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Anu Raappana, Timo Pihkala and Pirjo Kuru

**Finnish ninth graders' perception of their
entrepreneurial selves: general overview of the
2020 survey round**

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Summary

This report gives an overview of a survey that was conducted in Finland in the autumn of 2020. In the first round of the survey, 11,433 ninth graders responded to the survey. This survey is a part of a national research study that aims to explore ninth graders' perceptions of their entrepreneurial selves. The survey will be conducted for three consecutive years (2020, 2021, 2022). It is worth noting that this survey is not a longitudinal study. This survey covers young people born in 2005, 2006 and 2007. In addition, this research is not an evaluation of learning results but focuses on finding out how the learners themselves evaluate their entrepreneurial selves.

Tiivistelmä

Tässä raportissa kuvataan valtakunnallisen yrittäjyyskasvatukseen kytkeytyvän tutkimuksen ensimmäinen kyselykierros. Vuonna 2020 toteutettuun kyselyyn vastasi 11 433 Suomessa yhdeksättä luokkaa käyvää nuorta. Tutkimuksessa selvitetään nuorten käsityksiä omista yrittäjyysvalmiuksistaan sekä yleisesti yrittäjyydestä. Kysely toistetaan vielä kaksi kertaa. Kyselyn kohderyhmän muodostavat vuosina 2005, 2006 ja 2007 syntyneet nuoret. Kysymyksessä ei ole pitkäaikais tutkimus eikä oppimistulosten arviointitutkimus. Tutkimuksen tavoitteena on antaa yleiskuva suomalaisten nuorten yrittäjyysvalmiuksista.

Keywords: Entrepreneurship, entrepreneurship education, survey instrument

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1. Introduction

Entrepreneurship education has been included in the Finnish basic education curriculum for more than 20 years. However, this is the first time that the views of learners in basic education in relation to entrepreneurship education have been studied nationwide in Finland. The aim of this research is to add a new point of view to the discussion concerning entrepreneurship education. The target group of this research is in the last grade of the Finnish compulsory education. At this stage, the pupils have gone through basic education and have had entrepreneurship education in their curricula all through their school path. This is the essential transition period where pupils make choices on their future: going further onto general or vocational upper secondary education.

According to the previous research literature, entrepreneurship is something that can be taught and learned or at least encouraged in the school environment (Drucker 1985, 19-26; Fayolle et al. 2006; Kuratko, 2005; Schelfhout et al. 2016; Solomon, 2007). At the level of the European Union, entrepreneurship education has been defined as a central factor in developing work readiness and improving social activity and well-being at large. Entrepreneurial skills, knowledge and attitudes are seen as essential cornerstones of working life related competence (Aparicio et al. 2019, Gorman et al. 1997; OECD 2019; OECD/European Union 2019).

The key actor in this research project is LUT University (principal research organization). The research is conducted with the support of the Ministry of Education and Culture in Finland as well as the Finnish National Agency for Education. This research is funded by Yksityisyrittäjain säätiö (Private Entrepreneur Foundation). Third-sector actors Junior Achievement Finland and the national Yes network are also involved in the cooperation.

2. Implementing the survey in 2020

A questionnaire was sent to all Finnish secondary schools and to education providers (municipalities and private school organizations) in October 2020. The response time was four weeks. The questionnaire was sent to schools by the Finnish national Agency for Education. LUT University did not handle any contact information or send the invitation to participate in the research.

The survey was a web-based online survey. The students answered the questionnaire either with their own phone or with a computer or mobile device provided by the school. The questionnaire had a total of 35 questions. Of these, nine were related to student background information and 26 were Likert-scale research questions.

In 2020, a total of 11,433 ninth graders from all over Finland responded to the survey. The number of the respondents may have been affected by the covid-19 pandemic. The students may have been in quarantine, distance learning, or ill at the time of the survey. In addition, schools have had a huge amount of extra work related to the pandemic and this may have contributed to the implementation of the survey. Given the circumstances, the number of respondents can be considered good. The response rate was approximately 20 percent.

The theoretical framework of the questionnaire was based on an extensive literature review. In entrepreneurship education research literature the concept of the “entrepreneurial self” is defined through concepts such as innovativeness, creativity, risk-taking and proactiveness. These seem to be the central dimensions of the entrepreneurial self along with opportunity recognition and opportunity exploitation (Athayde 2009; Bridge et al. 2003, 37; Bolton and Lane 2012 2000; Donellon et al. 2014; Gartner 1988; Kašperová and Kitching 2014; Lumpkin and Dess 1996; Man et al. 2002; Rae 2005; Rauch et al. 2009). The theoretical framework of this research is described in more detail in the report that is to be found in the publication repository of the LUT University, at: <https://lutpub.lut.fi/handle/10024/162319>.

3. Description of the respondents by the background questions

In the following, the respondents are described using different background variables. The responses cover the whole of Finland quite well. Only Åland county is missing. There are responses from 206 municipalities. It is noteworthy that there is only one answer for some municipalities. Examining the data, it has been found that these are either mistaken choices made by the student or intentional incorrectly selected municipalities. The following table (Table 1) describes the numbers of respondents in the light of the different background variables.

Table 1. Description of the respondents

Theme	Response options	Response frequencies and percentages	
Gender	Female / Male / Prefer not to answer	Girls 49.7 % (N=5679) Boys 46.4 % (N=5300) Prefer not to answer 4.0 % (N=454)	
School grades	Response options 4-10	Mother tongue. mean	4: 0.3 % (N= 37) 5: 1.6% (N=182) 6: 8.1 % (N= 921) 7: 20.1 % (N=2300) 8: 32.5 % (N= 3719) 9: 28.6 % (N=3266) 10: 8.8 % (N=1008)
	Response options 4-10	Mathematics. mean	4: 0.3 % (N= 37) 5: 4.4 % (N=498) 6: 12.9% (N=1475) 7: 20.1% (N=2299) 8: 25.6% (N=2926) 9: 23.9% (N=2738) 10: 12.8% (N=1460)
School choice after basic education	Vocational institution / General upper secondary school / Voluntary additional year of basic education (10 th grade) / other	Vocational institutions 37.1 % (N=4244) General upper secondary school 58.5 % (N=6699) Voluntary additional year of basic education 0.4 % (N=49) Other 3.9 % (N=441)	
Regular hobbies	Music / Sports / Taking care of your pet / Going to movies and concerts / Drawing, painting or photography / Reading / Computer games or playing console games / Blogging, vlogging or YouTubing / Organizational activities (e.g. Scouts, 4H youth work) / Other / I don't have any regular hobbies	Have a regular hobby 90.0 % (N= 10290) Do not have a regular hobby 10.0% (N=1143)	
Entrepreneurs in the family / amongst those close	Mother / Father / Grandparent / Sister or brother / Other person close to me / There are no entrepreneurs in my family or close ones.	Yes 53.1 % (N=6066) No 46.9% (N= 5367)	
Visit to the Yrityskylä (Me and My City)	Yes / No / I can't tell	Yes 68.0 % (N= 7772) No 24.0 % (N= 2744) Do not know 8.0 % (N=917)	
Taking part in Junior Achievement activities	Yes / No / I can't tell	Yes 5.3 % (N= 604) No 72.1 % (N=8243) Do not know 22.6 % (N=2586)	

4. Description of the data by the research statements

In this section of the report, the data is examined by the various research statements. The following tables show means, standard deviations, minimums, maximums, and medians for each research statement. In the questionnaire the statements were divided to 4 question groups in which were 6-7 questions. The grouping was planned to make scrolling from one question group to another easier, especially for mobile phone users. In the statements numbers 10-26 a Likert 1-5 scale is used. The response options are I completely agree – Agree- I do not agree or disagree – Disagree- I completely disagree. In the following tables the number of the responses is 11,433.

Table 2. Research statements 10-35: mean, standard deviation, maximum, minimum, and median.

Statement	Mean	Std. Deviation	Min	Max	Median
I have set myself goals related to school and/or hobbies	4.07	.917	1	5	4.00
I can affect my life	4.04	.777	1	5	4.00
I know what I am good at	3.83	.865	1	5	4.00
When I try out something new I am not afraid to take risks	3.74	.810	1	5	4.00
I am persistent	3.72	.890	1	5	4.00
I know that I am able to complete difficult projects and/or tasks	3.71	.859	1	5	4.00
I keep my goals even when I face obstacles	3.65	.794	1	5	4.00
I am creative	3.58	.947	1	5	4.00
I am able to change my actions flexibly in changing situations	3.58	.749	1	5	4.00
I have faith in myself	3.55	1.013	1	5	4.00
I want to do things better than others	3.53	1.000	1	5	4.00
I am able to plan a project	3.35	.936	1	5	3.00
It would be great if I could become an entrepreneur	3.28	1.053	1	5	3.00
I am the one in my circle of friends who has new ideas	3.25	.869	1	5	4.00
I think I could work as an entrepreneur	3.25	1.074	1	5	3.00
I work well under pressure	3.17	1.021	1	5	3.00
School has offered me adequate information on entrepreneurship	3.02	.973	1	5	3.00
I understand how the economy works in an enterprise	2.95	1.023	1	5	3.00
Company co-operation is very useful to me	2.87	.867	1	5	3.00
I want to establish a company in the future	2.87	1.024	1	5	3.00
I am able to draw up a business plan	2.69	1.003	1	5	3.00
We often discuss issues related to entrepreneurship at home	2.67	1.113	1	5	3.00
I avoid situations where I do not know what to do	2.61	.943	1	5	3.00
We often discuss issues related to entrepreneurship at school	2.56	.919	1	5	3.00
We have a lot of co-operation with companies at our school	2.46	.843	1	5	3.00
We often discuss issues related to entrepreneurship with friends	2.37	1.078	1	5	2.00

4.1 Means of responses by region

The following tables show the means of the responses for each research statement. The responses for each statement are divided by region (province). There are no answers for the county of Åland. It has not been included in the tables. The averages vary somewhat from region to region for the different statements. However, the statistical significance of the differences is not estimated in this report. Responses of ten respondents have been left out of these tables. The answers were questionable in different ways. These responses are further examined in more detail from the database as the research process progresses.

Table 3. Regions and the number of respondents

Region	Respondents
Uusimaa	2,366
Southwest Finland	951
Satakunta	243
Kanta-Häme	388
Pirkanmaa	952
Päijät-Häme	549
Kymenlaakso	203
South Karelia	200
South Savo	545
North Savo	409
North Karelia	526
Central Finland	668
South Ostrobothnia	959
Ostrobothnia	583
Central Ostrobothnia	189
North Ostrobothnia	917
Kainuu	456
Lapland	319
Missing	10
Total	11,433

Table 4. Means for research statements number 10 -15 by region.

Region	Statement /Mean					
	School has offered me adequate information on entrepreneurship	We have a lot of co-operation with companies at our school	Company co-operation is very useful to me	We often discuss issues related to entrepreneurship at school	We often discuss issues related to entrepreneurship at home	We often discuss issues related to entrepreneurship with friends
Uusimaa	2.92	2.37	2.84	2.45	2.73	2.41
Southwest Finland	2.96	2.42	2.90	2.47	2.72	2.42
Satakunta	2.75	2.35	2.75	2.40	2.58	2.26
Kanta-Häme	2.74	2.34	2.86	2.32	2.76	2.40
Pirkanmaa	3.09	2.41	2.84	2.63	2.61	2.29
Päijät-Häme	3.04	2.47	2.88	2.62	2.68	2.37
Kymenlaakso	3.20	2.66	2.94	2.80	2.85	2.32
South Karelia	3.13	2.64	2.88	2.56	2.76	2.34
South Savo	3.10	2.46	2.89	2.58	2.58	2.40
North Savo	3.31	2.53	2.89	2.84	2.59	2.35
North Karelia	3.05	2.59	2.87	2.57	2.62	2.28
Central Finland	3.07	2.56	2.89	2.68	2.62	2.33
South Ostrobothnia	3.25	2.60	2.94	2.75	2.69	2.36
Ostrobothnia	3.02	2.58	3.06	2.59	2.71	2.40
Central Ostrobothnia	3.00	2.31	2.65	2.41	2.55	2.22
North Ostrobothnia	3.13	2.56	2.88	2.70	2.62	2.36
Kainuu	2.74	2.34	2.65	2.38	2.56	2.46
Lapland	2.93	2.34	2.77	2.42	2.66	2.34
Total	3.02	2.46	2.87	2.56	2.67	2.37

Table 5. Means for research statements number 16 -22 by region

Region	Statement /Mean						
	I have set myself goals related to school and/or hobbies	I know that I am able to complete difficult projects and/or tasks	I know where I am good at	I have faith in myself	I am persistent	I am creative	I want to do things better than others
Uusimaa	4.15	3.77	3.88	3.52	3.74	3.63	3.64
Southwest Finland	4.18	3.78	3.87	3.56	3.71	3.61	3.66
Satakunta	4.02	3.66	3.86	3.53	3.71	3.50	3.53
Kanta-Häme	4.07	3.57	3.79	3.52	3.69	3.53	3.52
Pirkanmaa	4.11	3.76	3.84	3.58	3.74	3.58	3.53
Päijät-Häme	4.00	3.60	3.68	3.48	3.64	3.51	3.53
Kymenlaakso	4.13	3.72	3.85	3.55	3.74	3.58	3.49
South Karelia	3.94	3.61	3.85	3.52	3.67	3.60	3.63
South Savo	3.99	3.68	3.82	3.56	3.73	3.55	3.57
North Savo	3.95	3.54	3.66	3.43	3.63	3.44	3.28
North Karelia	4.06	3.71	3.82	3.53	3.70	3.56	3.44
Central Finland	4.03	3.68	3.74	3.53	3.70	3.52	3.50
South Ostrobothnia	4.03	3.72	3.85	3.56	3.75	3.62	3.45
Ostrobothnia	3.99	3.70	3.90	3.60	3.73	3.64	3.52
Central Ostrobothnia	3.94	3.66	3.87	3.61	3.62	3.49	3.47
North Ostrobothnia	4.09	3.73	3.79	3.58	3.75	3.58	3.51
Kainuu	4.07	3.76	3.91	3.75	3.91	3.65	3.45
Lapland	3.97	3.67	3.78	3.46	3.66	3.45	3.43
Total	4.07	3.71	3.83	3.55	3.72	3.58	3.53

Table 6. Means for research statements number 23 -29 by region.

Region	Statement /Mean						
	I work well under pressure	I can affect my life	I am the one in my circle of friends who has new ideas	When I try out something new I am not afraid to take risks	I avoid situations where I do not know what to do	I keep my goals even when I face obstacles	I am able to change my actions flexibly in changing situations
Uusimaa	3.19	4.05	3.25	3.73	2.59	3.64	3.62
Southwest Finland	3.18	4.06	3.28	3.72	2.56	3.69	3.61
Satakunta	3.26	4.04	3.29	3.72	2.62	3.62	3.52
Kanta-Häme	3.23	4.04	3.32	3.82	2.65	3.59	3.56
Pirkanmaa	3.18	4.04	3.27	3.75	2.62	3.69	3.58
Päijät-Häme	3.15	3.95	3.22	3.71	2.58	3.62	3.50
Kymenlaakso	3.17	4.03	3.21	3.75	2.70	3.61	3.53
South Karelia	3.15	4.00	3.18	3.71	2.58	3.53	3.45
South Savo	3.16	3.98	3.22	3.69	2.50	3.56	3.50
North Savo	3.04	3.91	3.17	3.65	2.64	3.50	3.49
North Karelia	3.17	4.08	3.26	3.81	2.67	3.63	3.60
Central Finland	3.20	4.05	3.26	3.69	2.58	3.66	3.60
South Ostrobothnia	3.18	4.04	3.24	3.78	2.64	3.67	3.54
Ostrobothnia	3.10	4.05	3.27	3.78	2.64	3.68	3.58
Central Ostrobothnia	3.09	3.93	3.23	3.71	2.61	3.63	3.57
North Ostrobothnia	3.14	4.06	3.23	3.71	2.57	3.70	3.57
Kainuu	3.30	4.19	3.35	3.91	2.84	3.81	3.69
Lapland	3.02	4.00	3.21	3.74	2.57	3.58	3.56
Total	3.17	4.04	3.25	3.74	2.61	3.65	3.58

Table 7. Mean for research statements number 30 -35 by region.

Region	Statement /Mean					
	I think I could work as an entrepreneur	It would be great if I could become an entrepreneur	I understand how the economy works in an enterprise	I am able to plan a project	I am able to draw a business plan	I want to establish a company in the future
Uusimaa	3.31	3.33	2.95	3.46	2.70	2.92
Southwest Finland	3.33	3.38	2.94	3.43	2.72	2.94
Satakunta	3.18	3.10	2.81	3.24	2.55	2.78
Kanta-Häme	3.31	3.29	2.88	3.31	2.57	2.95
Pirkanmaa	3.21	3.29	2.98	3.35	2.68	2.84
Päijät-Häme	3.21	3.22	3.00	3.24	2.72	2.85
Kymenlaakso	3.19	3.21	3.02	3.33	2.71	2.77
South Karelia	3.09	3.19	2.81	3.20	2.48	2.78
South Savo	3.24	3.28	3.00	3.32	2.69	2.86
North Savo	3.15	3.19	3.01	3.28	2.66	2.77
North Karelia	3.18	3.20	2.98	3.33	2.59	2.78
Central Finland	3.19	3.17	3.02	3.29	2.70	2.84
South Ostrobothnia	3.22	3.24	2.96	3.29	2.71	2.87
Ostrobothnia	3.30	3.31	2.89	3.40	2.86	2.94
Central Ostrobothnia	3.06	3.06	2.71	3.28	2.47	2.63
North Ostrobothnia	3.23	3.30	2.96	3.31	2.68	2.86
Kainuu	3.43	3.37	2.91	3.35	2.84	2.88
Lapland	3.27	3.32	2.96	3.28	2.66	2.91
Total	3.25	3.28	2.95	3.35	2.69	2.87

4.2 Description of the responses by gender

The following table (table 8) present the means of the responses by gender. There is some variation in the averages for different statements depending on the gender of the respondent.

Table 8. The means of the responses by gender.

Statement	Gender			
	Woman	Man	Prefer not to answer	Total
School has offered me adequate information on entrepreneurship	3.01	3.06	2.76	3.02
We have a lot of co-operation with companies at our school	2.46	2.48	2.27	2.46
Company co-operation is very useful to me	2.87	2.88	2.63	2.87
We often discuss issues related to entrepreneurship at school	2.51	2.64	2.40	2.56
We often discuss issues related to entrepreneurship at home	2.62	2.73	2.47	2.67
We often discuss issues related to entrepreneurship with friends	2.19	2.56	2.31	2.37
I have set myself goals related to school and/or hobbies	4.22	3.96	3.51	4.07
I know that I am able to complete difficult projects and/or tasks	3.73	3.74	3.18	3.71
I know where I am good at	3.77	3.93	3.41	3.83
I have faith in myself	3.37	3.79	2.96	3.55
I am persistent	3.72	3.77	3.21	3.72
I am creative	3.60	3.57	3.37	3.58
I want to do things better than others	3.48	3.61	3.22	3.53
I work well under pressure	3.07	3.31	2.85	3.17
I can affect my life	4.02	4.11	3.46	4.04
I am the one in my circle of friends who has new ideas	3.27	3.25	3.06	3.25
When I try out something new I am not afraid to take risks	3.72	3.79	3.44	3.74
I avoid situations where I do not know what to do	2.49	2.74	2.56	2.61
I keep my goals even when I face obstacles	3.60	3.74	3.20	3.65
I am able to change my actions flexibly in changing situations.	3.60	3.57	3.26	3.58
I think I could work as an entrepreneur	3.11	3.42	3.01	3.25
It would be great if I could become an entrepreneur	3.14	3.44	3.04	3.28
I understand how the economy works in an enterprise	2.75	3.17	2.81	2.95
I am able to plan a project	3.30	3.42	3.12	3.35
I am able to draw a business plan	2.48	2.93	2.61	2.69
I want to establish a company in the future	2.70	3.07	2.74	2.87

4.3 Primary school choice after basic education

The target group of this research is the last grade of the Finnish compulsory education. At this stage, the pupils have gone through comprehensive school and have had entrepreneurship education in their curricula all through their school path. This period of life is the essential transition period where pupils make choices concerning their future. They need to choose whether to go to general or vocational upper secondary education. In addition, they can choose a voluntary additional year of basic education (10th grade) or preparatory education for upper secondary school.

Table 9. Means of the responses by school choice after basic education.

Statement	Future school choice				
	Vocational institution	General secondary school	Voluntary additional year of basic education	Other	Total
School has offered me adequate information on entrepreneurship	3.12	2.97	2.82	2.89	3.02
We have a lot of co-operation with companies at our school	2.51	2.43	2.63	2.44	2.46
Company co-operation is very useful to me	2.85	2.89	2.53	2.75	2.87
We often discuss issues related to entrepreneurship at school	2.69	2.49	2.33	2.51	2.56
We often discuss issues related to entrepreneurship at home	2.66	2.67	2.49	2.65	2.67
We often discuss issues related to entrepreneurship with friends	2.41	2.34	2.37	2.40	2.37
I have set myself goals related to school and/or hobbies	3.76	4.30	2.80	3.73	4.07
I know that I am able to complete difficult projects and/or tasks	3.45	3.90	2.43	3.44	3.71
I know where I am good at	3.77	3.88	2.98	3.63	3.83
I have faith in myself	3.50	3.60	2.94	3.28	3.55
I am persistent	3.58	3.84	2.80	3.50	3.72
I am creative	3.49	3.65	3.02	3.38	3.58
I want to do things better than others	3.28	3.71	3.12	3.35	3.53
I work well under pressure	3.03	3.28	2.55	2.90	3.17
I can affect my life	3.94	4.12	3.41	3.80	4.04
I am the one in my circle of friends who has new ideas	3.19	3.30	2.98	3.12	3.25
When I try out something new I am not afraid to take risks	3.74	3.75	3.37	3.57	3.74
I avoid situations where I do not know what to do	2.64	2.59	2.49	2.55	2.61
I keep my goals even when I face obstacles	3.53	3.74	3.06	3.50	3.65
I am able to change my actions flexibly in changing situations.	3.44	3.68	3.04	3.44	3.58
I think I could work as an entrepreneur	3.21	3.29	2.49	3.18	3.25
It would be great if I could become an entrepreneur	3.26	3.29	2.90	3.24	3.28
I understand how the economy works in an enterprise	2.96	2.94	2.59	2.96	2.95
I am able to plan a project	3.21	3.46	2.86	3.20	3.35
I am able to draw a business plan	2.75	2.65	2.73	2.69	2.69
I want to establish a company in the future	2.93	2.83	2.45	2.93	2.87

5. Concluding remarks

This study was conducted at LUT University for the first time in the autumn of 2020. In addition, the study will be carried out in 2021 and 2022. All questions related to the study should be submitted to LUT University. Prior to the 2021 survey round, data gathered in 2020 will be reviewed question by question. As this is a study whose target group is very young and the topic is abstract (entrepreneurship education), special attention will be paid to the reliability and validity of the research.

The database associated with the survey is of great importance for the interpretation and dissemination of the results of the survey. The database has been well tested, but changes will be made during 2021 if needs for changes are identified during the data analysis. So far, it seems that the database is working well.

The survey instrument was constructed in multiple phases over 2019 and 2020. Different phases of the survey construction process are documented. Deep understanding of the process is thought to increase the reliability and the validity of the present study. There have been three key actors in the participatory building process: representatives of the target group, actors in the Finnish educational field, and school teachers and principals.

References

- Aparicio, G., Iturralde, T. and Maseda, A. (2019). Conceptual structure and perspective on entrepreneurship research: A bibliometric review. *European Research on Management and Business Economics* 25 (2019): 105-113.
- Athayde, R. (2009). Measuring enterprise potential in young people. *Entrepreneurship theory and practice*, 33(2), 481-500.
- Bolton, D. L. and Lane, M. D. (2012). Individual entrepreneurial orientation: Development of a measurement instrument. *Education+ Training* Vol. 54 No. 2/3, 219-233.
- Bridge, S., O'Neill, K. and Cromie, S. (2003). *Understanding enterprise. Entrepreneurship and Small Business*. Palgrave MacMillan. New York.
- Donellon, A., Ollila, S. and Middleton Williams, K. (2014). Constructing entrepreneurial identity in entrepreneurship education. *The International Journal of Management Education* 12, 490-499.
- Drucker, P.F. (1985). *Innovation and entrepreneurship*. London: William Heinmann, 19-26.
- Fayolle, Alain., Gailly, Benoît., & Lassas-Clerc, Narjisse. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training* 30(9): 701-720.
- Gartner, W. B. (1988). "Who is an entrepreneur?" is the wrong question. *American journal of small business*, 12(4), 11-32.
- Gorman, G., Hanlon, D, and King, W. (1997). Some research perspectives on entrepreneurship education, enterprise education and education for small business management: A ten-year literature review. *International Small Business Journal* 15(56): 56-77.
- Kašperová, E., and Kitching, J. (2014). Embodying Entrepreneurial Identity. *International Journal of Entrepreneurial Behaviour & Research* 20.5: 438-452.
- Kuratko, D. F. (2005). The emergence of entrepreneurship education: Development, trends, and challenges. *Entrepreneurship Theory and Practice* 29(5): 577 – 597.
- Lumpkin, G.T. and Dess, G.G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, Vol. 12:1, 135-172.
- Man T.W.Y., Lau T. and Chan KF. (2002). The competitiveness of small and medium enterprises: A conceptualisation with focus on entrepreneurial competencies. *Journal of Business Venturing* 17: 123–142.
- OECD. (2019). *Cultivating Successful Entrepreneurs*. Available <https://www.oecd.org/cfe/leed/entrepreneurship.htm>
- OECD/European Union. (2019). *The Missing Entrepreneurs 2019: Policies for Inclusive Entrepreneurship*, OECD Publishing, Paris. Available <https://doi.org/10.1787/3ed84801-en>.
- Rae, D. (2005). Entrepreneurial Learning: a Narrative-Based Conceptual Model. *Journal of small business and enterprise development* 12.3: 323–335.
- Rauch, A., Wiklund, J., Lumpkin, G. T. and Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship theory and practice*, 33(3), 761-787.


Schelfhout, W., Bruggemana, K. and De Maeyer, S. (2016). Evaluation of entrepreneurial competence through scaled behavioural indicators: Validation of an instrument. *Studies in Educational Evaluation* 51: 29-41.

Solomon, G. (2007). An examination of entrepreneurship education in the United States. *Journal of Small Business and Enterprise Development* 14(2): 168-183.

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