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What makes Entrepreneurship Education in university successful? Empirical analysis of Russian universities in the context of international experience through the lenses of new institutionalism



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WERA meeting, July 2021

HOW DOES EDUCATION STIMULATE GROWTH?

(WHY DO WE NEED ENTREPRENEURSHIP EDUCATION?)



according to the dominant approach, education (and human capital it creates) **responds to, supports or increases** the institutional change (for instance, new demands from labor market) – but it does not **drive** this change

The implicit assumption is:

EDUCATION (VIA HUMAN CAPITAL) HELPS CATCH-UP WITH
TECHNOLOGICAL PROGRESS BUT IT DOES NOT INITIATE CHANGE OF
MAJOR INSTITUTIONS

(HENCE THE PROBLEM OF “OVEREDUCATION”)

HUMAN CAPITAL STRUCTURE: A BRIEF OVERVIEW



HUMAN CAPITAL THEORY LOGICS DEVELOPMENT



from “formal degree” – to “skills (cognitive)” – to “non-cognitive skills” - to..?

- ✚ Before 1990s – the dominating idea “many university degrees” = “good human capital for the economy”

- ✚ Since 1990s: not the “quantity” but the “quality” of education matters:
 - a) Knowledge and cognitive skills (Hanushek and Woessmann) (“PISA”)
 - b) Universal competencies (OECD, business)
 - c) Non-cognitive skills (Heckman) (“Big Five”)

HUMAN CAPITAL STRUCTURE IN THE 21ST CENTURY (I. FROUMIN, P. SOROKIN)



Traditional Specific HC
(specific cognitive and
professional skills)
(1950-1960 Becker,
Schultz)

**Traditional General
HC (basic cognitive
skills) (1950-1960
Becker, Schultz)**

**General HC #1 (non-cognitive
skills, personal traits)
(1980-1990, Heckman)**

**General HC #2 (Universal
Competences)
(1980-1990, OECD)**

**General HC #3 (Allocative Abilities.
Entrepreneurial Element)
(1975, Schultz)
Most underdeveloped**

ALLOCATIVE ABILITIES, ENTREPRENEURIAL ELEMENT OF HUMAN CAPITAL



T. Schultz in 1970s put forward an idea of “**entrepreneurial**” element of human capital – “**allocative abilities**”, which he believed to be:

- not equally distributed among the population
- not similarly and automatically performed (in response to “market stimuli”)
- dependent upon formal education
- crucial for economic growth (aside from other elements of “human capital”)

The concept of “**allocative abilities**” allows to suggest the greater possible contribution of education to institutional change – by empowering human capital to stimulate institutional transformations.

Schultz, T. W. (1975). The value of the ability to deal with disequilibria. Journal of economic literature, 13(3), 827-846.

EDUCATION AND GROWTH: THE PROBLEM OF INTER-RELATIONS



“**Allocative Abilities**” as the element of Human Capital – imply greater importance of Human Capital (and, hence, education) in terms of changing the institutions, than dominant approach suggests (see Hanushek et al.)

EDUCATION AND GROWTH: THE PROBLEM OF INTER-RELATIONS



The idea that “educated” individual\collective action can play leading role in changing institutions – is not entirely novel for current sociological literature: the concept of “**Expanded actorhood**” (John W. Meyer, 2010)

through the lenses of sociological new institutionalism (Stanford school, Meyer 2010), changing institutions **by reallocating human capital** may be seen as “**expanded actorhood**”

EMPIRICAL ANALYSIS OF RUSSIAN UNIVERSITIES IN THE CONTEXT OF INTERNATIONAL EXPERIENCE THROUGH THE LENSES OF NEW INSTITUTIONALISM



ENTREPRENEURIAL EDUCATION ANALYSIS



Sources

Academic research:

- Reviews (Reviews, meta-studies, e. g., Martin et al (2013), Aadland & Aaboen (2018) etc.)
- Specific empirical studies based on particular cases (including international comparative studies, e.g., GUESS (2013), GEM etc.)

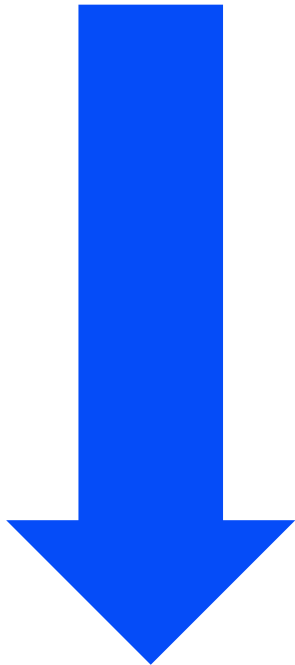
Business analytics:

- Reviews (e.g., World Bank review (2014))
- Specific analysis of particular cases (analysis of particular courses)

ENTREPRENEURIAL EDUCATION ANALYSIS



Logic of the entrepreneurship educational courses effects



INTENTIONS	INDIVIDUAL
SKILLS, KNOWLEDGE, COMPETENCES	INDIVIDUAL
SOCIAL CONNECTIONS (COMMUNICATION WITH AN EXTERNAL ENVIRONMENT)	INDIVIDUAL + SOCIAL
ENTREPRENEURIAL EXPERIENCE (FIRST TRIES)	INDIVIDUAL + SOCIAL
SUCCESSFUL PRACTICES (INCLUDING PROJECTS)	INDIVIDUAL + SOCIAL

TO WHAT EXTENT ENTREPRENEURIAL EDUCATION COURSES ARE EFFECTIVE?

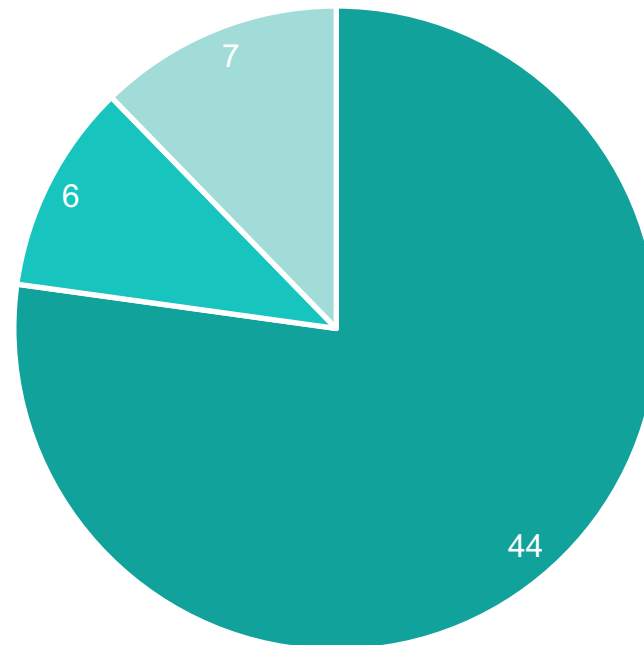


57 relevant articles:

- Significant positive effect (grade 5 or 4 according to the scale from 1 to 5) – 44 articles
- Neutral/ contradictory effect (grade 3) – 6 articles
- Negative effect (grade 2 or 1) – 7 articles

GENERAL STRONG BELIEF IN ENTREP. EDUCATION

Number of articles



- Positive
- Can be positive or negative
- Negative

Majority of articles (77%) confirm positive effect of entrepreneurial education courses

Minority of them point to the negative effect or possibility of negative effect as a result of entrepreneurial education (23%)

For comparison:

1) World Bank Survey (2014) demonstrated that almost 100% entrepreneurship development programs in higher education and in high school produce significant effect. Only in single cases the effect was not that profound or was fractional.

2) Martin, McNally, and Kay (2013): Meta-analysis of 42 studies' results (integrated in a single base), demonstrated positive effect of entrepreneurial education courses on skills/knowledge/projects at the rate of 0,15-0,22

EXPERIMENTS



International experience shows that even in negative context entrepreneurial education courses turn out to be effective

(Quasi-)experiment studies

In 5 out of 6 experiment studies profound positive effect was detected, and only in 1 study no effect was found. However, methodology of some of the studies is questionable

WHAT FACTORS INCREASE EFFECTIVENESS?



Considered numerous facts, which posed positive impact on the final effectiveness of the entrepreneurship course, further we present only the most reliable factors – such factors, for which the positive effects were showed at least by three studies

WHAT FACTORS INCREASE EFFECTIVENESS?



Factor (group of characteristics)	Characteristics	indicators
Teacher's (Instructor's) characteristics	1. Professional experience in the field	1.1. Pedagogical experience 1.2. Experience in teaching entrepreneurship (on the particular course)
	2. Professional experience in the sphere of entrepreneurship	1.3. Entrepreneurship teaching experience beyond the particular course 2.1. Professional experience in the sphere of entrepreneurship in any role (entrepreneur, investor, partner, consultant)
	3. Pedagogical competences	2.2. Professional experience in the role of an independent entrepreneur 3.1. Higher education field of study
	4. Education on entrepreneurship	3.2. Pedagogical skills 3.3. Interest for entrepreneurship 4.1. Online-course training experience (in education on entrepreneurship) 4.2. Participation in conferences, skills development training courses, workshops (in education on entrepreneurship) 4.3. Entrepreneurship teacher training program experience

WHAT FACTORS INCREASE EFFECTIVENESS?



Factor (group of characteristics)	Characteristics	indicators
Pedagogical practices	1. Combination of theory and practice	1.1. Project work
	2. Active involvement of students into educational process	2.1. Team work 2.2. Brainstorm method 2.3. Integrating studies into daily learning
	3. Usage of demonstrative and illustrative education methods	3.1. Usage of demonstrative and illustrative objects
	4. Usage of non-traditional education methods	4.1. Usage of role-play education method 4.2 Visits to enterprises
	5. Teaching emotional reactions	4.3. Lectures by invited entrepreneurs 5.1. Debates and consultations
	6. Teaching learning from failure	6.1. Learning from (un)successful cases
	7. Usage of digital education methods	7.1. Usage of digital education methods 7.2 Modelling business-processes

WHAT FACTORS INCREASE EFFECTIVENESS?



Factor (group of characteristics)	Characteristics	indicators
Teachers' motivation and incentive system	1. Extent of involvement into program realization	1.1. Teachers' evaluation of their involvement into the teaching (according to the scale from 1 to 5)
	2. Bonuses for good results	2.1. Dependence of bonuses on the positive estimation by students and skills development training experience

MAIN RESULTS OF EMPIRICAL STUDY (the case of course, supported by RVC)



EMPIRICAL BASE



- 23 Russian universities, which implement programs on Entrepreneurship Education in various formats basing on the same materials, provided by Russian Venture Company (RVC)
- Online questionnaires (elaborated basing on the results of literature analysis) were completed by more than 40 practicing teachers of the course with at least 1 year of experience
- 12 in-depth interviews with some of teachers
- 3 observations of the actual educational process in 3 different universities from different regions
- 6 interviews with students having “success stories”
- 10 interviews with leading Russian experts in entrepreneurial education

PROFILES OF SUCCESSFUL STUDENTS OF THE COURSE: TYPOLOGY



	CORE NECESSARY SKILLS	CORE CHARACTERISTICS OF INFRASTRUCTURE	REQUESTS TO THE CONTENT OF THE COURSE
SCIENTIST	To understand basic demands from the market	Labs working in the subject areas of students' specialization	Content directly connected with the students' specialization (for instance, with Master thesis)
ENTREPRENEUR (universal type)	The ability to create and promote innovative products in various institutional and structural contexts	Diverse infrastructure – private and public funds, labs, etc.	High variety of content
INNOVATIVE MANAGER	Project management in the concrete institutional framework	Clear “rules of the game”	Working out the typical procedural tasks

CORE FACTORS OF SUCCESS (1)



	Factors' ranking	Factor	Significance
Features of the instructor	1	Can develop "dynamism" in students (self-assessment)	0,01 (,006)
	2	Internal motivation	0,1 (,059)
	3	Ready to work with students even in "free time"	0,02 (0,016)
	4	Can develop "creativity" in students (self-assessment)	0,05 (,015)
	5	Can find funding for one's own project (self-assessment)	0,15 (,102)

CORE FACTORS OF SUCCESS (2)



	Factors' ranking	Factor	Significance
Pedagogical practices	1	Team-work	0,1 (0,068)
	2	Meetings (talks) with experts	Proved only by interviews
	3	Special preparation for application to grants, competitions, etc.	Proved only by interviews
	4	Mentoring	Proved only by interviews

CORE FACTORS OF SUCCESS (3)



	Factors' ranking	Factor	Significance
Links to external environment	1	Case-studies for concrete corporate clients	0,01 (0,008)
	2	Excursions on enterprises	0,01 (0,024)
	3	Cooperation with companies - internships	0,1 (0,067)
	4	Visiting lectures from entrepreneurs	0,1 (0,092)
	5	Meeting with Labs	0,1 (0,099)

CLUSTER ANALYSIS RESULTS



	Experience in entrepreneurship	Higher Ed. In Engineering	Can teach creativity (self-esteem)	Cooperate with business	Organize meeting with Labs	Students have successful entrepreneurship projects (accepted to major tech.entrep. competitions)	Number of people in Cluster
Cluster 1 (gender differentiated)	16 (64%)	5 (20%)	6 (24%)	13 (52%)	4 (16%)	7 (28%)	25
Cluster-2 (all female)	6 (50%)	7 (58%)	4 (33%)	7 (58%)	5 (42%)	7 (58%)	12

CONCLUSION



- the revealed homogeneity of the content and practices
- importance of connections with external environment
- strong cultural legitimacy of entrepreneurship per se, independently to the actual characteristics of the particular university\region



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