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Article

The Relationship Between Support for Students' Creativity in The Family and University and Their Entrepreneurial Intention: The Moderating Role of Individual Skill: Evidence from Uzbekistan

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Abstract: This paper investigates the influence of both family support and university support for creativity on entrepreneurial intention among students in Uzbekistan, with a particular focus on the moderating effect of skills. The TPB, parts of the Creativity Support Model and a quantitative cross-sectional design have formed the basis for this study. The sample consisted of 417 undergraduates and graduates from five major Uzbek universities. Answering our predictions was tested by the structural equation modeling (SEM) and multiple regression analyses. Results indicate that both family and university creativity support positively contribute to students' entrepreneurial intention. In addition, individual competences, in particular technical knowledge and managerial skills, moderate it; hence the effect of creativity support is enhanced. The paper also adds to the entrepreneurship and creativity literature because it describes such relations in the context of a transition economy and provides policy implications for enhancing creativity-based entrepreneurship education in Uzbekistan.

Keywords: Creativity Support, Entrepreneurial Intention, Family Environment, University Support, Individual Skills, Moderation, Uzbekistan.

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1. Introduction

Entrepreneurship is increasingly regarded as an important contributor to economic growth, employment and innovation. For Uzbekistan and other developing economies this is not just an economic strategy, but rather a vital question of whether we are raising capable hands for the future of our nation. The development of human capita l was one of the main approaches to improve the education system in our country according to projects and grant programs. New dec rees and decrets must be implemented; they say that we must pay special attention to improvment the quality of education (№.UPI-28012014-226), creating a "Breakthrough School " project, as well as improving the global lexical semester examinations, giving parents information on their childrens study situation, increasing material incentives for staff working at schools based on teachers professional skills etc.? The creative potential is vital for our human capital cult ivation [1].

Notwithstanding these efforts, there is still a disconnect between the promotion of creativity and student reality in enterprise development. Although universities have began to implement lessons on entrepreneurship and innovation (such as the KTP in UK), there still exists a gap which has not been covered by incorporating parents' or institutional support to form entrepreneurial intentions within the Uzbek borders [2].

As outlined in theory of planned behavior (Ajzen, 1991), entrepreneurial intention is determined by attitudes, subjective norms and perceived behavioral control. In this context, creativity support will add to the perception of behavioral control and create positive attitude towards an entrepreneurship. This paper examines the impact of creative support from family and university on students' entrepreneurial intention, and tests individual skills as to whether they have a moderating effect [3].

Literature Review

Theoretical foundations Our study relies on two well-founded theoretical models: Ajzen's Model of Planned Behaviour (TPB) and the Shapero Model of Entrepreneurial Event (SEE). These models offer alternative views on how attitudes, social norms and perceived behavioral control are related to entrepreneurial intentions. Family Creativity Support (FC) is about how families facilitate creative forward thinking, problem solving and innovation behavior [4]. There is a broad consensus in the field on the importance of family for nurturing creativity. Children of families with low authoritarianism and who wish to promote independence and divergence in thinking are more creative. University Creativity Support (UC) refers to the supportive campus atmosphere for creative thinking through curriculum schedules and teaching strategies and systems. As incubators for entrepreneurship, universities play a vital role in cultivating entrepreneurial traits [5]. Technical capabilities are professional knowledge and skills in certain fields such as product design, process development and manufacturing systems. With these skills, entrepreneurs can turn creative ideas into business solutions that work. Management skills include such abilities as problem-solving, communication abilities, leadership and coordination with others. These skills help entrepreneur to establish and operate businesses [6].

Drawing on the theoretical ground and literature review, we develop a research model which describes the relationships between creativity support, personal ability and entrepreneurial intention as below [7]:

Research Model:

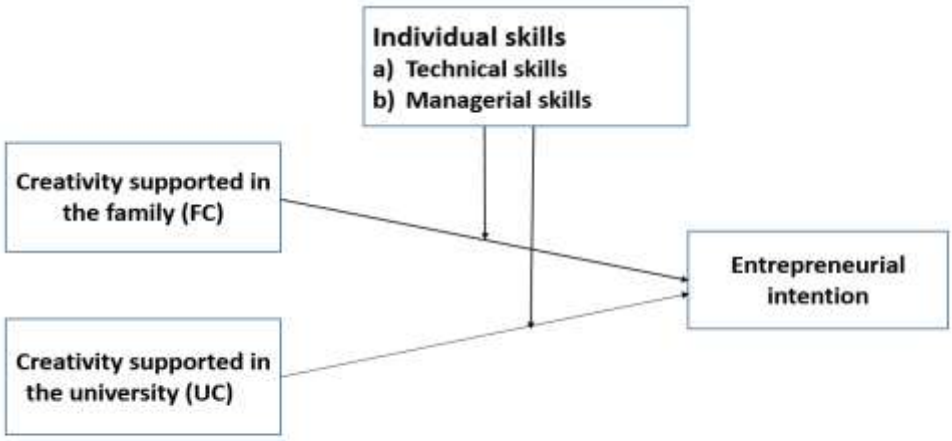


Figure 1 Entrepreneurial intention model

The model demonstrates direct relationships between family/university creativity support and entrepreneurial intentions, with technical and managerial skills serving as moderating variables (Figure 1).

Based on this theoretical foundation, we propose:

H1: There is a positive relationship between creativity supported in the family and entrepreneurial intention.

H2: There is a positive relationship between creativity supported in the university and entrepreneurial intention.

H3a: Technical skills positively moderate the relationship between creativity supported in the family and entrepreneurial intention.

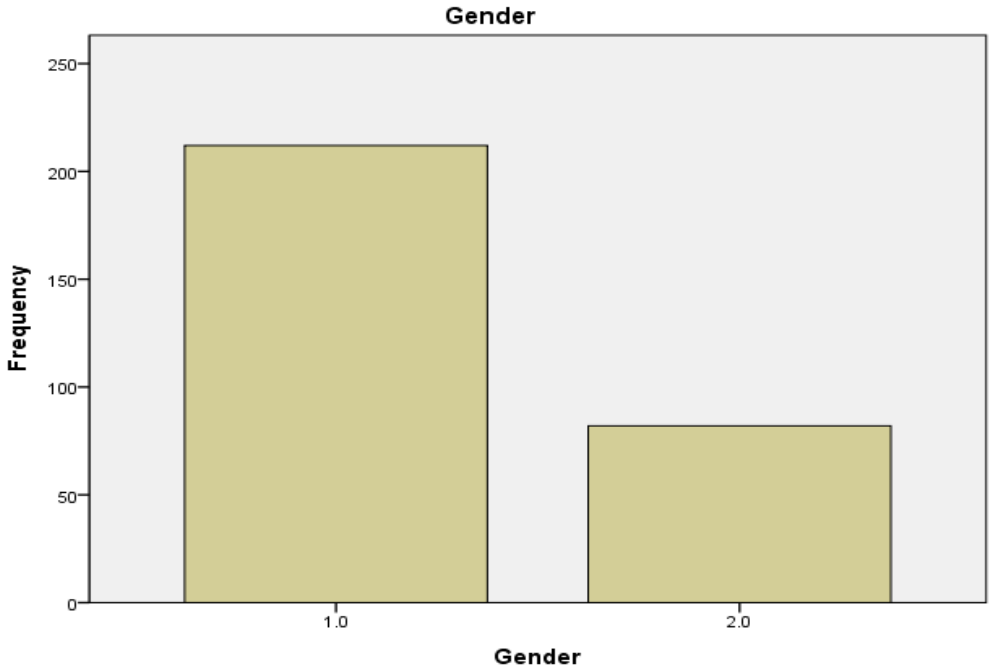
H3b: Technical skills positively moderate the relationship between creativity supported in the university and entrepreneurial intention.
H4a: Managerial skills positively moderate the relationship between creativity supported in the family and entrepreneurial intention.
H4b: Managerial skills positively moderate the relationship between creativity supported in the university and entrepreneurial intention.

2. Materials and Methods

This research adopts a quantitative, cross-sectional design. Data were collected via structured questionnaires distributed online and in person across five universities in Tashkent, Samarkand, Andijan, Namangan, and Bukhara.

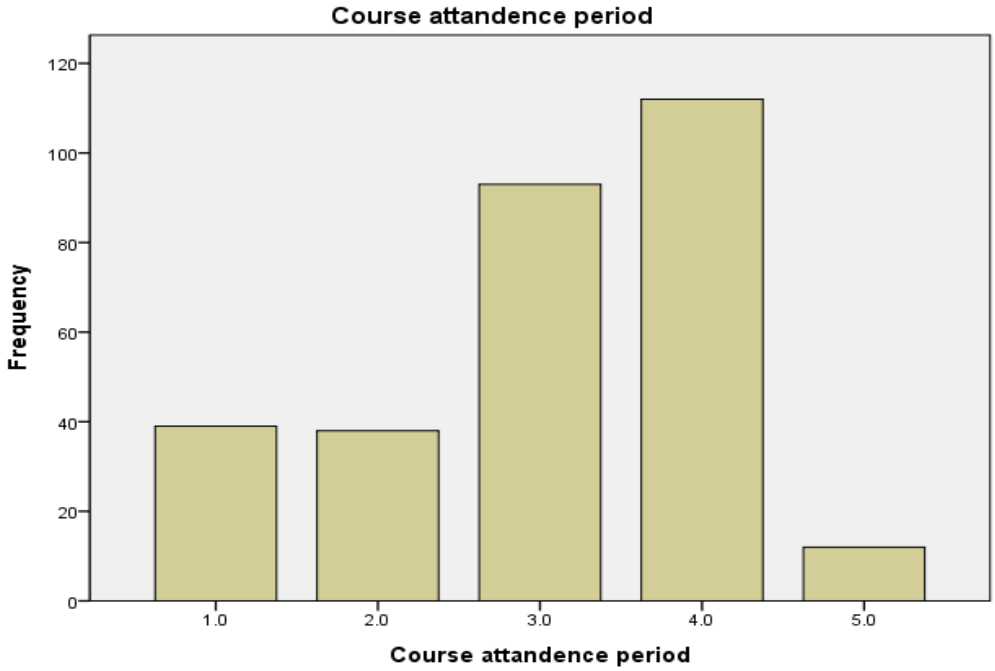
We collected the data from students of business administration fields in the Republic of Uzbekistan universities. To collect the data, we used an online questionnaire (www.soscisurvey.de) and offline survey. During the data collection process, we emphasized that participation in the survey was voluntary and anonymity and confidentiality of individual questionnaires were guaranteed. We asked 417 students to participate in the survey. Out of 417 students, 294 students provided completed valid data on all variables (response rate was 70.5 %) (Figure 2).

Figure 2. Frequency of gender (1= male, 2= female)



Among the 294 respondents, 72.1 percent (212) were male and 27.9 percent (82) were female.

Figure 3. Frequency of course attendance period (1= less than 1 year, 2= 1-2 years, 3= 2-3 years, 4= 3-4 years, 5= 4 and more from 4 years)



With respect to participants' course attendance period, 13.3 percent had less than 1 year, 12.9 percent had between 1 and 2 years, 31.6 percent had between 2 and 3 years, and 38.1 percent had between 3 and 4 years, and 4.1 percent had between 4 and more from 4 years of attendance (Figure 3).

The measures used in our study came from scales that were originally developed for use in an English-language context. Therefore, all of the items were translated from English into the Uzbek language by professional specialists. And then bilingual experts reviewed both English and Uzbek version of the scales to assess the appropriateness and semantic equivalence of the translation. In order to reach the requirements of the content validity of the measures, the checking process was continued until the bilingual experts recognized no more mistakes in translation. In addition, according to Brislin's recommendation, we translated the variable items back into English. In our study all scale items were rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.

The entrepreneurial intention was measured with the 6-item scale developed by Linan and Chen. The sample included items such as "My professional goal is to become an entrepreneur; "I am ready to do anything to be an entrepreneur", "I have the firm intention to start a firm someday" and others. The scale's Cronbach's alpha reliability was .829.
Creativity supported in the family was measured with 3- item scale of Zampetakisand Moustakis. The items were "My family members easily adapt to several circumstances"; "My family members always are thinking new ideas for making their life easier" and "I can freely talk to my family members for whatever concerns".The Cronbach's alpha coefficient for this scale was .751

Creativity supported in the university was measured with the 3-item scale that is also from Zampetakisand Moustakis. The sample included items such as "In my university, you learn that there is more than one solution to a problem"; "In my university, you learn to examine old problems with new ways"; "In my university, the faculty encourages students to produce and employ new ideas".The Cronbach's alpha coefficient for this scale was .718

Technical skills were measured with the 3-item scale developed and validated by Gupta and Govindarajan. This scale includes the dimension of willingness to view oneself accurately ("Product designs"), recognition of others' strengths and contributions ("Process designs") and openness to others' opinions and comments ("Production systems"). The Cronbach's alpha coefficient for this scale was .838

Managerial skills were measured with the 5-item scale of Gupta and Govindarajan. The sample included items such as "I'm good at problem-solving"; "I'm good at

communicating my point of view and supporting my ideas"; "I'm good at motivating people and leading teams"; "I'm good at the maintaining interpersonal relationships and coordinating people" and other. The scale's Cronbach's alpha reliability was .796.

Control variables**.** Because it has been found that individual's gender, and university course attendance period have a potential impact on student's entrepreneurial intentions, previous researchers have controlled for these demographic variables.
Therefore, in order to fit the requirements of the analysis, we also control for age, gender, and education level and course attendance period of individuals.

We conducted factor, reliability and correlation analysis using SPSS 23 program and AMOS 21 program was used to conduct confirmatory factor analysis (CFA) and structural equation modeling (SEM).

3. Results

In regard to the independent variables, the creativity variable consists of two components: creativity supported in the family (CSF) and creativity supported in the university (CSU). CSF was composed of 3 original items. All three loadings attributes on the studying capacity ranged from 0.558 to 0.758, which explained 6.145% of the variance. The three measurements of CSU all had high loadings on that dimension. The loadings attributes on the studying capacity ranged from 0.668 to 0.813, which explained the 7.200% of the variance [8].

With regard to the analysis of moderator variables, the technical skills variable consisted of three original items which all had high loadings on that dimension. The loadings attributes on the studying capacity ranged from 0.787 to 0.834, which explained 8.640% of the variance. The managerial skills variable was composed of five measurements and attributes on the studying capacity ranged from 0.565 to 0.786, which explained 9.705% of the variance [9].

According to Table-1, the dependent variable results show that all loadings exceeded 0.50, which explained 30.585% of the variance [10].

Tabel 1. Factor Analysis

	Component				
	1	**2**	**3**	**4**	**5**
CSF1	.077	.059	.093	.035	.692
CSF2	.155	.111	-.024	.377	.558
CSF3	.038	.126	.007	.072	.758
CSU1	.109	.239	.103	.751	-.059
CSU2	.100	.110	.178	.813	.131
CSU3	.090	.013	.129	.668	.289
TS1	.096	.198	.787	.186	-.028
TS2	.214	.165	.834	.203	.017
TS3	.086	.188	.826	.047	.122
MS1	.189	.786	.180	.079	.112
MS2	.359	.565	.339	-.043	.211
MS3	.175	.584	.208	.051	.125
MS4	.044	.772	-.037	.186	-.011
MS5	.224	.642	.259	.159	.088
EI2	.765	.045	.106	.039	.215
EI3	.668	.241	.097	.087	.010
EI4	.739	.198	.070	.083	.145
EI5	.776	.081	.117	.272	-.098
EI6	.760	.177	.090	-.008	.058

Eigenvalues	5.811	1.844	1.642	1.368	1.168
% of Variance	30.585	9.705	8.640	7.200	6.145
Cumulative %	30.585	40.290	48.930	56.131	62.276

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

We checked the consistency of the items of the construct by conducting a reliability analysis (Table 2). Higher reliability indicates a strong consistency with the model. In this study, there are 5 variables that need to be analyzed for the reliability test. We used 3 items for CSF and Cronbach's α value was .751, which fits with the level of construct validity. We used 3 items for CSU and Cronbach's α shows .718, which is significant in reliability analysis. We used 3 items for technical skills and Cronbach's α shows .838, which is also significant. 5 items were used for managerial skills and the value of Cronbach's $\alpha$was .796, which is significant. We used 5 items for entrepreneurial intention and Cronbach's α shows .829, which is also significant [11].

Table 2. Reliability analysis

Reliability analysis		
Variables	**Number of items**	**Cronbach's alpha**
CSF	3	.751
CSU	3	.718
Technical skills	3	.838
Managerial skills	5	.796
Entrepreneurial intention	5	.829

All constructs meet the required reliability and validity thresholds ($\alpha > 0.70$, AVE > 0.50).

Table-3 illustrates the results of the correlation analysis and descriptive statistics. Correlations between demographic variable, such as gender and entrepreneurial intention was slightly significant (r=.131 respectively), while course attendance period were not significantly correlated with entrepreneurial intention (r = .002, respectively). According to the results entrepreneurial intention is positively correlated with creativity supported in family (r=.260), creativity supported in university (r=.286), technical skills (r=.335), and managerial skills (r=.481) [12].

Table 3. Correlation analysis

Variables	Mean	SD	1	2	3	4	5	6	7
1. Gender	1.279	0.44	1						
2. Course attendance period	3.068	1.09	–.025	1					
3. CSF	4.12	0.65	–.026	–.023	1				
4. CSU	3.91	0.78	.098	–.020	.341	1			
5. Technical skills	3.43	0.93	–.140	–.007	.181	.349	1		
6. Managerial skills	4.13	0.57	–.079	–.047	.301	.353	.486	1	

7. Entrepreneurial intention	4.05	0.78	.131	–.002	.260	.286	.335	.481	1

. Correlation is significant at the 0.01 level (2-tailed).

. Correlation is significant at the 0.05 level (2-tailed).

In this study, we tested multicollinearity issues by checking "tolerance" and "VIF" values for each predictor (Table 4). The *tolerance* refers as an indication of the proportion of variance in the predictor, which cannot be estimated by other predictors. Very small values of tolerance demonstrate that a predictor is redundant, and values that are lower than .10 might deserve further investigation. As regards to VIF (variance inflation factor), a variable that VIF value is greater than 10 may have issue on multicollinearity and require further investigation (Hayr, Black, Babin and Anderson, 2010). The results of multicollinearity analysis (Table 4) indicate that there is no multicollinearity among independent variables in this study [13].

Table 4. Multicollinearity analysis

Variable	Tolerance	VIF
CSF	.846	1.182
CSU	.778	1.286
Technical skills	.728	1.374
Managerial skills	.699	1.432

In our study, Hypothesis 1 demonstrates that creativity supported in the family and entrepreneurial intention are positively connected. According to Table 5 the results of a simple regression analysis between creativity supported in the family and entrepreneurial intention are highly significant (β=.253 p<.01). Therefore, we can assume that Hypothesis 1 is strongly supported. As well as, hypothesis 2 offers that creativity supported in the university is positively related to entrepreneurial intention. To test this hypothesis, we perform simple linear regression analysis and from the results, we can conclude that creativity supported in the university and entrepreneurial intention has a significant positive relationship (β=.295, p<.001). Accordingly, we accept that hypothesis 2 is also supported [14].

Table 5. Direct effect

Hypothesis	Path	Standardized coefficient	T-value	Result
H1	Creativity supported in the family ⟶ Entrepreneurial intention	.253	4.465	Supported
H2	Creativity supported in the university ⟶ Entrepreneurial intention	.295	5.283	Supported

Note: p<.05, p<.01, p<.001

Hypothesis 3a, hypothesis 3b, hypothesis 4a and hypothesis 4b predicted that technical and managerial skills would moderate the relationship between creativity supported in the family with entrepreneurial intention and creativity supported in the university with entrepreneurial intention accordingly, so that the relationship between these variables would become stronger with high entrepreneurial intention [15].

We conducted regression analysis (also widely known as hierarchical linear modelling) to test these hypotheses. We entered all the results by dividing into 4 parts to Table 6. This table shows the results of regression analysis where technical skills and managerial skills are moderating to the relationship between creativity supported in the family, creativity in the university and entrepreneurial intention. First of all, we entered control variables into the model 1 to all 4 sections respectively and found out that any of the control variables was significantly related to entrepreneurial intention. And then, we entered creativity supported in the family and creativity in the university into the model 2 to all 4 sections respectively. The results showed that creativity supported in the family and creativity in the university were positively related to entrepreneurial intention (β=.257, β=.302, β=.174, β=.242, respectively p<.001). Then, in model 3 we added simultaneously interaction term of creativity supported in the family and creativity supported in the university with technical skills and interaction term of creativity supported in the family and creativity supported in the university with managerial skills. According to Model 3 into Section 1 and Section 2 present that interaction term of creativity supported in the family with technical skills and interaction term of creativity supported in the university with technical skills were positively related to entrepreneurial intention (β=.357, β=.344 respectively p<.001). Thus, considering this analysis results, we concluded that the hypothesis 3a and 3b were supported.

Furthermore, Model 3 of Section 3 and Section 4 lines highlight that interaction term of creativity supported in the family with managerial skills and creativity supported in the university with managerial skills were negative related to entrepreneurial intention (β=.868, β=-.161 respectively p< .05). In other words, according to these results, we could that is to say hypothesis
4a and hypothesis 4b were not supported.

Table 6. Regression analysis

Dependent Variable: Entrepreneurial intention (n=294)										
Section 2		**Section 3**			**Section 4**					
Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3			
-.161	-.121	-.132	-.150	-.107	-.132	-.150	-.116			
.000	-.003	-.005	.003	.023	-.005	.003	.019			
.302	.045		.174	-.489		.242	.233			
	.344			.868			-.161			
.108	.160	.017	.134	.274	.017	.134	.274			
.091	.052	-	.117	.140	-	.117	.140			
11.673	13.770	2.560	8.772	25.701	2.560	11.204	18.054			
								p <.05		

Sections/Models Variables	Section 1			
	Model 1	Model 2	Model 3	Model 1
Control Variable				
Gender	-.132	-.125	-.090	-.132
Course attendance period	-.005	.001	.000	-.005
Independent Variable				
CSF		.257	.036	
CSU				
Interaction Term				
CSFTS			.357	
CSUTS				
CSFMS				
CSUMS				
R^2	.017	.083	.160	.017
ΔR^2	-	.066	.077	-
F change	2.560	8.772	13.783	2.560

4. Discussion

This research contributes to the entrepreneurial intention literature in several respects. First, we show that while both home and academy creativity support were significant predictors of entrepreneurial intentions, giving credence to the demand for contextual antecedents of entrepreneurship development (Drennan et al., 2005). Second, we find that technical and managerial skills have different moderating effects indicating the distinct roles of these competency domains in the development process to entrepreneurship.

The positive moderating effect of technical skills is consistent with resource-based views in which entrepreneurial ventures benefit from the introduction of a wider range of resources or competencies, such as those related to technology. The surprising inverse moderation of managerial skills may imply that, a too formal training might limit the kind of original thinking entrepreneur's innovation activity requires.

1. Implications for educational institutions Our results do have implications to educational institutions:
2. Developing creativity-supportive learning environments
3. Blending technical skills training with entrepreneurship learning and assimilation
4. The middle ground of management education and creative thinking cultivation
5. For families, findings reinforce the ongoing significance of nurturing home environments to promote entrepreneurial mindsets.

This study has several limitations. 2A Compartment-syndrome association study-results from the prospective cohort INTRODUCTION The cross-sectional design precludes causal inferences. The one-country sample restricts generalizability. Further studies are encouraged to use longitudinal investigations, cross-cultural differences and more moderators.

5. Conclusion

It is further increases our confidence that CSS may have high impact on UEI of university students in Uzbekistan. "Results reveal the role that both family and university milieu play in promoting an entrepreneurial orientation by encouraging creativity. Specifically, our findings reveal:

First, family creativity support has a significant effect as an antecedent of entrepreneurial development (β =. 253, p <. 01), and affirmed the impact of early experiences in artistic products, a cognitive basis for prospective entrepreneurship.

Second, the predictive value of university creativity support is even stronger (β =. 295, p <. 001), underscoring the importance of higher education institutions to translate creativity into entrepreneurial intentions via organized trainings and teaching methods.

Third, the moderating roles of technical skills show their moderating effect on the creativity-entrepreneurism relationship. Technical skills enable students to turn theoretical, creative concepts into business realities, the nexus between ideation and execution.

In light of these findings we recommend specific actionable steps:

For Educational Institutions:

Overhaul of the curriculum to include creativity training throughout all fields

1. .\par \- Technical skills development through hands-on projects and collaborations with industry.
   Streamlined management education aimed to preserve creative thinking.
   Faculty development efforts working on creativity supportive approaches to teaching
2. For Policy Makers:
   Funding programs for university-based entrepreneurship communities
   Family intervention programs that target the enhancement of creativity
   Collaboration between academia and industry for technical skills.
3. For Families:
   Creating creative spaces at home something that's directed rather than as a design afterthought.
   Promoting exploratory and problem solving behaviour
4. Promotion of entrepreneurial experimentation formative years
   The significance of creativity support systems in the development of the future entrepreneurs is highlighted by this study. If this is so, then the "entrepreneurial competence" needs an ecosystem of a very different kind to be able to thrive. In an era when the global economy rewards innovation and flexibility, our schools and families need to work together to create environments where creative sparks can ignite into entrepreneurial opportunities.

The process from creative idea to entrepreneurial start-up is intricate and multi-layered, but with the provision of focused support mechanisms and skills training we can enable students to bring innovative ideas into sustainable ways for entrepreneurship.

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