

# Engaging Literature Students in Entrepreneurship: Could use of art Help?

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**Abstract:** Entrepreneurship educators seek innovative teaching in entrepreneurship in order to engage youth populations in venturing by instilling them the entrepreneurial mindset whilst the contemporary progression of entrepreneurship education encompasses its embedded form to other discipline curricula. At a Greek central university, such courses are massively attended by foreign language and literature students during the last decade. In the present implementation, literature students were encouraged to either perform the usual business plan or to analyse a piece of art for their entrepreneurial courses' project. Pre/post measurements (N=64) for entrepreneurial self-efficacy, entrepreneurial success beliefs and entrepreneurial intention were conducted in order to compare the two groups. T-tests indicate that changes to the entrepreneurial constructs do not significantly vary between the groups. Through a binary logistic regression model, it was found that art-projects were chosen by those who rely more on personal abilities for the success of their initiatives. The article concludes that introducing art in entrepreneurial teaching conforms with some curricular contexts, like literature, affects students in a similar manner with the business plan, but also confronts different learning needs and enables critical thinking and personal autonomy on entrepreneurial meaning-making. The present study offers quantitative insights on how art-based entrepreneurship education could be employed in classrooms compounded with interactive lectures offering new perspectives for enriching the entrepreneurial teaching toolbox.

**Keywords:** entrepreneurship education, embedded entrepreneurship, art-based education, aesthetic experience, humanities, critical thinking

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## 1. Introduction

A current classification of different forms of entrepreneurship education pertains to its “about”, “for” and “through” forms (Kakouris and Liargovas 2021a). There is also the *embedded* (or *in*) form of entrepreneurship education when entrepreneurship is embedded or integrated in other disciplines across the curricula that aligns with its “through” form (Pittaway and Edwards 2012). Concerning the last two forms of entrepreneurship education (*for* and *through*), there are many studies which support that entrepreneurial courses increase the students' entrepreneurial intention (e.g. Wilson, Kickul and Marlino 2007), others that doubt it (Bae et al. 2014; Rideout and Gray 2013) and some with mixed results (e.g. Fayolle and Gailly 2015, Nabi et al. 2018). Concurrently, there are studies which suggest effective entrepreneurship education has to become more context-aware (Ramsgaard and Blenker 2021, Saukkonen and Kakouris 2022, Thomassen et al. 2020, Welter 2011). Hence, embedding entrepreneurship to other disciplines has to adapt to different contexts both in teaching content and methods without sufficient educational research on how these adaptations are possible and efficient. Thus, the present article focuses to entrepreneurial teaching to literature students and the wider field of humanities. Drawing upon a previous article for utilising art-based education in entrepreneurship (Kakouris and Liargovas 2021b) art-based projects were implemented in entrepreneurial teaching to literature students as alternatives to the common business plans. This is actually follow-up research of Kakouris and Liargovas (2021b) implementing teaching through the arts to humanities students in a central Greek university who attended an optional entrepreneurial course. The current research questions could be: (a) who prefer not to conduct a business plan? and (b) does teaching through the arts in entrepreneurship facilitate students from humanities and in what way? The adoption of art in relevant projects might be considered an entrepreneurial teaching innovation along with adaptation of entrepreneurial teaching methods to the specific discipline's context. The research approach is quantitative in order to map pre/post measurements of basic entrepreneurial constructs affected, or not, for the two groups of trainees, i.e. those who preferred the business plan project (hereafter BP) versus those who preferred the analysis of art projects (hereafter ART).

In the remaining of the article, first the theoretical framework with research hypotheses is developed and afterwards the research methodology is presented. The quantitative data are statistically analysed and the results are presented. In the last part of the article a discussion of the findings along with implications for educators, educational bodies and researchers is provided before the final conclusions. The present research is

explorative aiming at introducing learning innovations in the field that could be adopted further in the educational practice.

## **2. Theoretical framework and research hypotheses**

Entrepreneurship education has rapidly grown during the last twenty years with an emergency for systematic literature review to identify which aspects of it have been consistently developed and which others still need research and improvement (Kakouris and Georgiadis 2016, Nabi et al. 2017). As many scholars agree (e.g. Neck and Corbett 2018) the high pressure from educational policies and the high demand from worldwide populations to be educated entrepreneurially led to a dramatic expansion of entrepreneurship education without the temporal convenience for educators to engage in learning theories (Kakouris and Morselli 2020) and the pedagogical pretensions of this new type of education.

In modern teaching of entrepreneurship, it has been revealed that experiential learning induces a higher impact on trainees' self-efficacy and entrepreneurial intention compared to traditional teaching (Piperopoulos and Dimov 2015). Thus, many courses adopt experiential learning techniques usually conducted through the widespread synergistic business plan. Deviations from this can be considered as learning innovations. In a recent article, Kakouris and Liargovas (2021b) developed a theoretical framework for the adoption of art-based projects in entrepreneurial teaching. According to their study, utilisation of pieces of art could facilitate: (a) stimulation and entertainment, (b) comprehension or (c) critical reflection. Nonetheless, there is no empirical research to spot how these three possibilities might affect the trainees' entrepreneurial self-efficacy (McGee et al. 2009), entrepreneurial intention (e.g. Kakouris 2016), or other relevant constructs affected through the instruction. Excluding the first option (i.e. using art for stimulation and entertainment), art-based projects could be adopted as alternatives to business plan in encompassing experiential learning to custom teaching through interactive lectures. Kakouris and Liargovas (2021b) contend also that business plan projects are undertaken by those who seek for (task-specific) entrepreneurial knowledge and skills whilst art-based projects are undertaken by those who seek for personal pleasure and enjoyment along with deeper thinking and new ideas. Besides, the latter group seeks for competencies like analytical thinking, observation and objective reasoning. Consequently, apart from the demographic variables of gender and age, entrepreneurial intention and entrepreneurial self-efficacy of trainees could be determinants of their project choice. Thus, for the first research question articulated in the introduction (who would prefer ART project instead of BP) we may assume:

*H1a: Different project preference depends on gender and age.*

*H1b: Difference project preference depends on entrepreneurial intention.*

*H1c: Different project preference depends on entrepreneurial self-efficacy*

Likewise, entrepreneurial beliefs for the success/failure of new businesses are known to interweave with knowledge in mental schemes that affect entrepreneurial decision making (e.g. Laukkanen and Liñán 2022). Concerning entrepreneurial success beliefs, Kakouris (2018, 2019) has developed a framework called ASKO where in the individualistic dimension knowledge is dialectically opposed to ability and in the social dimension opportunity is dialectically opposed to support. In this framework four complementary entrepreneurial styles (or mindsets) emerge. Accordingly, the choice between ART and BP may be affected by these styles (beliefs) and types of ventures that are compatible with them. It is reasonable to presume that those who consider knowledge and opportunity as important success factors are more likely to choose the BP unlike those who consider ability and support as the most determinant factors. Accordingly, the following research hypotheses are articulated:

*H1d: Those who score more on ability and support success factors are more likely to choose the ART project instead of the BP one.*

*H1e: Those who intend to start businesses compatible with the ability-support mindset (style) are more likely to choose the ART project instead of the BP one.*

Furthermore, the instruction affects the previous constructs and pre/post measurements could identify the changes. The second research question in the introduction refers to the pre/post course change in certain entrepreneurial constructs (as entrepreneurial self-efficacy, intention, success beliefs). Based on the copious literature on business planning in entrepreneurship education, the following research hypothesis assumes that business plan influences more than the art-projects the increase in trainees' entrepreneurial intention and

self-efficacy. The opposite can be assumed for the shift towards the ability pole of the ASKO framework and compatible types of businesses.

*H2a: BP-projects are more likely to increase trainees' entrepreneurial self-efficacy and intention.*

*H2b: ART-based projects are more likely to induce a shift towards the ability pole of the ASKO representation and compatible types of intended ventures.*

### 3. Methodology

#### 3.1 Description of the course

An entrepreneurial optional course was offered online (due to the COVID-19 pandemic) to foreign language literature students at a central Greek university during the spring semester of 2020-2021. The course was based on interactive lectures supplemented by group projects that accounted for the 70% of the final grade (the rest 30% was derived from final written exams). Participants (around 130) were asked to deliberately form the groups (1-5 persons) and choose whether to perform a BP or to work with a piece of ART. The students declared that they were familiar with analysis of art which was also used in other courses of their curriculum. Hence, working with art pieces is considered an adaptation of teaching methods to the context of literature studies. Work with art for the specific course concerned connections and reflection on entrepreneurial concepts either for comprehension or for critical reflection. Each group initially articulated relevant questions to entrepreneurship, then it analysed a self-chosen piece of art whilst in the last part of the project a reflection on the questions was performed in order to derive meanings, conclusions and suggestions. All groups presented their projects by the end of the course. Pieces of art included movies, theatrical plays, paintings, poems, songs and others. A pre/post measurement was performed using the instrument of Table 1. Based on the exploitable responses, N = 64 participants responded in the survey (around 50% of the student population) who worked in groups for their projects: 19 groups of BP and 10 groups of ART.

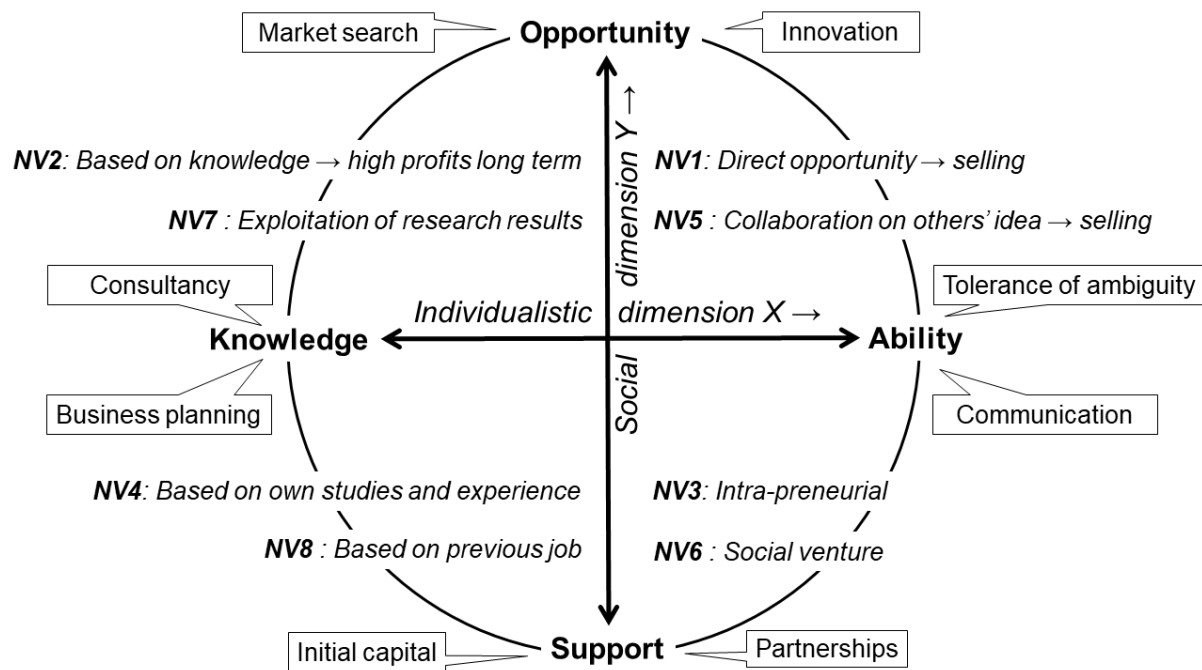
#### 3.2 The research instrument

To assess the impact of the course to trainees and to reveal differences between the groups of ART and BP, the instrument of Table 1 was used for pre/post measurement. The scales for entrepreneurial nascence and type of venture are agree/disagree Likert scales.

**Table 1:** Instruments' constructs

Constructs	Items	Scale	Description	Internal consistency	Reference
Demographics	9	Various			
ASKO Success Beliefs	8	Ranking 1 to 8 (ipsative)	Two orthogonal variables (X: A-K, Y: O-S) with 2 sub-variables (psy, mar)		Kakouris (2018, 2019)
Entrepreneurial self-efficacy	20	10-point (normative)	Five dimensions	alpha=.945	McGee et al. (2009)
Entrepreneurial nascence	6	5-point Likert (normative)	Six questions related to start-up	alpha=.816	Kakouris (2016)
Type of venture	8	7-point Likert (normative)	Eight questions for different venture types (NVi)	alpha=.716	

Entrepreneurial constructs included in the instrument encompassed: (a) the ASKO measurement for success beliefs (Bousmpou, Kakouris and Samathrakakis 2019, Kakouris, 2018, 2019), (b) entrepreneurial self-efficacy (McGee et al. 2009), (c) entrepreneurial nascence index (Kakouris 2016) and (d) types of ventures compatible with the ASKO domains (2 per domain). Except ASKO that uses an ipsative scale, all constructs exhibit acceptable internal consistency (Cronbach's alpha > .7). ASKO is based on the ranking (1 to 8) of eight entrepreneurial factors (i.e. innovation, market search, tolerance of ambiguity, communication, initial capital, partnerships, business planning, consultancy) which are grouped in the four dialectically opposed poles of opportunity, ability, support and knowledge as shown in Figure 1. The individualistic variable X = A-K is formed by the subtraction of knowledge scores from the ability ones and the social variable Y = O-S by the subtraction of support scores from the opportunity ones. In this way, a unique trace for each respondent is captured on the ASKO framework indicative for her/his underlying beliefs for the most crucial factors for the success of a new business. As shown in Figure 1, four domains (styles or mindsets) appear which offer the possibility for association with different types of ventures met in the literature of entrepreneurship. These different venture types, two per ASKO domain, are shown in Figure 1 (NV1-NV8).



**Figure 1:** ASKO success beliefs (Kakouris 2018, 2019) and Types of venture (NVi) used in the instrument of Table 1

Furthermore, entrepreneurial nascence is used as an index for entrepreneurial intention and it is measured through the Kakouris (2016) continuous scale which adopts six items with a total outcome that classifies the respondents as rejectors, undetermined, latent or nascent entrepreneurs complemented with self-employed and real entrepreneurs. McGee's (2009) scale for entrepreneurial self-efficacy (ESE) utilises 20 items grouped in five dimensions: i.e. search, plan, marshalling, implementing people and implementing financial.

### 3.3 Sample

At the beginning of the course the questionnaire of Table 1 was administered online to all attending students. After the completion of the course the same questionnaire was administered to those who completed their group project and were successful in the course. In this way N = 64 exploitable answers were received. From them, 38 trainees worked on BP and 26 on ART projects. The average age of the sample is 27.8 years old (S.D. = 11.8) and consists of 11 males and 53 females. 57 respondents were non-entrepreneurs, 5 were self-employed and 2 were entrepreneurs whilst 26 respondents come from business families. 37.5% has poor work experience whilst 30.6% were unemployed. No statistically significant dependence was found between these variables from gender whilst the male population that is slightly older than the female ( $t(82)=2.062$ ,  $p=.043$ ). Those who are currently employed are older ( $t(60)=2.445$ ,  $p=.017$ ). The sample exhausts the groups which successfully completed the projects, it is representative of the student population and thus, the data can be analysed further.

## 4. Results

### 4.1 Descriptive statistics and correlations

Concerning the measurement before the course, Spearman correlations between constructs of Table 1 and age indicate that the older marginally score more the knowledge end of Xasko ( $r_s=-.241$ ,  $p=.055$ ), feel more self-efficient towards planning (ESEplan) ( $r_s=.267$ ,  $p=.033$ ) and financial implementation (ESEfin) ( $r_s=.264$ ,  $p=.035$ ) whilst they marginally score less on NV5 ( $r_s=-.246$ ,  $p=.05$ ) (i.e. collaboration on others' idea). Likewise, correlations with NASC indicate that those with higher entrepreneurial intention emphasize more the opportunity end of Yasko ( $r=.300$ ,  $p=.016$ ), feel more self-efficient towards searching, planning and marshalling (coefficients are omitted), whilst they score less on NV3 ( $r_s=-.249$ ,  $p=.048$ ) (i.e. intrapreneurship). The previous dependencies are expected and well understood. Since no statistically significant dependence on gender and age was found for the dichotomous dependent variable ASSIGN (1=BP, 2=ART), which addresses the project preference, research hypothesis H1a is rejected.

Furthermore, to check hypotheses H1b-H1e a one-way MANOVA test for the variable ASSIGN was performed with all variables of Table 1 (except demographics). The result is significant:  $F(16,47) = 2.449$ ,  $p < .009$ ; Wilk's  $\Lambda = .545$ , partial  $\eta^2 = .455$  (small to medium effect size). Independent t-tests reveal dependencies of Yasko ( $t(62)=2.034$ ,  $p=.046$ ), financial self-efficacy ESEfin (marginal,  $t(62)=1.795$ ,  $p=.078$ ), entrepreneurial intention NASC (marginal,  $t(62)=1.976$ ,  $p=.053$ ), and venture types NV1 ( $t(62)=-2.849$ ,  $p=.006$ ), NV3 ( $t(62)=-2.118$ ,  $p=.038$ ), NV4 (marginal,  $t(62)=1.74$ ,  $p=.087$ ) and NV5 ( $t(62)=-2.116$ ,  $p=.038$ ). Accordingly, those who emphasized more the ASKO opportunity end selected the BP, similar to those with higher entrepreneurial intention or those with higher financial self-efficacy. Likewise, those who scored higher in NV4 (i.e. based on own studies and experience) selected the BP. Contrary, those who scored higher in either NV1 (i.e. direct opportunity → selling), NV3 (i.e. intrapreneurship) or NV5 (i.e. collaboration on others' idea) preferred the ART project. Therefore, H1b is marginally supported, H1c is supported only for the financial self-efficacy, H1d is partially supported for the ASKO support factors and H1e is supported suggesting confidence to abilities promotes ART-projects.

## 4.2 Logistic regression model

In order to infer the selection of project (variable ASSIGN) from predictive variables, a binary logistic regression model is adopted. After a series of tests with different variables of Table 1, the regression model encompassed the following predictors: Xasko, Yasko, ESEfin, NV1, NV3, and NV4. Overall, the one-way MANOVA test for this model is statistically significant:  $F(6,57) = 4.341$ ,  $p < .001$ ; Wilk's  $\Lambda = .686$ , partial  $\eta^2 = .314$  (small effect size). The logistic regression model is statistically significant ( $\chi^2(6)=25.735$ ,  $p<.001$ ), Hosmer and Lemeshow's goodness of fit test  $\chi^2(8)=1.993$ ,  $p=.981>.05$ , the model explains 44.7% of the variance (Nagelkerke  $R^2=.447$ ) and correctly classified 71.9% of cases.

**Table 2:** Binary logistic regression model coefficients for ASSIGN (1=BP, 2=ART)

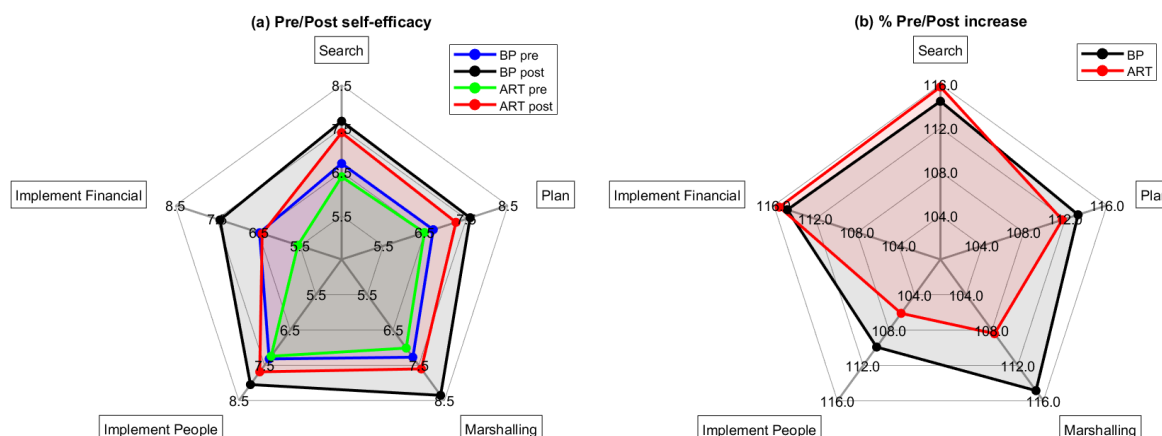
Predictor	Beta	Standard Error	Wald	Sig.	Exp(B)	Lower 95% C.I.	Upper 95% C.I.
Constant	1.842	1.855	.987	$p<.321$	6.311		
Xasko	.197*	.093	4.519	$p<.034$	1.218	1.016	1.461
Yasko	-.208*	.083	6.302	$p<.012$	.812	.691	.955
ESEfin	-.342 <sup>a</sup>	.178	3.682	$p<.055$	.710	.501	1.007
NV1 (direct opportunity → selling)	.451*	.225	4.014	$p<.045$	1.570	1.010	2.439
NV3 (intrapreneurship)	.429 <sup>a</sup>	.254	2.861	$p<.091$	1.536	.934	2.525
NV4 (based on own studies and experience)	-.447 <sup>a</sup>	.256	3.047	$p<.081$	.640	.387	1.056
df=1, <sup>a</sup> $p<.1$ , * $p<.05$							

From the beta coefficients of Table 2 robust slopes are derived, positive for Xasko and negative for Yasko strengthening the validity of H1d. NV1 also exhibits a positive robust slope and along with NV3 support H2e regarding the ability end of the ASKO representation (Figure 1). The negative slope of NV4 indicates that those who prefer BP-projects intent to start businesses without great expectations for growth. As expected, financial self-efficacy exhibits negative slope (i.e. preference to BP). Conclusively, ART-projects were chosen by trainees who consider entrepreneurial abilities as more crucial for business success (contrasted to entrepreneurial knowledge).

## 4.3 Pre/post analysis

Beyond the explanation of the different choices in projects, it is interesting to examine how the course affects the entrepreneurial constructs of Table 1. The course is partly based on projects and partly on lectures, thus it influences both types of groups accordingly. Concerning entrepreneurial self-efficacy, the pre/post measurement is shown in Figure 2. ESE is magnified for both groups in a similar manner in all dimensions. Figure 2b shows the percentage change in each dimension for both groups with a prevalence of BP in searching, planning and marshalling and a very small precedence of ART in searching and implementing financial. Nonetheless, the results are just indicative and not statistically significant. Concerning entrepreneurial intention, paired t-tests for the two groups indicate significant increase: (a)  $\Delta M=1.22$  (27.7% increase),  $S.D.=1.66$ ,  $t(37)=-4.522$ ,  $p<.001$  for BP and (b)  $\Delta M=.69$  (19.6% increase),  $S.D.=1.5$ ,  $t(25)=-2.343$ ,  $p<.027$ , but the difference between the two groups is not statistically significant ( $t(52)=1.554$ ,  $p<.126$ ). Thus, we conclude that changes in ESE and NASC are not affected by the project-choice and thus, H2a is rejected.

Similarly, changes between groups for all constructs were found non-significant except NV5 (Mann-Whitney  $U=463.5$ ,  $p<.037$ ) where BP groups are more influenced towards collaboration on others' idea. Under these results, research hypothesis H2b is rejected.



**Figure 2:** Radar plots for pre/post entrepreneurial self-efficacy measurement (McGee et al. 2009) for the two groups (BP, ART)

Furthermore, paired t-tests for the constructs of Table 1 indicate that through overall data: (a) the chance in ASKO representation is non-significant, (b) there is an increase in entrepreneurial intention ( $\Delta M=1$ ,  $S.D.=1.61$ ,  $t(63)=-4.995$ ,  $p<.001$ ), (c) all self-efficacy dimensions are significantly magnified ( $p<.001$ ), as shown in Figure 2, and (d) there is significant increase for NV1 (i.e. direct opportunity  $\rightarrow$  selling) (Wilcoxon  $Z=-3.029$ ,  $p<.002$ ) and NV5 (i.e. collaboration on others' idea) (Wilcoxon  $Z=-1.966$ ,  $p<.049$ ). Thus, we conclude that the course does affect entrepreneurial constructs but without significant differences between the groups of BP and ART.

## 5. Discussion

The introduction of art-based projects in entrepreneurship education, instead of business plans, is a learning innovation in entrepreneurial teaching. It is also an adaptation to the context of humanities (Ramsgaard and Blenker 2021, Thomassen et al. 2020) and specifically literature curricula where students deal with analysis of art. The widely attended course by literature students described in this work offered the possibility to employ art-based projects as alternatives to business plans for the experiential learning part of the instruction. Remarkably, the course affected similarly the trainees independently from the chosen project type. An overall increase in entrepreneurial self-efficacy and intention was found corroborating previous findings of Wilson, Kickul and Marlino (2007) or Piperopoulos and Dimov (2015) for the impact of entrepreneurial courses. Since no statistically significant difference was found between BP and ART groups regarding the impact of the course (i.e. pre/post change), it could be construed that lectures appear to have dominated the outcome. A future replication pursuing a pure experiential learning pedagogy (i.e. release of lectures) is needed to determine whether art-based projects affect differently than business plans the trainees.

As expected, the art-based projects were chosen by those who would rely on personal abilities (in contrast to knowledge) for the success of their start-ups. Conversely, business plans were chosen by those who would rely on personal knowledge. This result is in agreement with Kakouris and Liargovas (2021b) expectations for the use of art in entrepreneurial teaching. It has to be noted that in the case of business plans, where students seek more for business knowledge acquisition and task-specific skills, the support factor of ASKO is present indicating that the scheduled ventures are modest (e.g. small shops, translation facilities, tutorial lessons, etc.) featured by the knowledge/support mindset of Figure 1 which is different than the 'ambitious' knowledge/opportunity one often met in technological start-ups. This finding is plausible given that literature students are traditionally self-employed engaging in these kinds of services.

The present study focused on the cognitive effects of instruction since emergent conceptualisations from courses are not unique and also depend on the discipline (e.g. Agapitou et al. 2010). Future replication should also encompass sentiments that might be different between the two types of projects. In this way a more complete understanding for the potential of art-based entrepreneurial teaching will be achieved. But even in the cognitive domain, art is known to facilitate reflection which could occasionally become critical reflection.

Thus, it enables dealing with the ‘why’ questions of entrepreneurship (e.g. Williams Middleton and Donnellon 2014) and conforms with the rising ‘through’ mode of entrepreneurship education (Kakouris and Liargovas 2021a) which underpins embedded entrepreneurship. In contrast, business plans conform with the ‘for’ mode of entrepreneurship education and have been largely used in the establishment of entrepreneurial courses long ago (e.g. Kakouris 2008). The present work revealed that art-based projects compounded with interactive lectures affect the students similarly with business plans introducing new ways to confront learning needs and render entrepreneurship education more inclusive to contexts and audiences without loss of its essentials. Implications pertain to educators who seek to enrich their toolbox towards teaching entrepreneurship and to educational agencies which seek to innovate in fostering the entrepreneurial mindset to their students. The latter might encourage educators to adopt art in teaching and create conducive learning environments that inspire trainees. Theoretical implications refer to new tools for the development of sociocultural learning environments (e.g. Morselli and Kakouris 2022) supportive to students’ zone of proximal development.

Finally, in the majority of previous ASKO measurements (e.g. Bousmpou et al. 2019, Kakouris 2018) the domain of knowledge/opportunity (Figure 1) appears overpopulated. This result reflects a quite ‘stereotypical’ consideration of modern entrepreneurship, especially from the youth, underestimating the role of personal abilities in the success of ventures. A possible ‘shift’ towards the ability pole in educational settings needs active teaching methods with art included as a possibility amongst them.

A limitation of the present study pertains to art-based teaching in a single audience and national context. The sample (N=64) may exhaust the specific course and audience; however, it needs future replications and extensions to other audiences and national contexts from which consistent comparisons could be possible (e.g. Fleck et al. 2021).

## **6. Conclusion**

The present quantitative research focused on pre/post tests of literature students who attended an optional entrepreneurial course. The students were asked to choose between the business plan and analysis of art pieces for their projects. This is a first attempt of this kind and the main finding is that both groups (BP and ART) exhibit a similar change in entrepreneurial constructs such as success beliefs, entrepreneurial self-efficacy and intention. This fact legitimates art-based teaching amongst the instructional methods of entrepreneurship education without certain losses in content. Art-based projects were chosen from students who rely more on own abilities for the success of their initiatives. Hence, adoption of art in entrepreneurial teaching provides a learning innovation capable of meeting different learning needs, facilitating reflective practices, enabling critical thinking and personal autonomy on entrepreneurial meaning-making, along with adapting to contexts (here to the field of literature/humanities). Thus, it appears helpful towards horizontally embedding entrepreneurship in tertiary education and promising for significant innovations in entrepreneurship education. The present results need future replications in other educational settings and cultures in order to develop more effective and more inclusive methods for teaching entrepreneurship.

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## **References**

- Agapitou, C., Tampouri, S., Bouchoris, P., Georgopoulos, N., and Kakouris, A. (2010), “Exploring underlying beliefs on youth entrepreneurship of higher education graduates in Greece”, Paper read at *5<sup>th</sup> European Conference on Innovation and Entrepreneurship*, edited by A. Kakouris, Academic Conferences Limited, Reading, UK, pp 10-17.
- Bae, T.J., Qian, S., Miao, C. and Fiet, J.O. (2014), “The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review”, *Entrepreneurship Theory and Practice*, Vol 38 No 2, pp 217-254.
- Bousmpou, D., Kakouris, A., and Samathrakakis, V. (2019) “Connecting ASKO beliefs and entrepreneurial self-efficacy with entrepreneurial intention”, Paper read at *14<sup>th</sup> European Conference on Innovation and Entrepreneurship*, edited by P. Liargovas and A. Kakouris, Academic Conferences Limited., Reading, UK, pp 1245-1249.
- Fayolle, A. and Gailly, B. (2015), “The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence”, *Journal of Small Business Management*, Vol 53 No 1, pp 75-93.
- Fleck, E., Kakouris, A. and Winkel, D. (2021), “Cultural traits of entrepreneurship education: a cross-national study”, *Journal of Entrepreneurship in Emerging Economies*. Vol 13 No 5, pp 838-863. DOI: 10.1108/JEEE-02-2020-0030

- Kakouris, A. (2008), "On initial implementations of innovation and entrepreneurship courses: a case study for undergraduates at the University of Athens", Paper read at 3<sup>rd</sup> European Conference on Entrepreneurship and Innovation, edited by N. Marriott, Academic Conferences Limited., Reading, UK.
- Kakouris, A. (2016), "Exploring entrepreneurial conceptions, beliefs and intentions of Greek graduates", *International Journal of Entrepreneurial Behavior & Research*, Vol 22, No 1, pp 109–132.
- Kakouris, A. (2018) "The ASKO dialectical framework for inter-comparisons between entrepreneurial courses: Empirical results from applications", *Entrepreneurship Education*, Vol 1, No 1/4, pp 41-60.
- Kakouris, A. (2019) "The ASKO dialectical framework for entrepreneurial courses construction: theoretical foundation", *Entrepreneurship Education*, Vol 2, No 1/2, pp 51-69.
- Kakouris, A. and Georgiadis, P. (2016), "Analysing entrepreneurship education: a bibliometric survey pattern", *Journal of Global Entrepreneurship Research*, Vol 6, No 1, pp 6. DOI: 10.1186/s40497-016-0046-y
- Kakouris, A. and Liargovas, P. (2021a), "On the about/for/through framework of entrepreneurship education: a critical analysis", *Entrepreneurship Education and Pedagogy*, Vol 4 No 3, pp 396-421. DOI: 10.1177/2515127420916740
- Kakouris, A. and Liargovas, P. (2021b), "Introducing art in entrepreneurial teaching: A theoretical framework", Paper read at 16<sup>th</sup> European Conference on Innovation and Entrepreneurship, edited by F. Matos, M.F. Ferreira, A. Rosa and I. Salavisa, Academic Conferences Limited, Reading, UK, pp 468-475.
- Kakouris, A. and Morselli, D. (2020), "Addressing the pre/post-university pedagogy of entrepreneurship coherent with learning theories", in Sawang, S. (Ed.) *Entrepreneurship Education: A lifelong learning approach*, Springer, pp 35-58, DOI: 10.1007/978-3-030-48802-4\_3
- Laukkanen, M. and Liñán, F. (2022), "Uncovering entrepreneurial belief systems through cognitive causal mapping", in A. Caputo, M.M. Pellegrini, M. Dabić and L.P. Dana (Eds.) *The International Dimension of Entrepreneurial Decision-Making*, Springer, pp. 37-63.
- McGee, J.E., Peterson, M., Mueller, S.L., and Sequeira, J.M. (2009), "Entrepreneurial self-efficacy: refining the measure", *Entrepreneurship Theory and Practice*, Vol 33 No 4, pp 965-988.
- Morselli, D. and Kakouris, A. (2022), "Teaching entrepreneurship to undergraduates: a Vygotskian perspective", in G.J. Larios-Hernandez, A. Walmsley and I. Lopez-Castro (Eds.) *Theorising Undergraduate Entrepreneurship Education*, Palgrave, pp 49-68.
- Nabi, G., Liñán, F., Fayolle, A., Krueger, N. and Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education*, Vol 16 No 2, pp 277-299.
- Nabi, G., Walmsley, A., Liñán, F., Akhtar, I., and Neame, C. (2018), "Does entrepreneurship education in the first year of higher education develop entrepreneurial intentions? The role of learning and inspiration", *Studies in Higher Education*, Vol 43 No 3, pp 452-467.
- Neck, H.M., and Corbett, A.C. (2018), "The scholarship of teaching and learning entrepreneurship", *Entrepreneurship Education and Pedagogy*, Vol 1 No 1, pp 8-41.
- Piperopoulos, P. and Dimov, D. (2015) "Burst bubbles or build steam? Entrepreneurship education, entrepreneurial self-efficacy, and entrepreneurial intentions", *Journal of Small Business Management*, Vol 53 No 4, pp 970-985.
- Pittaway, L., and Edwards, C. (2012), "Assessment: examining practice in entrepreneurship education", *Education + Training*, Vol 54 No 8-9, pp 778-800.
- Ramsgaard, M.B., and Blenker, P. (2021) "Reinterpreting a signature pedagogy for entrepreneurship education", *Journal of Small Business and Enterprise Development*, Vol 29 No 2, pp 182-202.
- Rideout, E.C., and Gray, D.O. (2013), "Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education", *Journal of Small Business Management*, Vol 51 No 3, pp 329-351.
- Saukkonen J., and Kakouris, A. (2022), "Context-aware entrepreneurship education: exploring the educators perspective", Paper to be read at 17<sup>th</sup> European Conference on Innovation and Entrepreneurship, Academic Conferences Limited, Reading, UK, forthcoming, this volume.
- Thomassen, M.L., Williams Middleton, K., Ramsgaard, M.B., Neergaard, H., and Warren, L. (2020) "Conceptualizing context in entrepreneurship education: a literature review", *International Journal of Entrepreneurial Behavior & Research*, Vol 26 No 5, pp 863-886.
- Welter, F. (2011) "Contextualizing entrepreneurship - conceptual challenges and ways forward", *Entrepreneurship Theory and Practice*, Vol 35 No 1, pp 165-184.
- Williams Middleton, K. and Donnellon, A. (2014), "Personalizing entrepreneurial learning: A pedagogy for facilitating the know why", *Entrepreneurship Research Journal*, Vol 4 No 2, pp 167-204.
- Wilson, F., Kickul, J., and Marlino, D. (2007), "Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education", *Entrepreneurship Theory and Practice*, Vol 31 No 3, pp 387-406.