The Entrepreneurial Method: A New Paradigm in Entrepreneurship Education
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ABSTRACT
There as yet is no consensus on how to teach entrepreneurship, nor even on the appropriate goals of entrepreneurship education. This paper examines a new paradigm in entrepreneurship scholarship that also has implications for entrepreneurship education. The foundation of this new scholarship is the concept of “effectuation.” Effectuation holds that expert entrepreneurs tend to launch their activities based on the means they control, rather than on the goals they set. Stemming from this research is the notion that something like an “entrepreneurial method” underlies entrepreneurial activity. This method is akin to the better-known scientific method. The latter has been explicated over centuries, while the entrepreneurial method is a new paradigm. This paper provides some background on the scientific and entrepreneurial methods, and derives implications of the latter for entrepreneurship education.

Introduction
For the past three decades, entrepreneurship educators have been attempting to teach entrepreneurship without really understanding what it is or what the proper goals of teaching should be. As a result, there are today a wide range of approaches to teaching entrepreneurship, with varying degrees of apparent effectiveness (Lautenschlager and Haase 2011; Streeter, Kher, and Jacquette 2011; Vetrivel 2011). We say “apparent” because it is not even agreed what counts as “effective outcomes.” If we measured the effectiveness of entrepreneurship instruction by the number of students who become successful entrepreneurs within five years of graduation, the results would likely be dismal. Many students don’t become entrepreneurs until long after they have left the university, and the effect of their university experience on their success is difficult to measure. Others who do start businesses right out of school are probably not much more likely to succeed than someone who did not receive formal education in entrepreneurship.

With this mixed record of pedagogical focus and measures of “success,” it is no wonder that entrepreneurship scholars continue to search for something more concrete to teach. Research into what makes entrepreneurs successful has ranged over a number of factors. For example, early research assumed that successful entrepreneurs possess certain unique personality traits (Zhao, Seibert, and Lumpkin 2010). These traits, it was supposed, are the critical factors that lead to entrepreneurial success when they are present and to entrepreneurial failure when they are not. And, it was thought, if certain personality traits were found to be critical to success in entrepreneurship, it would stand to reason that teaching those traits would be fundamental to entrepreneurship education.

Unfortunately, after many years of effort spent trying to identify any unique personality traits essential to entrepreneurial success, none were found. For
example, a common misunderstanding about entrepreneurs is that they are notorious risk takers. In fact, many people avoid entrepreneurship because they believe that it involves taking risks. In reality, research into entrepreneurship has revealed that risk-taking personalities among the entrepreneurial population are no more prevalent than among the population in general (Caliendo, Fossen, and Kritikos 2009). Of course, there are some risk-takers who also are entrepreneurs, but the research is very clear that entrepreneurs in general are no more prone to risk-taking than non-entrepreneurs. And today it is far more common to talk about expert entrepreneurs as risk minimizers rather than excessive risk takers.

There are ways that entrepreneurs may be distinguished from the population of non-entrepreneurs other than by personality traits. Another major line of research undertaken by entrepreneurship scholars attempted to identify unique behaviors that may be essential to success in entrepreneurship (Brown and Hanlon 2010). For example, it was thought that entrepreneurs might be more oriented toward leadership behaviors than non-entrepreneurs, or to have a propensity for extroversion rather than introversion.

This line of research was actively pursued for a number of years and, despite a few promising leads, it simply is not possible today to say that any specific behaviors are necessary and/or sufficient for success in entrepreneurship. For example, it is possible to find successful entrepreneurs who tend toward introversion, and it is also possible to find those who are extroverts. Some entrepreneurs have classic leadership personalities, and some clearly do not. In light of these thorough research projects to identify either the personality traits of successful entrepreneurs or their behaviors, one might think that there is little left for scholars to identify as factors in entrepreneurial success. Perhaps, one might think in light of this discussion, entrepreneurial success is simply a matter of “luck.” Fortunately, there are things that can be learned that will facilitate the goal of becoming an expert entrepreneur. Emerging scholarship suggests that success in entrepreneurship is correlated with the relative effectiveness of applying an identifiable and repeatable entrepreneurial method, and with specific cognitive skills or entrepreneurial mindsets (Ward 2004).

The notion of the entrepreneurial method evolved out of a relatively new line of entrepreneurship research that is centered on the concept of “effectuation.” Effectuation, simply stated, places the entrepreneur and his or her behaviors, decisions, character, and social connections in the center of research into entrepreneurial success. Effectuation asks “what do expert entrepreneurs really do to achieve their success?” (Read and Sarasvathy 2005). It would seem that this is a straightforward question, one that should have been asked long ago. Despite the fact that many entrepreneurship scholars were looking at what expert entrepreneurs do, most were confining their investigations to a narrow field. For example, scholars with finance backgrounds looked at how expert entrepreneurs deal with financial issues. Scholars with marketing backgrounds would examine the marketing activities of expert entrepreneurs. It is only in the last decade that entrepreneurship scholars have been focusing on the larger picture of entrepreneurial expertise (Read and Sarasvathy 2005). They have attempted to encapsulate all of the thoughts,
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Scholars have identified an expertise that successful entrepreneurs possess and use to varying degrees of effectiveness. This expertise has been encapsulated in the term “effectuation” and embodied in the principles of the “entrepreneurial method.” A working definition of effectuation is: “A logic used by expert entrepreneurs to solve problems in highly uncertain market environments.” Further, “entrepreneurs can learn to think and act effectually, thereby increasing their ability to create successful ventures.”

According to the effectual way of thinking, nearly anyone can become a successful entrepreneur. That is not to say that timing, circumstances, and luck don’t play a role in entrepreneurial success—they most certainly do. There is no way to avoid circumstances such as the current economic conditions, the availability of needed resources, and the potential for customers to afford the product. At the same time, extensive research into the techniques used by expert entrepreneurs has begun to reveal that there is in fact a method behind their success. This entrepreneurial method has recently become the topic of intensive research, and the fruits of that research constitute the foundation for this paper. To understand what we mean by “the entrepreneurial method,” it is helpful to examine another well-known method that can be applied by nearly anyone to solve problems in a wide range of situations: the scientific method.

The Scientific Method

Most of you reading this paper have probably heard of the scientific method. In fact, most of you probably learned a bit about what constitutes the scientific method in one or more of your science classes during your primary education years. Practicing scientists learn how to approach problems and questions through hypothesis testing, experimentation, and a complex array of statistical and mathematical analysis techniques. All professional scientists must use the scientific method in order to be accepted among their peers, and they must be able to report how they used the scientific method to arrive at the results of their experiments. Some scientists rise to the top of their profession because they are particularly gifted at applying the scientific method to problems.

Other scientists are less adept at applying the scientific method, but become successful because they have learned to use it to achieve highly predictable and repeatable results. Most scientists fall into this category; they are people who have learned the scientific method, they’ve mastered it to a certain degree, and they spend their lives working on problems that require its diligent application. Most are involved in solving novel problems, but the problems are not significant to the world and not many people are aware of them.

The scientific method can be applied to the mundane problems of inventing new and beneficial drugs, or to the monumental questions about the formation and ultimate fate of the universe. Not all scientists have the passion to pursue the mundane questions, and not all have the creative capability to

1 This definition of “effectuation” is derived from the Society for Ef-fectual Action website: www.effectuation.org.
Pursue cosmic questions. However, all professional scientists must apply the scientific method to be recognized by their peers as “doing science.”

Centuries of scholarship into the scientific method have produced very little in the way of consensus. Philosophers, sociologists, historians, and even scientists themselves hold a range of beliefs about what constitutes the scientific method and what its goals are. It is possible to identify most of the scholarship directed at explicating the scientific method under the generic rubric of “realism.” Realism is simply the belief that it is possible to develop a “correspondence theory of truth,” whereby sentences that we utter can be directly paired with elements of reality. The fear of not being in touch with “the way the world really is”—defined by philosophers as “skepticism”—has been the driving force behind centuries of effort to bring clarity to some form of realism.

Despite these centuries of effort, however, very little in the way of true progress (measured as lasting consensus) has been achieved. In fact, many scholars would point to Thomas Kuhn’s The Structure of Scientific Revolutions (1960) as a turning point in our understanding of how science and the scientific method actually work. Kuhn suggested that “normal science” proceeds within the confines of a well-accepted “paradigm,” where practitioners all share similar world views. Normal science tends to produce results that reinforce that world view and that are, for the most part, highly predictable in advance.

Revolutionary science, on the other hand, occurs when a series of anomalous results leads one or more practitioners to postulate a new or alternative world view that encompasses the anomalous results. As Kuhn noted, this usually occurs slowly as aspiring “Young Turks” with their new paradigms tend to be shunned by old guard scientists who prefer to maintain their trusted world views. Eventually, when enough converts to the new paradigm are won over, a new age of normal science sets in with an alternative world view shared by the new practitioners.

This view of science has been explicated over the past decades as consistent with a pragmatist view of science and scientific method. Pragmatism, as a school of thought, originated as a reaction to the philosophical failures of the realists and their efforts to devise a correspondence theory of truth. In contrast, pragmatism suggests that the history of attempts to gain consensus around a particular correspondence theory of truth demonstrates that that project likely has outlived its usefulness. Rather than continue the realist experiment, pragmatists suggest we abandon it altogether. They suggest that we view “truth” not as correspondence, but simply as a word we use to affirm beliefs that work for our particular purposes (James 1907). If we look at things in this way, there is no need to worry about whether we are corresponding to some “underlying reality.” If we confine our worries about truth to worries about whether our beliefs are working for our purposes, there is no need for further analysis (Rorty 1982).

Pragmatism’s basic arguments provided potent intellectual therapy to ward off the endless arguments of the various realist/positivist schools of thought that had dominated philosophy since Plato. In fact, one philosopher famously stated that all of Western philosophy is merely footnotes to Plato (Whitehead...
Later pragmatists, such as John Dewey, William James, and Richard Rorty, provided equally potent arguments to ward off any latent efforts to resurrect a form of realism.

The pragmatists of the middle to late 20th century argued that we should no longer attempt to see true beliefs as those that put us in “direct touch” with “the way the world really is.” Instead, they urge a different view, one which begins with a Darwinian picture of humans as complex creatures attempting to cope with the causal forces of the world as best they can (Rorty 1991). In order to cope, these clever animals invent a variety of tools that help them manage better from one generation to the next. Significantly, the words exchanged by these animals are among their more powerful tools (Rorty 2004). Words not only enable humans to hold beliefs about the way the world works, they also enable humans to communicate these beliefs between each other.

The pragmatist perspective on the scientific method also challenges the assumption that has lingered for centuries that scientists are, via their method, in a privileged cultural position. Where the realist sees science as getting us ever closer to “reality as it is,” the pragmatist sees it producing increasingly useful beliefs about how to predict and control. Instead of seeing the scientific method as a set of techniques designed to help expert scientists see reality plainly and clearly, pragmatists see it as a set of moral virtues that are unique to the scientific profession.

On the pragmatist account, the moral virtues that scientists possess include, among other things, a willingness to use persuasion rather than force when debating competing theories; a willingness to reject popular theories on the basis of experimental exceptions; the ability to tolerate differences of opinion among colleagues; and the ability to design and execute experiments that others in the profession regard as rigorous. Scientists don't possess any special access to reality that helps them succeed in their profession, they simply have been acculturated to specific moral virtues that predominate within the scientific profession.

Can pragmatism inform scholarship into the entrepreneurial method in the same way that it has provided new insights into the scientific method? And, do expert entrepreneurs succeed based on specific moral virtues the way scientists do? Those questions are explored in our NCIIA presentation.

The Moral Virtues of Expert Entrepreneurs
The analysis above of two competing conceptions of the scientific method—realism and pragmatism—can and should inform how entrepreneurship scholars and educators conceive of the entrepreneurial method. Under a “realist” perspective, scholars might be compelled to attempt to identify and isolate cognitions and/or behaviors—and only those cognitions and behaviors—that underlie entrepreneurial success. The goal of such scholarship would be to bring these behaviors into stark relief, dissect them into their component parts, and examine the causal interactions of these behaviors with other variables in the complex entrepreneurial environment.

Entrepreneurship educators would welcome the identification of these behaviors and/or cognitions, and the causal analysis of how they lead to entrepreneurial success. Educators would develop appropriate curricula and train-
ing regimes to prepare aspiring entrepreneurs. Attempting to do anything else in the entrepreneurship classroom could be construed as malpractice.

But, as we have indicated, under a pragmatist perspective the entrepreneurial method can be construed as consisting broadly of a set of moral virtues. The role of the educator under that interpretation would be, in part, to acculturate the aspirant to these moral virtues. Below are four proposed moral virtues to be practiced by expert entrepreneurs.

Proposition 1: Expert entrepreneurs see it as virtuous to pursue personal wealth as far as possible within the rule of law.

Proposition 2: Expert entrepreneurs see it as virtuous to rebound personally and professionally from failure, and to try and try again.

Proposition 3: Expert entrepreneurs see it as virtuous to respect the private property of others and to uphold contractual obligations. As a corollary, they believe that acting otherwise is unseemly.

Proposition 4: Expert entrepreneurs see it as virtuous to respect the judgment of the marketplace with respect to their venture's offerings.

Our presentation at the NCIIA conference will center on our recent work with undergraduate and graduate students at UCCS who have been exposed to the concept of the entrepreneurial method. Our new book, The Entrepreneurial Method, was used in undergraduate classrooms with more than 100 participants and in graduate classrooms with about 30 participants. We will discuss how the notion of the entrepreneurial method has been received by the students, and we will also discuss our preliminary work on acculturation of students on the moral virtues discussed above.

Discussion

This paper attempts to explicate the concept of the “entrepreneurial method” by way of analogy to the scientific method. The present author didn't originate the link between the entrepreneurial method and scientific method, that was done by Sarasvathy and Venkataraman (2011). The analysis presented here is heavy on philosophy of science, but it seems a necessary starting point for entrepreneurship scholars who are serious about further explicating the entrepreneurial method.

While not all philosophers of science hew to the pragmatist line, it has substantial scholarly support. The history of scholarship into the philosophy of science is rife with false starts, dead ends, and blind alleys. This rather dismal history provides ample reason to leapfrog any attempts by those inclined toward taking up a realist approach to explicating the entrepreneurial method. Instead, and again based on experience with the history of scholarship in philosophy of science, it we can accelerate explication of the entrepreneurial method if we adopt a pragmatist perspective from the outset.

The pragmatist perspective on the entrepreneurial method, similar to its perspective on the scientific method, suggests that the development of expertise is largely a function of becoming acculturated to a profession by learning to act according to specific moral virtues. In the case of scientific method, those
This paper contends that explicating the entrepreneurial method using the pragmatist perspective leads to the postulation that just as moral virtues are the basis of scientific method, they are also the basis of the entrepreneurial method. The implications for entrepreneurship education if moral virtues are foundational to entrepreneurial expertise suggest a new trajectory. Current entrepreneurship curricula, as evidenced by leading textbooks, center on the standard topics of opportunity recognition, feasibility analysis, business plan development, financial forecasting, and the like. While that standard subject matter would not be supplanted by a focus on particular moral virtues, the reality of the entrepreneurial method suggests that an exclusive focus on developing these technical skills would be incomplete. A more robust curriculum would include acculturation in the entrepreneurial method and its underlying moral virtues. This could be managed in the same way that science educators manage acculturation of aspiring scientists. Science educators require aspiring scientists to design and perform experiments, write up the results, present the results, and become familiar with the style and type of feedback common to the profession. (It should be noted that aspiring scientists normally do not take explicit courses in the scientific method. They learn it primarily through apprenticeship.) It might be difficult to expose aspiring entrepreneurs to the vicissitudes of the entrepreneurial profession in a similar way. While simulations and competitions do provide some acculturation to the profession, they are not direct immersions in the same way that an aspiring scientist is immersed in designing and conducting real experiments that impact future career opportunities.

Alternatively, it may be possible to acculturate aspiring entrepreneurs into the entrepreneurial profession more directly by addressing the moral virtues of expert entrepreneurs in the classroom. For example, it may be necessary to develop courses explicitly designed to address the nature of free markets and profit-seeking behavior. Either that, or perhaps it is necessary to develop a selective system that screens students for the relevant moral virtues (if only in nascent form) in order to enroll in an entrepreneurship curriculum. Certainly aspiring scientists are thoroughly screened via the notorious “weeding out” courses that comprise much of their early curriculum. Having the relevant analytic skills is just the first step in the overall acculturation of scientists. Once those are deemed adequate, further acculturation occurs via laboratory apprenticeship and field work experiments. Entrepreneurship educators could devise a similar screening and acculturation process that prepares the aspiring entrepreneur for additional opportunities to develop their expertise.

References


