

Running head: QUESTIONING ENTREPRENEURIAL EDUCATION

Are Educators Preparing Students By Not Teaching Entrepreneurial Education in the
Curriculum?

EDPS 445 - Issues in Middle Years Education

Tania Diletzoy

University of Alberta/Red Deer College

Bachelor of Education Collaborative Program

Lorie Penner

December 2017

Abstract

The purpose of this research paper is to determine if there exists a pedagogical gap between the policy change of not teaching entrepreneurial spirit in the Alberta Education Business Plan for 2017-20. It has been suggested that our current educational mandates change quicker than the school systems can implement them, suggesting that there are educational gaps between the pedagogical theories and the classroom practices. This paper explores whether there is such a gap between the government, the post-secondary education, and the classrooms. Through the research process, this paper defines and explores a variety of global and local perspectives regarding entrepreneurial spirit and entrepreneurial education in the classroom. To clarify whether or not such a gap exists, this paper will review the findings of both global and local studies. In addition, this paper will report and discuss the findings from interviewing twenty-one pre-service teachers regarding their opinions of teaching an entrepreneurial spirit in Alberta. This research paper is based on qualitative results and the conclusions are used as a summary of the reflection process from the survey that was conducted. The findings showed that seventy-five percent of the pre-service teachers believe that entrepreneurial education is a critical part of creating a whole student. Through the research and the survey, it can be determined that there is a need for entrepreneurial education for not only the student's benefit, but for our society as well. In addition this paper recommends that educators who feel that they have a gap in their pedagogy should seek additional resources to ensure that their students learn the skills to support the knowledge prescribed in the Alberta Education Program of Studies.

Keywords: Alberta Education, entrepreneurial spirit, entrepreneurial education, preservice teachers, educational gaps, Alberta Education Business Policies, cognitive skills, non-cognitive skills

Are Educators Properly Preparing Students by Not Teaching Entrepreneurial Education in the Curriculum?

Alberta's educational models are revered as a standard of excellence around the world (Alberta Education Business Plan, 2017-20). Strong education models prepare students to compete in the global markets by focusing on models that are current, and offering students a competitive edge in the diversity of employment opportunities for today's generation. Globally, it has been recognized that entrepreneurial education is substantially linked to the science curriculums, offering practical skills that are required for employment (Arion, 2013). To stay competitive, new organizations are offering students STEM learning opportunities (Canada 2067, 2016; Sylvan Learning Centre, 2017). Alberta Education is well aware of the importance of providing students with an education that allows them to thrive and contribute to their community. As with each elected government, Alberta Education has implemented a number of new policies to ensure that all students receive a quality and an inclusive education (Alberta Education Business Plan, 2017-20).

The prior Alberta Education's Student Learning Policy followed the model of defining key three competencies in the Ministerial Order. Often referred to as the three E's; these competencies were Engaged Thinkers, Ethical Citizens, and an Entrepreneurial Spirit (Alberta Education Business Plan, 2014-17). Under the current provincial government, the focus of education has changed. As of March 3, 2017, the Alberta Education Business Plan 2017-20 focuses on five initiatives; success of the student, eliminating the gap between FNMI and all other students, inclusive education, TQS standards, and accountability in the education system. The entrepreneurial spirit policy has disappeared. The purpose of this research paper is to look at

the current focus of the Alberta Education Business Plan 2017-20, and determine if by removing the entrepreneurial spirit, are educators properly preparing students to compete in a global market.

In the 2014-17 Alberta Education Business Plan, the government defined an Entrepreneurial Spirit as an individual who “is motivated, resourceful, self-reliant and tenacious; continuously sets goals and works with perseverance and discipline to achieve them;...” (Alberta Education, 2014-17). The goal of this policy was to enable all students to achieve outcomes that, “creates opportunities through play, imagination, reflection, negotiation and competition with an entrepreneurial spirit” (Alberta Education, 2014-17). Alberta Education described Entrepreneurial Spirit as an essential part of the whole child, using personal characteristics to define this spirit. These characteristics were defined as part of an accountability plan between the Alberta Government and the Minister of Education. Each Alberta Education Business Plan is an integral part of the ministry’s accountability structure, as it sets performance targets within a specific time frame. Part of the issue with these short windows of policy, is that it creates a growing gap between the ministry's business plan, and the post secondary education models. In addition, it creates a further ‘trickle down effect’ to the instructional strategies in the classrooms. Consequently, in the Alberta Education Program of Studies, there is still considerable evidence of past policies embedded in the student outcomes. It takes time to rewrite a program of studies. This is where there are potential gaps between the government policies and the classroom. Interestingly enough, when we compare a business definition of an entrepreneurial spirit to many of the non-cognitive characteristics that are mandated in education, both sets of characteristics are very similar.

Entrepreneurial spirit is often considered a business term (Smith, 2013). Smith (2013), an editor for Forbes, defines entrepreneurial spirit as, “Entrepreneurial spirit is a mindset. It’s an attitude and approach to thinking that actively seeks out change, rather than waiting to adapt change. It’s a mindset that embraces critical questioning, innovation, service and continuous improvement” (Smith, 2013). This mindset focuses on a progressive attitude rather than the traditional approaches to learning.

Historically, Friesen and Scott (2013) noted that education models have followed the change from an industry-based economy to a knowledge-based economy. This shift to a knowledge-based economy is prevalent in many countries around the world. Entrepreneurial education is a current focus for many countries as they realign their education to complement their economic changes (Deveci, 2016).

The focus of this research paper is to examine if entrepreneurial education is important to teach in the education system. Considering the shift of education policy away from an Entrepreneurial Spirit, the focus question for this research paper is, ‘Are educators properly preparing students by not teaching entrepreneurial education in the curriculum?’.

This paper examines the research pertaining to an entrepreneurial spirit from both a global and a local perspective; questioning if entrepreneurial spirit is important to teach in the curriculum. In addition, this paper reviews a survey conducted of pre-service teachers to determine whether or not entrepreneurial education is relevant and current for today’s classroom. Last, this research paper will determine if we are addressing entrepreneurial education in Alberta with the programs currently in place, or if there is a better education model that could be used.

Entrepreneurial education is an academic topic in many education systems around the world (Deveci, 2016; Donnellon et al. 2014; Moberg, 2014; Friesen & Scott, 2013). Several governments encourage entrepreneurial education to boost innovation through science and technology; thus making their economy more competitive on the global market. The following review of literature will summarize a variety of views regarding an entrepreneurial spirit in education frameworks both internationally and locally.

In a Harvard study, Perkins (2009) creates a solid framework around the concept of a practical, student-centered model for teaching entrepreneurial related courses. He describes how teaching can be more effective when students are given the whole picture, rather than an isolated subject approach. Perkins (2009) compares a child's education to playing baseball, and how learning needs to be a whole game rather than taught in parts. Perkin's (2009) student-centered philosophy is shared with another study titled, "Constructing entrepreneurial identity in entrepreneurship education" (Donnellon, Ollila, Middleton, 2014).

In this study, observations were concluded that there's a disconnect between programming and actual new adventures in education. Donnellon, et al. (2014) states that in entrepreneurial education, "there is a potential for building student awareness of how certain episodes are important from an identity construction perspective" (p. 497). The identity construction process includes devices such as socializing, visual and oral symbols, storytelling, and summarizing themes (Donnellon et al., 2014). Identity construction can come from a variety of character education programs; however, Donnellon et. al (2014) believes that identity construction, when based on learning through an action-based entrepreneurship education, creates a real-life venture as part of the learning vessel for the student.

Inquiry-based learning has become a prominent shift in Alberta learning. For example, in the Alberta program of studies the front matter for social studies, states that the curriculum is “an issues focused and inquiry-based interdisciplinary subject” (Alberta Education, 2012). Dr. Sharon Friesen and David Scott of the University of Calgary reviewed literature on inquiry-based learning for the Alberta Ministry of Education in 2013. In this review, Friesen and Scott (2013) examined a number of significant studies that provided compelling evidence regarding approaches to inquiry including *authentic pedagogy and assessment* (Newmann, Marks, & Gamoran, 1996), *interactive instruction* (Smith, Lee, & Newmann, 2001), and *authentic intellectual work* (Newmann, Bryk, & Nagaoka, 2001) that all dramatically boosted academic achievement.

Newmann et al. (1996) study evaluated elementary schools through to high schools that implemented authentic pedagogy and academic performance approaches for their mathematics and social studies courses. The conclusion was that the gap between top and bottom performing students decreased when students were offered authentic pedagogy and authentic assessment.

In another significant study, Smith and Newman (2001) researched the impact of interactive instruction for reading and mathematics. This study examined the test scores of over 100,000 students ranging from grade 2 to 8, and 5000 teacher surveyed in 384 elementary schools in Chicago. The results of this survey concluded that interactive teaching methods were connected with improved learning and prompted a deeper understanding from the elementary students who were in the reading and mathematic programs. In addition, Friesen and Scott (2013) connected the foundations of inquiry based learning to programs such as entrepreneurial

education. Therefore, Friesen and Scott (2013) made a compelling argument for the importance of inquiry based learning and entrepreneurial education.

It is worthy to note that a number of the research papers linked entrepreneurial education to the work experience programs in schools (Morselli, Costa, Margiotta, 2014). Morselli et al. (2014) “discussed the problems students were having at the boundary between school and work”. In Alberta, students can gain accreditation for work experience through three courses referred to as Work Experience 15-25-35 (Alberta Education, 2011). Many non-profits and the healthcare systems offer apprenticeship programs to help students gain work experience (RAP, 2017; Alberta Health Services, 2017). There are no prescribed learning resources for these courses; however, there is a prerequisite course (Alberta Education, 2011).

Prior to the Work Experience 15-25-35 Alberta Education courses, secondary students in grades 10 to 12 can explore their interests to build different skills with technologies. This program is a natural extension of the Career and Technology Foundations for grades 5 to 9 (Alberta Education, 2016). This program offers fourteen learning outcomes for students to make connections to an optional program, encouraging “students to explore their interests and passions as they learn about various career possibilities and occupational areas” (Alberta Education, 2016).

In addition to the student prescribed outcomes and programs, Alberta schools currently can offer a variety of entrepreneurial optional programs to choose from. Examples would include micro societies, school-based business ventures, makerspaces, project-based learning and learning commons in schools. Central Alberta has an excellent example of a micro society known as Red Deer’s Aspen Heights Microsociety (Hare, 2014). This program operates under

the umbrella of MicroSociety Canada, and the program “permeates every aspect of life at Aspen Heights”, with the greatest attribution being the community building through the confidence and knowledge of the students (Hare, 2014).

The question is how do educators facilitate any one of these entrepreneurial ventures? Not all educators “have the pedagogical knowledge and experience required to engage in entrepreneurial education” (Deveci, 2016). In Turkey, this study examined the entrepreneurial comprehension of pre-service teachers and concluded that teacher training does not provide the necessary knowledge or experience required for teachers (Deveci, 2016). This study interviewed twelve pre-service teachers and found that they lacked the entrepreneurial characteristics of seeing opportunities, risk-taking, and being innovative. In a similar study (Wang & Wong, 2014), it was concluded that the pre-service teachers felt unprepared to take the risks themselves. Interestingly, (Schimmel, 2016) concluded that risk-taking in entrepreneurial education is the most critical characteristic. Why? Simply because if a classroom is a safe and caring environment, the students will ‘take risks’ in their everyday learning. The characteristics of being innovative and looking for opportunities will naturally coincide with the risk-taking characteristic.

Further research indicated that teaching entrepreneurial education can be viewed in different ways. Moberg’s (2014) study from Denmark compared two different approaches of teaching entrepreneurship education. First, the study analysed structured, independent entrepreneurial education with the intention of encouraging students to seek careers in self-employment, business evaluation or how to facilitate a company start-up. Moberg (2014) found that cognitive business skills are not as important as non-cognitive business skills, such as

creativity, initiative, or risk taking. Cognitive skills are taught in entrepreneurship education whereas non-cognitive skills are taught through all school curriculum (Alberta Education, Student Competencies, 2017).

Considering these research studies that pertain to an entrepreneurial spirit and entrepreneurial education, the evidence strongly suggests that entrepreneurial education is important to teach. Reviewing both the study conducted in Turkey (Deveci, 2016) and the study conducted by the Canadian university (Friesen & Scott, 2013), validation for additional entrepreneurial education at the post secondary level should be considered for educators to be able to teach basic business knowledge to students.

In addition, Alberta Education (Career and Technology Foundations, 2016; Work Experience, 2011; Alberta Education Business Plan, 2017-20) are solid plans; however, they lack cohesiveness. Additional planning to tie these program together would scaffold the student learning as prescribed in the Alberta Education Business Plan (2017-20). This is a relevant conclusion since pre-service teachers are not creating deep connections between the prescribed outcomes and the level of student's knowledge, skill and attitudes needed for life after the classroom. This literature review concludes that there is additional planning needed between the government policies that prescribe the educational mandates and the teachers that are in the classrooms.

Methodology

To support the inquiry question for this research paper, the method chosen for research is a personal, face-to-face survey, with the participant completing the survey on their own accord without any referencing. This type of methodology would be classed as a phenomenological research method based on qualitative responses. The phenomenological research method was chosen for two reasons. First, this research is based on categorizing human experiences and exploring these perceptions (Johnson & Christensen, 2008.). Second, phenomenological research often contains personal descriptions of the participant's experiences (Creswell, 2007). The use of this research approach offers complex and varied responses about similar experiences. Using the phenomenological research approach, this paper attempts to reveal how pre-service teachers define what an entrepreneurial spirit is. Participants also identify with entrepreneurial characteristics defined by Alberta Education and an international research paper, and it determines whether or not the participants feel that entrepreneurial education is important to teach.

Limitations

There are at least two limitations of using a phenomenological research method. First, the sample size of participants is small, which does not offer a true representation of the population being researched. Second, the open-ended research questions and the characteristic responses are collected and analysed, but the interpretation of these responses are subjective to the interpretation of the researcher.

Participants

The research participants consisted of twenty-one pre-service education teachers enrolled in a university program in Alberta, Canada. The sample population of research participants were students that are in their third year of a four year education degree. On the day of the survey, the mean age of the pre-service teachers was twenty-five years old.

These responses and statements were analysed in a qualitative manner to determine the perceptions of pre-service teachers with regards to entrepreneurial spirit and entrepreneurial education.

Data Collection

For the purpose of this research paper, the most accurate data collection method is the person to person survey method (Ary, Jacobs, Sorensen & Razavieh, 2010). Data collected in this manner provided the participant's own thoughts and conclusion regarding the subject. During the interview process, referencing electronic devices or speaking to another participant was not allowed. Using the survey technique, the data collected comprised of five questions that were open-ended or randomly selected in nature. When preparing these questions, consideration was given to the fact that the students were enrolled in an education program, the government policies had recently changed, and entrepreneurial spirit is not the focus of the current government. The survey was created by the researcher. In terms of the validity of the survey questions, the researcher consulted experts within the university and several similar survey formats. The survey questions were as follows:

1. In your own words, define what you would believe to be entrepreneurial spirit?
2. Which of these entrepreneurial characteristics do feel is important to have?
3. Which of these twelve entrepreneurial characteristic do you feel that you have?
4. Which of these student outcome(s) will you focus on in your classroom and your career?
5. Do you think we are preparing our students by not directly teaching them entrepreneurial spirit as part of their education? Yes or no? Why?

Research Validity and the Survey Process

The research information was chosen through a variety of academic databases. The majority of the research used was peer-reviewed papers from both local and international sources. The survey plan was created with assistance of two mentor instructors at the university.

This survey was approved by the ethics board and administered on November 28th, 2017. The survey was conducted in a classroom where the students attend university. The interviews were conducted all at once, with the stipulation that the students will not talk to one another about their responses nor will the students be able to use any type of electronic device to reference the topic. This survey was conducted face-to-face, rather than using an electronic survey method. These stipulations were to ensure that the participants are not able to make any preliminary preparations before or during their survey, which would influence the quality of the research data. The research questions were composed by the researcher, with the guidance from experts in the field of education.

Analysis of Data

The results of the questions used in the survey are compiled by using percentages for questions and by using direct quotations from the response questions. The data for this survey was coded as P #1, P #2, P #3, and so on to retain the anonymity of the participants interviewed. The validity of transferring the raw data into this analysis is confirmed by directly quoting the responses written in the surveys. The reliability of the percentages calculate in the questions were checked by the researcher three times and confirmed by an instructor at the university. The following results are a direct compilation from the raw data.

Results

The pre-service teacher responses to question #1, which asked how the students would define entrepreneurial spirit.

Participant	Response
1	Self-driven work ethic.
2	Self-motivated, business minded, enthusiastic, can sell you anything.
3	(blank)
4	An entrepreneurial spirit involves an independent businesslike demeanor. It includes lots of drive and motivation, as well as creative ideas.
5	(blank)
6	Caring about being an entrepreneur.
7	Character ed, grit.
8	Entrepreneurial spirit is when you are taking risks and hope to succeed.
9	Curiosity students, people have to make something better.
10	(blank)
11	Entrepreneurial spirit is when you have the dream to be self-employed.
12	(blank)
13	Leaders, determined, ambitious, problem-solvers
14	I believe it is the spirit of self improvement and self creation. Capitalism at its core.
15	Self directed ambition. Maintaining leadership roles.
16	How to begin/run a business. Includes financial, management, HR, etc.
17	The initiative to take your idea(s) and make them into a business.
18	(blank)
19	The desire to challenge the status quo by questioning and always striving to improve existing practices.
20	Creative and able to come up with your own plans. Students should be taught how to make a plan and follow through.
21	I believe that entrepreneurial spirit is a way for students to learn how to achieve success in their own opinion.

Question #2 asked the participants which of the following entrepreneurial characteristics do the participants feel is important to have. The responses to this question have been listed in ascending order by percentage.

Description of Characteristic	Number of Participants	Percentage of Responses
Achieves goals through hard work	17/21	81%
Confident to take risks	15/21	71%
Adaptable	14/21	67%
Explores ideas	13/21	62%
Resilient	13/21	62%
Perseverance	12/21	57%
Strives for excellence	12/21	57%
Makes bold decisions in the face of adversity	10/21	48%
Discipline	8/21	38%
Earns success	7/21	33%
Challenges the status quo	6/21	29%
Competitive	5/21	24%

For question #3, participants were asked which of the following entrepreneurial characteristics do they feel that they have. Similar to question #2, the responses to this question have been listed in ascending order by percentage.

Description of Characteristic	Number of Participants	Percentage of Responses
Curious	17/21	81%
Likes to make plans	16/21	76%
Ambitious	15/21	71%

Self-confident	13/21	62%
Have different perspectives	13/21	62%
Communicate effectively	12/21	57%
Knowledge of many subjects	11/21	52%
Decisive	8/21	38%
Likes to research	8/21	38%
Social individuals	6/21	29%
Risk-takers	6/21	29%
Enterprising individuals	3/21	14%

The responses from question #4 were based on the question asking which of the following Alberta Education Business Plan (2017-20) mandates will you focus on in your classroom and your career. The mandates are listed in ascending order by percentage.

Description of Outcome	Number of Participants	Percentage of Responses
Outcome Three: Alberta's education system is inclusive meaning that students are able to pursue personal excellence and social and emotional development during their education.	14/21	67%
Outcome One: Alberta's students are successful in that all students are enabled to achieve Alberta Education's student learning outcomes with competencies across subject and discipline areas that are based on a strong foundation of literacy and numeracy.	10/21	48%
Outcome Four: Alberta has excellent teachers, and school authority leaders due the high standards in preparation and professional growth that focuses on the competencies needed to help children and students perform their best.	10/21	48%
Outcome Two: The systemic education achievement gap between First Nations, Metis and Inuit students and all other students is eliminated.	18/21	38%
Outcome Five: Alberta's education system is well governed and managed at every level meaning that all policies and legislation align providing assurance and accountability to Albertans.	2/21	10%

Question #5 asked the participants if they think that we are preparing students by not directly teaching them entrepreneurial spirit as part of their education. The first part of the response to this questions was answered either 'yes' or 'no'. In addition, survey participants were asked why they responded either 'yes' or 'no'. The results of the first part of this question are as follows. (Note that one participant did not respond to this question.)

- 15/20 or 75% responded 'no'
- 5/20 or 25% responded 'yes'

The second part of question #5 required a written response which followed up to why their response was 'yes' or 'no'. It is important to note that 4/21 (19%) of the students did not respond to this question.

Participant	Response
1	We need to teach our students to have an entrepreneurial spirit, so they can succeed in life after school.
2	These are skills everyone needs to have.
3	(blank)
4	We need to teach more of an entrepreneurial spirit so students are motivated.
5	They need to teach students life isn't always fair, competitive skills.
6	They will not know anything about it unless they are taught. If they are not taught in class, I am unsure how they will learn.
7	It is a great way to teach skills that they otherwise may not learn.
8	They are being taught the negative aspects like having to be the best and that's all that matters or how competitive everything is.
9	(blank)
10	(blank)
11	I don't think we should focus on entrepreneurial spirit because that is only one type of professional. That should be left for exploratory classes, service learning and/or college.
12	(blank)
13	I believe the skills learned with no entrepreneurial spirit help develop determined adults who take on leadership roles and play an active role in their communities.

14	We need to show kids that sometimes you get knocked down and have to get up. That is business.
15	Students learn that without ambition and hard work, success is not easily achieved.
16	I think entrepreneurship is important because students need to know this. This is a vital and realistic option for them and helps shape our society.
17	I think we need more life/applicable skills. Not every student will move onto higher education to pursue their dreams.
18	Because it is a lifelong skill and not all parents teach it.
19	I think with the mandate (or focus) on inclusion is starting to take away from the gifted students who would otherwise be thriving by learning things like the three E's.
20	I am not sure how to incorporate it into most of the curriculum.
21	It is important to include entrepreneurial spirit because it teaches the students goals/life experiences they may not be taught in core subject classrooms.

Conclusion

In reference to the data collected, the perceptions from the pre-service teachers varied greatly between the questions. For example, in question #1, the responses defining entrepreneurial spirit are offered in a business context. It is critical to note that the term entrepreneurial spirit, which was defined through the Alberta Education Business Plan (2014-17), was provided as part of the background information in the survey. It is also noted that 5 out of 21 (24%) of the participants did not answer the question, which may indicate that a small percentage of students were not familiar with the terminology.

Question #2 asked participants which of the following entrepreneurial characteristics, from the Alberta Education Business Plan (2014-17), did each participant feel is important to have. The top three responses were; achieves goals through hard work, confident to take risks, and adaptable. In comparison, question #3 asked the participants to choose entrepreneurial characteristics that they felt that they have. The top three responses to question #3 are as follows; likes to make plans, curious, and ambitious. The interesting observation is that in question #2;

62% of the participants felt that 'exploring ideas' is an important entrepreneurial characteristic; however, 81% of the participants felt that they have the characteristic of being 'curious' in question #3. Again, 71% of the participants felt that they were 'confident to take risks' in question #2; whereas, only 29% of the participants identified as being 'risk-takers' for question #3.

The discrepancies between the characteristics described in question #2 and #3 may be a result from the following factor. First, the characteristics listed in question #2 originated from the Alberta Education Business Plan (2014-17) and consist of mainly noun-verb phrases. These phrases are similar to the phrases used in the student outcomes in the Alberta Program of Studies. For example, the phrase 'confident to take risks', lends itself to an education phrase; whereas, 'risk-takers' lends itself to a business phrase. This may explain why the participant responses resulted in a 42% spread between similar phrases listed in question #2 and #3.

Question #4 asked participants to identify which of the Alberta Education Business Plan (2017-20) mandated outcomes they felt would focus on in their classroom and in their career. Outcome three, which focuses on inclusion education was the highest priority for the surveyed participants. The lowest chosen outcome was outcome five, which focuses on accountability through all government policies and legislation. Ironically, the outcomes listed in the business plan are mandatory, meaning that it is a teacher's professional obligation to uphold all of these mandates. In addition, these mandates would provide teachers with a strong teaching philosophy.

The last question in the survey asked if we are not directly teaching entrepreneurial spirit, are we preparing students in the education system. Seventy-five percent of the surveyed

participants responded that they believe they are not preparing their students when not teaching entrepreneurial spirit.

Implications and Recommendations

Examining the responses from the survey implies that characteristics chosen by the participants in questions #2; achieves goals through hard work, confident to take risks, and adaptable are both essential educational skills as well as essential business skills, but the participants did not clearly identify with this. Perhaps, some of the preservice teachers did not have a clear understanding of what entrepreneurial spirit implies for education. For example, in question #5, participant #20 gave an honest response; “I am not sure how to incorporate it into most of the curriculum.”

As clearly indicated between the survey questions #2 and #3, there was a significant amount of crossover between the listed characteristics. The difference between these characteristics lies in the skills that build these characteristic. Both in education and in business, we refer to these skills as cognitive and noncognitive skills (ACT, 2014). Now that entrepreneurial spirit is no longer mandated in the Alberta Education curriculum, the question is are we addressing the learning needs of our students without utilizing entrepreneurial spirit.

The Guiding Framework for the Design and Development of Kindergarten to Grade 12 Provincial Curriculum states that the “Provincial curriculum is essential to developing students’ knowledge and understanding in subjects and their applications in daily life” (Alberta Education, 2017). It is through the applications of knowledge in our daily lives is where the importance of non-cognitive skills lies. Emma Garcia (2014) makes a compelling argument for non-cognitive

skills in her report, “The Need to Address Non Cognitive Skills in the Education Policy Agenda”;

“We subscribe to the idea that education is foundational both to sustaining a healthy democracy and to ensuring the ability of individuals to fulfill their natural personal and productive potentials, and that (public) schools are critical to fulfilling those goals. Given this understanding, we suggest that the following noncognitive traits and skills should be a primary focus of education policy”(Garcia, 201).

Garcia’s further reports that, “Multiple studies identifying the interdependence between cognitive and noncognitive skills indicating that we may fail to boost cognitive skills unless we pay closer attention to non cognitive skills. In other words, focusing on non cognitive skills may actually further improve reading, writing, and mathematics performance” (Garcia, 2014).

Reflecting on Emma Garcia’s recommendations, the research, and the results of this survey, I would recommend that pre-service teacher need to fully understand the the differences between cognitive and non-cognitive skills taught in the classroom. Currently, the Alberta Education Program of Studies mixes these skills sets, which leaves the professional interpretation and education of these skills to the teacher. Implementing and practicing these skills sets through business is one way of teaching both cognitive and non-cognitive skills.

For question #5 of the survey, participant #11 responded, “I don't think we should focus on entrepreneurial spirit because that is only one type of professional. That should be left for exploratory classes, service learning and/or college.” I would agree to an extend; however, as stated in the purpose of the *Alberta’s Kindergarten to Grade 12 Provincial Curriculum (Programs of Study)*, is that “It provides students with pathways to the world of work and postsecondary education related to their career interests” (Alberta Education, 2017). Since Alberta is a free enterprise economy, I would recommend that if educators feel that they have a

gap in their knowledge base, they should seek options such as introductory business education, character education, or supplemental guest speakers, that focus on non-cognitive skills to confidently teach students a full range of skills and attitudes that boosts the learning connections in their core subjects.

The conclusions in this paper are not fully exhausted. Further research could focus on schools that promote supplemental programming. In addition, a longitudinal study which measures the benefits of students transitioning from high school to either post secondary or to employment, and whether or not these students have had opportunities such as business education and what were the effects for these students.

Citations

ACT Inc. (2014). Key Facts Cognitive and noncognitive skills. Retrieved from

<http://www.act.org/content/dam/act/unsecured/documents/WK-Brief-KeyFacts-CognitiveandNoncognitiveSkills.pdf>

Alberta Education. (2016). Program of studies: Career and Technology Foundations, grade 5 to grade 9. Edmonton, AB: Alberta Education.

Alberta Education. (2012). Program of studies: Social studies, kindergarten to grade 12. Edmonton, AB: Alberta Education.

Alberta Education. (2011). Program of studies: Work Experience 15-25-35. Edmonton, AB: Alberta Education.

Alberta Education. (2017). Student Competencies. Edmonton, AB. Retrieved from

<https://education.alberta.ca/policies-and-standards/student-learning/everyone/ministerial-order-on-student-learning/>

Alberta Education. (2017). *The Guiding Framework for the Design and Development of Kindergarten to Grade 12 Provincial Curriculum (Programs of Study)*. Edmonton, AB.

Retrieved from

<https://education.alberta.ca/media/3575996/curriculum-development-guiding-framework.pdf>

Alberta Education Business Plan. (2017-20). March 3, 2017. Retrieved from

<http://finance.alberta.ca/publications/budget/budget2017/education.pdf>

Alberta Education Business Plan. (2014-17). February 12, 2014. Retrieved from

<https://education.alberta.ca/media/371216/alberta-education-business-plan-2014-2017.pdf>

f

Alberta Health Services. (2017). Work Experience. Retrieved from

<http://www.albertahealthservices.ca/careers/Page12348.aspx>

Arion, D.N. (2013). Things your adviser never told you: Entrepreneurship's role in physics

education. *Physics today*, 66(8), 42. Retrieved from <http://dx.doi.org/10.1063/PT.3.2083>

Ary, D., Jacobs, LC., Sorensen, C., & Razavieh, A. (2010). *Introduction to research in*

education (8th ed.). Belmont, C.A.: Wadsworth Cengage learning.

Canada 2067. (2017). *Subsidiary of Let's Talk Science*. Retrieved from

https://canada2067.ca/en/?gclid=EAIaIQobChMI2bPLrNCe1wIVh0SGCh0gKg_JEAAY

[ASAAEgIZE_D_BwE](https://canada2067.ca/en/?gclid=EAIaIQobChMI2bPLrNCe1wIVh0SGCh0gKg_JEAAY)

Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five traditions*.

Thousand Oaks, CA: Sage.

Deveci, I. (2016). Perceptions and Competence of Turkish Pre-service Science Teachers with

regard to Entrepreneurship. *Australian Journal of Teacher Education*, 41(5). Retrieved

from: <http://dx.doi.org/10.14221/ajte.2016v41n5.10>

Donnellon, A., Ollila, S. & Middleton, K.W. (2014). Constructing entrepreneurial identity in

entrepreneurship education. *The International Journal of Management Education*, 12(3),

pg 490-499. Elsevier. Retrieved from

[https://www.scribd.com/document/353588822/Constructing-Entrepreneurial-Identity-in-](https://www.scribd.com/document/353588822/Constructing-Entrepreneurial-Identity-in-Entrepreneurship)

[Entrepreneurship](https://www.scribd.com/document/353588822/Constructing-Entrepreneurial-Identity-in-Entrepreneurship)

- Friesen, S., & Scott, D. (2013, June). *Inquiry-based learning literature review*. University of Calgary. Retrieved from <https://inspiring.education.alberta.ca/wp-content/uploads/2014/04/Inquiry-Based-Learning-A-Review-of-the-Research-Literature.pdf>
- Garcia, E. (2014, December 2). The Need to Address Noncognitive Skills in the Education Policy Agenda. Economic Policy Institute, (#386), pg. 1-36. Retrieved from <http://www.epi.org/files/2014/the-need-to-address-noncognitive-skills-12-02-2014.pdf>
- Hare, C. (2014). Red Deer school puts society under the microscope. *ATA News*. Edmonton, Canada. Retrieved from <https://www.teachers.ab.ca/Publications/ATA%20News/Volume%2049%202014-15/Number-5/Pages/Red-Deer-School.aspx>
- Johnson, B. & Christensen, L. (2008). Educational research: *Quantitative, qualitative, and mixed approaches* (Third Edition), Los Angeles: SAGE Publication.
- Moberg, K. (2014). Two Approaches to Entrepreneurship Education: The Different Effects of Education for and Through Entrepreneurship at the Lower Secondary Level. *The International Journal of Management Education*, 12(3), 512-528. DOI: [10.1016/j.ijme.2014.05.002](https://doi.org/10.1016/j.ijme.2014.05.002)
- Morselli, D., Costa, M., Margiotta, U. (2014). Entrepreneurship education based on the Change Laboratory. *The International Journal of Management Education*, 12 (1), 333-348.
- Newmann, F., Bryk, A., & Nagaoka, J. (2001). *Authentic intellectual work and standardized tests: Conflict or coexistence*. Chicago, IL: Consortium on Chicago School Research.
- Newmann, F., Marks, H., & Gamoran, A. (1996). Authentic pedagogy and student performance.

American Journal of Education, 104(4), 280-312.

Perkins, D. (2009). *Making learning whole: How seven principles of teaching can transform education*. San Francisco, CA: Jossey-Bass.

Register Apprenticeship Program. (2017). Retrieved from <http://www.youthcareer.ca/RAP.php>

Schimmel, I. (2016). Entrepreneurial Educators: A Narrative Study Examining entrepreneurial Educators In Launching Innovative Practices for K-12 Schools. *Contemporary Issues in Education Research* - Second Quarter, Volume 9, Number 2, pg. 56. The Clute Institute.

Smith, J. (2013, October 22). "How To Keep Your Entrepreneurial Spirit Alive As the Company You Work For Grows". *Forbes Magazine*. Retrieved from <https://www.forbes.com/sites/jacquelynsmith/2013/10/22/how-to-keep-your-entrepreneurial-spirit-alive-as-the-company-you-work-for-grows/#5ab32dfcc0d4>

Smith, J., Lee, V., & Newman, F. (2001) *Instruction and achievement in Chicago elementary schools*. Chicago: Consortium on Chicago School Research, University of Chicago.

Sylvan Learning Centre. (2017). *Sylvan Edge*. Retrieved from

https://cities.sylvanlearning.com/3/ca/alberta/robotics-for-kids-in-red-deer?st-t=NAC-USA-DAC-search-google_ca_west-100699&utm_content=NAC-USA-DAC-search-google_ca_west-100699&vt-k=%2Bstem%20%2Blearning&vt-mt=b&vt-d=c&gclid=EAIAIQobChMIz9XlprCo1wIVDI5pCh1XLOPREAAYASAAEgLD5fD_BwE&gclsrc=aw.ds

Wang, C.K. & Wong. P.K. (2004). Entrepreneurial interest of university students in Singapore. *Technovation*, 24 (2), 163-172.

