Creative-thinking exercises for entrepreneurship class

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ABSTRACT

While opportunity recognition is a key component of entrepreneurship and may sound straight-forward, it is not necessarily easy to do. Students may grasp the concept of opportunity recognition but not know how to begin to accomplish it. To facilitate this understanding, this paper develops classroom exercises that offer practice in noticing the many ways that a variety of topics and contexts are related to entrepreneurship. Each exercise will not initially appear to be directly related to entrepreneurship. The basic topics for the exercises are games, nature, works of art, and geography. After the students complete a brief exercise, the instructor explains a variety of ways the exercise ties to opportunities for selling products and services. The exercises are short enough that they can be used as a brief introduction, but there is sufficient complexity in the entrepreneurial concepts tied to each exercise that they could launch a discussion for a full class period. The exercises could each be used as an icebreaker for an entrepreneurship class, either at the beginning of the term or to introduce chapters or concepts during the term. Students gain insight into how looking at a topic from a variety of angles can yield multiple possibilities and ideas with business potential. The exercises are designed to demonstrate how alertness to the external environment allows an entrepreneur to identify business ideas in a variety of contexts and unique approaches to solving problems.

Keywords: entrepreneurship, creativity, classroom exercises, innovation, opportunity recognition

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INTRODUCTION

The basic activity of entrepreneurship is recognizing and exploiting an opportunity (Shane & Venkataraman, 2000). The entrepreneur is central to the process, with opportunity recognition involving the interaction of the entrepreneur and the environment (Shane & Venkataraman, 2000; Shaver & Scott, 1991). An entrepreneur’s ability to attend to the environment has been studied in the constructs of entrepreneurial alertness or entrepreneurial mindset (Gaglio & Katz, 2001; McGrath & MacMillan, 2000). Entrepreneurs are alert to or mindful of ways to combine resources in new ways to address what they have identified as an unmet need in the market. These unique combinations of resources may be developed to address more effectively a recognized need in the market or newly address a heretofore unmet need.

While opportunity recognition is a key component of entrepreneurship and may sound straightforward, it is not necessarily easy to do. And how, in a classroom setting, can an instructor give students a feel for noticing possible connections and combinations that produce viable businesses (Kwong, Thompson, Cheung & Manzoor, 2012)? This paper suggests classroom exercises that offer practice in noticing the many ways that a variety of topics and contexts are related to entrepreneurship. These are illustrations of ways to see opportunity in a variety of places. Each exercise will not initially appear to be directly related to entrepreneurship. After the students complete the brief exercise, the instructor explains a variety of ways the exercise ties to opportunities for selling products and services. The exercises can illustrate to students that the more they learn about entrepreneurship, the better able they will be to see the business connections in a topic. Students can gain insight into how looking at a topic from a variety of angles can yield multiple possibilities and ideas with business potential.

An exercise could be used as an icebreaker in the first week of class, and students could work together as a way of getting to know each other or work alone and then share their answers as a way of introducing themselves. Alternatively, the exercises could be used to introduce different chapters or topics in the class throughout the school term. Another approach is to use all of the exercises on one class day as a way of practicing brainstorming and creative thinking as the discussion moves from one topic to the next associated with the exercises.

EXERCISES

This section presents four short exercises as they would be assigned to the students. The ties between the exercises and entrepreneurship concepts are then presented in the following section of teaching notes. Each exercise is more effective if the ties to entrepreneurship are not presented until after the students have worked on the exercise.

Exercise 1

This exercise is based on games. The instructor directs the students to list as many games as they can. The instructor can give a time limit (such as two minutes) or simply call time when students’ writing slows down. If the students ask for clarifying details such as which types of games should be included or how many games are required, the instructor should respond that all of the instructions have been given and that the students should do their best with the instructions as stated.
Exercise 2

This exercise is based on nature. The instructor directs the students to write down the name of a flower for each letter of the alphabet (e.g., A = azalea, B = black-eyed Susan, C = chrysanthemum, and so on). Or, instead of flowers, the students could use trees, birds, or any animals. The exercise is equally effective with plants or animals or a combination of each.

Exercise 3

This exercise is based on art. Works of art and their artists are presented in a matching quiz format for this exercise. The matching format helps to eliminate careless guesses or reluctance to participate since the answers are on the page to jog the students’ recollection. This exercise could be used to tie in with performances, exhibits, or other arts events on campus. Between ten and 20 matches typically give the students enough time to focus on the exercise. Examples of artists and their works for this exercise are as follows: (1) Charles Dickens/A Christmas Carol; (2) Tchaikovsky/The Nutcracker; (3) Jane Austen/Pride and Prejudice; (4) Langston Hughes/Not Without Laughter; (5) Mary Shelley/Frankenstein; (6) Steve Martin/The Jerk; (7) Mozart/The Magic Flute; (8) Rodin/The Thinker; (9) Alice Walker/The Color Purple; (10) Claude Monet/Water Lilies; (11) Louis Armstrong/Hello, Dolly; (12) Elvis Presley/Jailhouse Rock.

Exercise 4

This exercise is based on geography and transportation topics. Students are given an outline map of the United States with the individual state borders visible. This exercise can easily be changed to a different country, a region within any country, or a region including several countries by using the appropriate map. The exercise could also be focused on an area closely surrounding the students’ school. Using the map they are given, students are asked to locate specific items relevant to transportation and travel. In the United States, items to locate can include airports, interstate highways, bodies of water, and national parks. About four or five of each category will be sufficient coverage to illustrate the concepts of this exercise.

Airports can be presented to the students using the three-letter airport code. Students find a challenge both in identifying the code and in locating the airport. Examples include LGA = LaGuardia (New York), IAD = Washington DC Dulles, ORD = Chicago O’Hare, SFO = San Francisco, ATL = Atlanta.

In the United States, the interstate highways are systematically numbered. Odd-numbered interstates run in a north-south direction and are numbered such that the lowest number (I-5) is on the west coast and the highest number (I-95) is on the east coast. Even-numbered interstates run in an east-west direction and are numbered such that the lowest number is the farthest south (I-10) and the highest number (I-94) is the farthest north. Many students are not aware of this pattern. Therefore, it can be an effective element of this exercise to give a range of interstate numbers that span the map. Including one that the students are known to be familiar can help them get started. Examples include I-5, I-10, I-20, I-65, I-75, I-94, and I-95. Other state highways or roads of significance around the students’ area could also be included.

Bodies of water are significant to transportation or to local economies. Examples that could be included in this exercise include the Mississippi River, the Hudson River, the Rio
Grande, one or more of the Great Lakes (e.g., Lake Michigan), the Great Salt Lake, Lake Pontchartrain, or the Chesapeake Bay.

Including national parks (or national historic sites or state parks) in this exercise allows the instructor to point out the business opportunities that arise around the parks and the benefit of these parks in local economies. Examples include Yosemite, Great Smoky Mountains, Acadia, and the Grand Canyon.

This exercise could be expanded further to include other modes of transportation such as freight railroads (e.g., region served by Union Pacific) or public transportation systems that have distinctive names in various cities (e.g., Boston = T, Atlanta = MARTA, Washington DC = Metro, and San Francisco = BART).

TEACHING NOTES

This section presents a teaching note to explain how each exercise can be used to illustrate concepts relevant to the study and practice of entrepreneurship. The instructor can use all or only some of the points. These points can also be used as springboards to spark discussion as students are asked to identify their own ideas about how an exercise ties to entrepreneurship.

Teaching Note Exercise 1

Once the instructor calls an end to the students’ work in listing games, the games can be listed on the board. As students call out the games they have listed, the instructor will likely find that the games fall into several categories such as video or computer games, board games (e.g., Monopoly, Chutes and Ladders), card games (e.g., Hearts, Go Fish), outdoor children’s games (e.g., capture the flag, freeze tag), and sports (e.g., football, baseball, basketball).

The first concept related to entrepreneurship that can be tied to this exercise is tolerance for ambiguity. The instructions were given to “create a list of games” but no details were specified about how many games or which categories of games. The presentation of the instructions is an example of ambiguity because the instructions were open to several different interpretations. An ability to deal with ambiguity and methods for handling ambiguity are relevant in entrepreneurship because entrepreneurs are confronted by much information and noise in the environment. Characteristics such as a tolerance for ambiguity and ambiguity aversion have been identified as factors affecting the success of entrepreneurial ventures (Ng, 2013; Teoh & Foo, 1997). In trying to complete this exercise even though there were some unanswered questions about the exact steps to follow, the students have brief experience with the feeling of working through ambiguity.

The instructor can also ask students to think back over not only how they processed the ambiguity of the assignment (or if they even perceived ambiguity in the assignment) but also their brainstorming process. After seeing the categories listed on the board, students may realize that they had thought of a category but dismissed it and did not go further with that part of the list. Perhaps they got focused on one category and could not divert to any others. These reactions that limit the direction of thinking can hinder efforts at problem-solving and the search for alternatives. Entrepreneurs may engage in brainstorming to identify possible alternatives for products or for solving process, design, or market problems. Research into and guidelines for brainstorming have demonstrated that there are ways to improve the effectiveness of
brainstorming and that there are behaviors and cognitive approaches that can limit its effectiveness (Brainstorming, 2014; Dugosh, Paulus, Roland & Yang, 2000).

This exercise can also be used to illustrate the complexities of defining your business’s competition when you are starting a new business. If you consider that customers are looking to spend money for entertainment, then any of the game alternatives the students have listed might meet that need. For example, manufacturers of board games should consider that it is not only other board games that will offer the entertainment, amusement, challenge, or past-time that consumers are looking for. Products other than games can meet these needs, too, such as books or movies. Other games that may have been listed by students are also played on a professional level, such as football or basketball. From a business perspective, the competition for National Football League teams is not just other football teams but any other event on which customers might choose to spend their sports entertainment dollars instead. Understanding the choices customers are making when they contemplate spending money on your product or service can help you understand how to market and how to position your business relative to competition.

Another interesting connection between the games and entrepreneurship is the concept of user-driven innovation. New product ideas and product improvements may be generated by the users of a product rather than the manufacturer/seller. Users identify shortcomings in the performance of the current product design while they are using it to accomplish some purpose. Particularly in the context of equipment used in sports competitions, the participants may design a modification that improves the equipment’s performance and, thus, the competitor’s chances of winning the sporting event. Research into user-driven innovation examined the context of kayak rodeo or cycling, for example (Franke & Shah, 2003; Hienerth, 2006). The innovation is driven by lead users who identify a potential improvement and prove that it works through using it in practice. A business sees the market potential in the improvement and scales up production.

The equipment associated with games can be a source of business opportunities. An entrepreneur does not have to design a new game but, instead, can create a profitable business by developing equipment for games. The notion that customers may be using a business’s games or related equipment in active pursuits introduces an element of risk for the business. This exercise can be used to draw students’ attention to the risk associated with how the business’s products will be used. The products used in some games (e.g., lawn darts, baseballs and bats, equipment for swimming pool games) can potentially cause injury and are, therefore, a source of liability. Entrepreneurs should pay particular attention to the ways their products can be misused and result in additional, unexpected liability. Anticipating the ways customers might use the products and labeling them properly will be important. Video games, too, must be labeled to indicate the levels of violence, language, and other elements that are not appropriate for customers of all ages.

**Teaching Note Exercise 2**

When the time for working on this exercise has ended, the instructor can ask students to call out the items they have listed for letters. The class can go through the entire alphabet, or the instructor can call out select letters and find out how many different items can be listed for each. Students often find it interesting to know what items have been identified for less commonly used letters such as Q, X, or Z. It can add to the richness of the exercise if students have chosen a variety of lists, such as flowers, trees, or animals.
One of the ways this exercise ties to entrepreneurship is that businesses such as landscaping, lawn maintenance, plant nurseries, fishing guides, outfitters, or pick-your-own farms (e.g., strawberries, apples, blueberries) are built around nature. Suppliers for these businesses with products such as seeds for plants, fertilizer, rakes, shovels, bird seed, lawn mowers, fishing poles, tents, camping stoves, and many others also offer viable business opportunities. Florists, nurseries, and home improvement stores sell plants, and pet stores sell animals. Thinking of plants and animals as products raises the issue of perishability and time sensitivity of inventory. The importance of these issues in the design of the supply chain can be noted. Businesses that sell plants and foods as gifts have unique delivery considerations. Examples of such businesses that can be shown in class include 1-800-Flowers (www.1800flowers.com), Harry and David (www.harryanddavid.com), Williams-Sonoma (www.williams-sonoma.com), or Figis (www.figis.com). Adding to the complexity of estimating inventory and planning on-time delivery is that many gifts of this type are tied to holidays or other occasions with deadlines such as birthdays or graduations. Also illustrative of the delivery challenges of plants or food are businesses that ship fresh food such as lobster (www.thelobsterguy.com, www.lobsterstogo.com) or meats by mail (www.omahasteaks.com, www.kansascitysteaks.com).

This exercise can be used to illustrate the constraints on business arising from regulations and the need to be aware of regulations as entrepreneurs manage the risk of their business and estimate the size of their market. There are products related to nature that cannot be sold or that cannot be sold in or shipped to certain places. In the context of nature, there are restrictions on the sale of animals, particularly exotic animals, and bans on trafficking in endangered species. In the United States, there are restrictions on which plants can be sold in which states, in efforts to reduce the threats of non-native, invasive species against native and, perhaps, endangered plants. There are restrictions simply on transporting plant material into some states because of the pests that may bring with them that could damage crops. States regulate the use of wetlands and waterways to protect fragile environments. Students may offer many interesting examples of their own if they have ever tried to cross a state or national border with fruit or been on fishing vacations where they encountered equipment restrictions. In the gift businesses mentioned above (e.g., Harry and David, Figis), another example is available in that gifts including bottles of wine cannot be shipped into all of the 50 states. Some states have laws preventing the shipment of bottles of wine to individual recipient’s addresses. The catalog order forms and websites for gift basket companies will note these restrictions.

Nature can serve as the inspiration or source of ideas for innovations. For example, the Crabster is a robot the size of a car that was designed to explore the ocean floor using the same type of movements as real crabs (Hsu, 2014a). The Crabster participated during the search and recovery efforts following the South Korean ferry wreck that occurred in April 2014 (Hsu, 2014b). Prompted by their observations of the behavior of squirrels, researchers are building robots that can learn to be deceptive. Squirrels will implement deceptive movements when patrolling their food stashes in order to lead other animals away from those stashes and toward fake, empty locations. Robots are being built to mimic this behavior so that they can protect valuable caches of resources (Hicks, 2012). This research also draws on the bluffing behavior demonstrated by some birds. Robots are being built to fly using techniques observed in the flight of bats (Boyle, 2014).

The instructor could make this a longer exercise in creativity by distributing elements of the outdoors, such as rocks, leaves, acorns, flowers, tree bark, sand, and others to the students.
Pictures of scenes from nature – such as waterfalls, mountains, beaches, or various animals – could be shown or recordings of sounds from nature could be played. The instructor would ask the students to identify features of the elements of nature that could inspire new product ideas. The instructor can prompt the students’ thinking by pointing out that the items have shape, texture, color, or pattern. For example, inspiration for paint colors or fabric patterns is often drawn from nature. Wall art is often based on stylized pictures of leaves, flowers, or animals.

Teaching Note Exercise 3

This exercise could resonate with students who are majoring in the arts (art, music, theater, literature) as well as those majoring in business who may expand their perspective on products and product development. The first tie to entrepreneurship that the instructor can point out in the arts exercise is that these works of art are products. Artistic innovation is an act of entrepreneurship (Nytch, 2012). Businesses exist to publish books or songs or to sell paintings or pieces of pottery. Some are craftspeople or artisan businesses. Others are sizeable businesses such as HarperCollins Publishers or Walt Disney movies or Sony Music. Each performance of a ballet, opera, or play is a new product, even if the original work was written decades or centuries ago. Two of the examples given in the exercise above – Tchaikovsky’s “Nutcracker” and Charles Dickens’ “A Christmas Carol” – are significant revenue generators for ballet companies and theaters each winter holiday season. The companies may try to come up with new twists on the performances, and each year’s iteration is a new product. But the programs are typically staged each year because of their popularity with audiences and the expectations that the shows will be available as a tradition of the season. Each revival of a Broadway musical or play (e.g., Cats, 42nd Street) is a new product. An innovation can also be developed as a new spin on an old story, such as the book and musical “Wicked” that offers more details about the story of the characters in “The Wizard of Oz”.

There are also many opportunities to provide products needed in the development and presentation of these works of art. Examples of such products or services include costumes, lighting, scenery, and advertising. Theater companies can generate income by renting their costumes to other theater companies or the public. Theaters often accept paid ads or will exchange advertising space for gifts-in-kind, particularly community theaters.
Contributions to the arts can give a business a means for community participation and, perhaps, public relations opportunities (Steyn & Niemann, 2014). The triple-bottom line is one method that has been suggested for capturing the sustainability and social responsibility concepts in business (Edgeman & Eskildsen, 2014). The triple bottom line encourages a focus on not only profit but also planet and people. The arts can offer a way to support the people element. Specifically, contributions to and support of arts organizations offer an avenue for supporting the community in which a business is located. Such community involvement can have benefits other than just company image. By contributing to the vibrancy of the community through cultural amenities, the company is helping to build the quality of life for employees. This characteristic of the community may help a company attract and retain employees as well as encouraging new businesses to locate in the community and further develop the economic base (Rabianski, DeLisle & Cam, 2001).

Teaching Note Exercise 4

One tie to entrepreneurship arising from this exercise is the businesses that can be developed in the transportation or travel industries. Trends in the business environment are leading to opportunities in the travel and transportation industries. For example, the growing interest in the natural environment is creating more opportunity in ecotourism. The demographic trend of the aging population is opening opportunities for services that provide assistance with rides around town for people who no longer drive (e.g., trips to doctors or to buy groceries). The growing number of retirees drives the demand for vacation trips. Another trend is the improvements in and availability of the technology for global positioning systems and maps accessible online. An interesting direction for discussion could be whether there are also still demands for paper maps in this age of GPS. For example, lake maps for boaters may be printed copies. There are customers who still like the features of a paper map, leading to a continued demand for the products of companies such as Rand McNally selling road atlases.

Location is an important consideration in a business (Rabianski et al., 2001). Entrepreneurs should consider location-related issues such as the ways their products will be transported to customers and the ways raw materials will be transported to their businesses. It is also important to consider how customers will arrive at a business and how they will transport their purchases. Businesses may need to be located near interstate highways, near freight railroads, or near navigable waterways. There are benefits in co-location when businesses realize synergies from being located near each other, such as restaurants and theaters. Some examples from this exercise would be businesses that are near the national or state parks. For instance, outfitters may sell tents and other camping or hiking equipment, and there will be restaurants and gas stations and hotels near the entrances to the parks to serve visitors. Outside the entrance to Yosemite National Park, businesses will rent snow chains for tires for cars driving into the park in snow. Businesses may also be located near natural resources so that they are close to the inputs to their operations. The resources – or lack of them – can drive the types of innovation that occur in a region. An interesting example is how the lack of water has spawned the creation of new yet simple WarkaWater structures being installed in Ethiopia for capturing water from the air (Palet, 2014).

The concept of locating near resources, competitors, or customers generates regions that are studied as geographic clusters of businesses. Research notes that there is a geography to the economy. Clusters are agglomerations of interconnected businesses. Examples in the United
States include the Research Triangle area in North Carolina, movie production in Hollywood, and wine industry cluster in California. Another well-known cluster in the U.S. is the high-tech region of Silicon Valley in California. The clustering of businesses has generally been found to have beneficial, synergistic effects such as higher employment growth, higher rates of patenting, as well as enhanced growth opportunities for other industries near the cluster (Delgado, Porter & Stern, 2012; Porter, 1998). A strong labor pool is likely to develop around clusters because there are multiple employment opportunities since many businesses in the cluster have similar jobs. A recent lawsuit from Silicon Valley highlighted a downside of that concentration of labor when Apple and Google were accused of colluding to keep wages low by agreeing not to hire each other’s employees (Dockterman, 2014).

REFERENCES


