music Video Game (Behavior nr 6: Diversify)
- Trade up Game (Behavior nr 2, 5 and 8: Story-telling, Plan to Fail, and Believe)
- Scavenger Game (Behavior nr 2, 6, 9 and 10: Story-telling, Diversify, Good Enough and Collaboration)

Implementing the BMoE

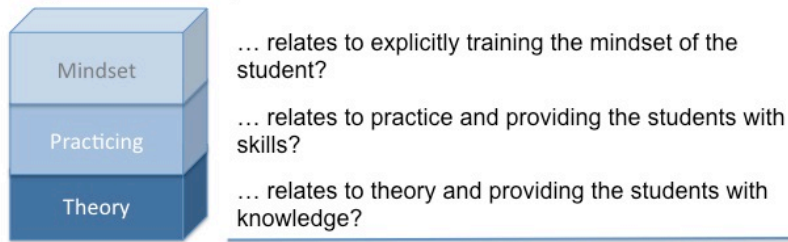
BMoE is novel in its approach since it is mindset-focused and since it uses inductive game based teaching. If you are interested in starting to use BMoE for guiding your students towards a more entrepreneurial mindset, we would recommend the following iterative 6-step implementation approach:

- STEP 1: Review your course. Look through your course material and determine how much of the current material that is related to theory and practice, and how much is related to mindset? This will give you a good overview of the current focus of your course.
- STEP 2: Extend your course. Include a general lecture about mindset. The aim of this lecture is to have the students understand that mindset is an important aspect of entrepreneurship, equally important as theory and practice.
- STEP 3: Identify your BMoE-Game(s):
 - Step 3a: Look through the 10 behaviors (table 1), and estimate the importance of understanding this behavior for your students. Give each behavior a rating (e.g. High, Medium, Low or similar).
 - Step 3b: Select the BMoE-game that best matches with the identified behavior (i.e. the behavior that you rated the highest).
- STEP 4 & 5: Expand your course. Include the identified BMoE-Game(s) in your course. The full description of the BMoE-game is found in e.g. Appendix A.
- STEP 5: Include a debriefing session in your course. Make sure the students have time for sharing their reflections and that the analogy between the game and the entrepreneurial mindset is discussed.
- STEP 6: Evaluate if you would like to include another entrepreneurial mindset in your course. If so, go back to STEP 3.

The 6-step iterative approach for implementing BMoE in your class is

also visualized in Figure 3.

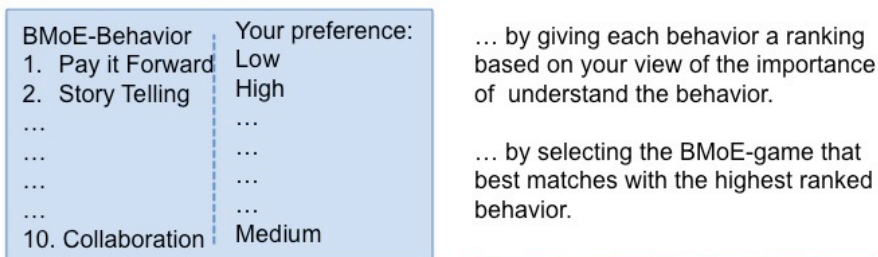
Step 1: Review your course. What does it include that ...



Step 2: Expand your course. Give the student the context...

... by including a general introductory lecture about entrepreneurial mindset, explain common behavior of successful entrepreneurs

Step 3: Identify your BMoE-Game(s) ...



Step 4 & 5: Expand your course ..

...by running the identified BMoE-Game
... by chairing the corresponding post-mortem discussions.

Step 6: If you want more - go back to Step-3.

Figure 3: The 6-steps approach for implementing BMoE in your course.

BMoE use games and debriefing sessions as vehicles for action and reflection. We believe that by implementing and applying BMoE in your course, the outcome will be more students with an entrepreneurial mindset, who, therefore, create more start-ups, ultimately leading to economic growth.

Research related to BMoE

Research has been conducted in various fields and served as an input when developing BMoE. In addition research can be performed based on BMoE and the outcome of its implementations.

Research on which BMoE is based

BMoE is related to research performed, and theories developed in other areas such as pedagogy, sociology and psychology;

- theory of planned behavior (Ajzen, 2011),

- fixed and growth mindset (Dweck, 2006),
- community of practice (Wenger, 2006),
- metacognition (xxx, xxx) and learning journals,
- MIND-methodology (Johnsson *et al.*, 2016).

BMoE is related to the MIND-methodology, a generic pedagogical model that highlights important aspects in teaching and learning, see Figure 2. The methodology has been used in entrepreneurship and leadership education for more than 10 years, but it is not until lately that it has been explicitly formulated, in fact this work has largely been done in parallel with the development of BMoE. MIND-methodology includes four building blocks. The first building block, Theory, stresses the learning of theory and thereby acquiring knowledge, the second building block, Practice, highlights the importance of practicing and thereby getting skills, and the third building block, Mindset, underlines the importance of changing or confirming an individual's mindset and thereby experiencing personal growth. The fourth building block, Engagement-and-Networking, is supporting the other three and is a mean for improving the students' self-efficacy and self-awareness, in addition it also enables scale-ability of a curricula/program. (Johnsson *et al.*, 2016).

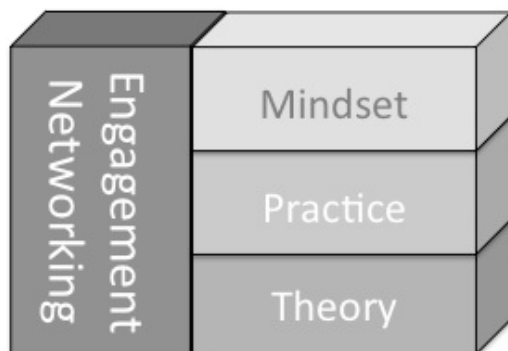


Figure 4: The building blocks of the MIND-methodology.

In the context of entrepreneurship, and according to the theory of planned behavior (Ajzen 2011), most individuals will only be motivated to start their own company if they a) think doing so is a good thing to do (the attitude), b) at least someone in their personal network supports the idea (the subjective norm) and c) the individual thinks he/she has the time, resources, etc. to do so (the perceived behavioral control). Starting the company is not just the act of incorporation. Entrepreneurship is more complex than that. On the behavioral level, starting a company is the end result of dozens of previous steps and actions. (Johnsson *et al.*, 2016). Each behavior in turn comes with its own combination of attitude, subjective norm and perceived behavioral control. Previous education has taught some students to ideate and create but not to sell or commercialize their products. In fact, on the level of subjective norms, traditional classroom settings have fostered a

culture of risk-aversion (compare BMoE behavior-nr-5 "Plan to Fail"). Through mechanisms such as multiple-choice testing, it has produced excellent students by rewarding rote-learning and compliance but often penalizing experimentation or risk-taking – behaviors that are crucial for entrepreneurship and innovation. This is one of the reasons that makes it crucial to explicitly include mindset training in entrepreneurship education, the students have to understand, through inductive reasoning, that risk-taking can be a positive thing (Johnsson et al, 2016).

In addition to the theory of planned behavior, the mindset of a person is critical to understanding the behavior the individual will engage in. Mindset constitutes a certain set of attitudes and beliefs and is therefore central to behavior. A common distinction in mindset has been made between fixed and growth mindset (Dweck, 2006). Accordingly, people with a fixed mindset believe that skills and ability reflect inherent traits that are stable. They build their identities around their level of ability. Research has shown, however that this way of thinking exerts constraints on performance in the long-term. This is due to the fear these individuals experience when faced with challenges as they frame these situations as threatening. Due to their fear of failing or of losing they avoid taking on new challenges or entering situations where others can question their credibility. On the other hand, people with a growth mindset believe in the malleability of skills and ability. Moreover, they believe that success is the reflection of effort. For persons with a growth mindset, the reward comes from overcoming challenges and impossible situations. They feel internally rewarded for the process rather than the result. As they continuously take on new challenges they continue to grow and expand their skills and abilities. It is therefore of greatest importance that the atmosphere in which entrepreneurship is taught is based on the growth mindset.

In addition to the academic atmosphere in which entrepreneurship is taught, networking play an important role. Theories from social sciences states that knowing and learning are acts of participation in complex social learning systems, i.e. to form and acquire knowledge, it takes one or several brains in living bodies but it also takes a complex social, cultural and historical system, which has accumulated learning over time (Wenger, 2000a). A community of practice is an example of such a learning system, and belonging to such is essential to our learning. There are different ways of belonging to a community of practice; one of them is Engagement i.e. the possibility to do things together with peers in the community, another one is Networking, i.e. to meet and spend time together with peers in the community. The way we engage and network in a community profoundly shapes our experience of who we are (Wenger, 2000a). For teaching and learning entrepreneurship, this means that it is vital to introduce and include students in various entrepreneurship networks, organisations or clusters, and

to encourage their engagement in those (compare behavior-nr-X: Collaborations).

Academic learning and engagement in various communities of practices can with advantage be combined with individual reflections. The importance of reflection in individual and organizational learning has been pointed out by several practitioners and scholars (Kolb D. & Fry R. 1975, Ballantyne, R & Packer 1995, Thorpe K. 2004). A tool that can be used for serving this purpose is the so called learning journal (Johnsson *et al.*, 2013). A learning journal is similar to a diary, however, the material covered is professional and/or personal, but not private. The individual journals are to be written frequently, e.g. daily or several times per week. In a learning journal, students should be allowed to express themselves freely when reflecting over their own experiences, thoughts, doubts, etc. The learning journal also allows them to get a helicopter view on their own's learning progress and to see how their initial body of knowledge expands over time, this is referred to as metacognition (reference). The positive effects of metacognition and learning journals justify the inclusion of debriefing sessions in BMoE. It is important to keep in mind that the new knowledge they are exposed to cannot be too distanced from their current body of knowledge (Vygotsky, 1978).

Based on the above mentioned research-finds, the MIND-methodology has been developed as a mean for demonstrating the underlying pedagogy behind BMoE and similar approaches in leadership education. The results from applying it in a leadership curricula in Sweden show promising results for the main stakeholders; students and future employees (Johnsson *et al.*, 2016b). Students' feedback years after graduation reveals that explicit mindset activities are highly valued. In addition, salaries and salary-increases provided by their eventual employers are higher than average which indicates that the students possess qualities sought after in today's labor market. We believe that similar results hold when applying the MIND-methodology in entrepreneurship curriculum, and that the mindset training (i.e. BMoE-games and debriefing sessions) improves the possibility for the students to become successful entrepreneurs.

Possible future research related to BMoE

There are several areas related to BMoE that would be suitable for future research. The development of additional games complementing those already developed is one area of importance. It would also be of interest to follow the development of the entrepreneurial mindset of the students attending the courses and participating in the games, in a longitudinal study. The aim would be to capture their development over time and study what effects the games have. More than study this development, it would be interesting to measure it. Ongoing parallel research performed at Sutardja Center for Entrepreneurship and Technology addresses this issue, and a first version of the Berkeley Innovation Index, a tool for measuring the

Innovation capability in individuals and organisations, is developed (reference). Since BMoE is developed under the assumption that innovation capability and entrepreneurial mindset can be learnt, the BII index could be used in a longitudinal study to measure its progress over time. Yet another research area that would be of high interest is to perform a study between various cultures, examining the effects that national and geographical culture have on the identified entrepreneurial behaviors. The result could be used to highlight what mindsets and behaviors that are most and least developed in a certain geographical area, and hence give a hint of what mindsets and games that are most needed in that area. The result could also unfold new undiscovered entrepreneurial mindsets and behaviors that are successful in areas outside of Silicon Valley.

Summary

This chapter presents a novel approach in teaching Entrepreneurship, referred to as Berkeley Method of Entrepreneurship (BMoE). The method stresses the importance of including the mindset aspects in entrepreneurship curriculum, and it uses games as the vehicle for practicing the mindset. The mindset aspect is often not included in traditional entrepreneurship teaching and learning curriculum, in which the main focus is on theory and practice alone. By using inductive games and debriefing sessions, the students get a mean for exploring their own mindset and behaviors and can compare it with that of successful entrepreneurs. Ten behaviors have been identified and games are under development covering single or multiples of the behaviors. The games are combined with reflections and debriefing sessions. The result of the reflection can be either an ignition for the student (confirming that he/she wants to become an entrepreneur), an extinguisher (confirming that the student does not want to be an entrepreneur) or a wake-up call (ok, I need to learn more about this mindset). BMoE is related to research performed, and theories developed in other areas such as pedagogy, sociology and psychology; theory of planned behavior, fixed and growth mindset, community of practice, reflective learning, and MIND-methodology. Teaching and learning entrepreneurship is important since it is the engine of economic growth and wellbeing through the creation of jobs and new ventures. BMoE has been developed by an international group lead by Sutardja Center for Entrepreneurship and Technology at UC Berkeley, and it has been used for both weeklong bootcamps, semesterlong courses, as well as conferences.

APPENDIX A: BMoE - Game

Name of Game: Story Telling Game

- **Key words:** Story-telling, empathy, perspective-taking, common language, communication
- **Time needed:** ca. 10 mins
- **Material needed:** paper and pen; beamer for image or large poster with an image

1. Behavioral pattern

(Present the behavior(s) in focus in this game)

Perhaps one of the most important abilities of an entrepreneur is the skill of effective story-telling. As entrepreneurs innovate and create new products they are faced with the challenge that they move into novel space – that has not been described before. In other words, not only the development of new products but moreover the development of a “language” or “story” that can explain the innovation, is crucial for successful entrepreneurs. They need to learn to describe their innovation to others and communicate their idea.

This is easier said than done. We often forget the most obvious of all: what may seem obvious to us is not at all obvious to the person we are communicating to. Understanding and practicing strategies to overcome this bias are therefore important for aspiring entrepreneurs.

2. Learning purpose

(Present the analogy with entrepreneurship)

The aim of the game is to underline the importance of story-telling for successful entrepreneurship and teach students effective strategies for communication. Students develop a shared language with their partner that both can understand and relate to. This requires an understanding of the other’s previous knowledge, associations, empathy and mutual perspective-taking. Also they need to listen to cues that are being given by their partner and others around them. The ability to ask the right questions (understanding which information is missing & asking for it) and providing it are crucial for success in this game and story-telling as an entrepreneur.

3. Setting up the game

(Includes the instructions and rules)

Students should pair up. Person 1 should sit or stand so that he/she faces the screen. Person 2 should sit back to back with person 1, so that he/she cannot see the screen. Person 2 needs a pen and paper.

Person 1 (facing screen) can only use language to communicate what is on the screen and Person 2 (back to screen) must capture it on paper.

Goal: Capture the image as accurately as possible in shortest amount of time.

4. Playing the game

(Describe the action taking place when running the game)

Person 1 (facing the screen) begins to describe what he sees to his/her partner, who has to draw the image without seeing it but only hearing the instructions from his/her partner. Ideally, the communication between the pair is facilitated through the development of a shared "language", i.e. common understanding has to be established by asking and responding to each other's questions. For example, common points of reference (looks like an apple) or positions (top left) are useful for effective communication. Through the communication, the both partners learn to put themselves into the perspective of the other.

5. Winning the game

(Describe the evaluation criteria of the game)

The purpose of the game is that the images drawn are as accurate as possible; accuracy includes aspects such as all objects drawn, order of objects in correct, objects are in the correct positions, details in objects are available.

6. Alternatives

(Explain variants of the game)

Pairs can be put together by gender, age, discipline, nationality, language, etc. – differences in pairs will make the communication harder but also more rewarding as participants are more likely to experience e.g. that own assumptions are not shared by others.

Rules can be changed so that only person 1 can describe the image while person 2 cannot ask questions back. This option requires a higher level of empathy and perspective-taking in the describer and can be played as a follow-up to the original version, ideally after the reflection.

7. Instructor experience/ examples/ challenges that may occur

(Examples of common challenges that may occur.)

Interestingly, pairs that communicate in a language that is not their mother tongue are sometimes more accurate, as they have to come up with words to fill in for words they can't remember and therefore make more precise descriptions.

8. Reflection topics

(What to discuss in the debriefing session)

Importance of perspective-taking and empathy in communication; development of shared common understanding; biases in thinking (things are not as clear as we think they are); assumptions we make but do not communicate may lead to misunderstanding/ lack of information-sharing.

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