ENTRANCE: Enhancing the ENTRepreneurial mindset of non-business Academics in Europe

dr. Aušra Rūtelionė, Eglė Vaičiukynaitė –

Kaunas University of Technology

Kaunas, Lithuania, 2021

The project has been funded with support from the European Commission. The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

PROJECT NUMBER: 2020-1-CY01-KA203-065982

Co-funded by the Erasmus+ Programme of the European Union

Contents

NTRANCE

Co-funded by the
Erasmus+ Programme
of the European Union

Project Partners

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

1. Introduction

Non-business academics from universities are carrying on the most recent research and using the latest information in their lectures. Thus they could inspire students with the most new ideas that could be commercialized. Meanwhile, the researchers who participated in the research (Lithuanian Economics Ministry) have identified the lack of financial resources for activities as the main obstacles in the field of creation of new business ideas well as R&D cooperation with business. In case of European funding for research commercialization, researchers have indicated that the lack of time for administration procedures and help from universities' administration.

In this report we are presenting the analysis from the recent research articles related with the non business academics views about incorporating entrepreneurial practices into STEM education as well as about pre-accelerator and entrepreneurship programs held in Lithuania. Also the results of the survey (N-18) and 2 interviews are reported.

2. Background characteristics of Lithuania

Lithuania is located in Northern Europe, near the Baltic sea. The country is the part of the well-known Baltic States that consists of Lithuania, Latvia and Estonia. The neighbors are Latvia, Belarus, Poland and Russia. The area of the country is 65 300 km. The capital is Vilnius. Population is 2979000 eur. Most of population live in towns. The main language if Lithuanian and at least 85 % of population talk in Lithuanian. Lithuanian is a Baltic language. Lithuanian is one of two living Baltic languages, along with Latvian, and they constitute the eastern branch of Baltic languages family. Among Indo-European languages, Lithuanian is conservative in some aspects of its grammar and phonology, retaining archaic features otherwise found only in ancient languages such as Sanskrit or Ancient Greek.

2.1 Emphasis to entrepreneurial activity

Lithuania is a business friendly country not only for young entrepreneurs and skilled professionals but is also trusted by such high caliber companies. This country, full of young people, ambition, energy, skill, and talent, is equipped with Europe's fastest internet connection and rapidly growing startup ecosystem. Lithuania in 11th place globally in the World Bank's Doing Business Report in 2020 that indicates the ease of starting a business.

Today, the Lithuanian startup ecosystem, which has been demonstrating rapid development rates for some time and can boast of successful results. According to the "Startup Lithuania" (the startup ecosystem development unit of "Enterprise Lithuania") database, the number of innovative businesses registered in Lithuania already reached 1021 in 2020. The number of Lithuanian startups is similar to that in Estonia (1017) but is strongly ahead of Latvia (352).

According "Startup Lithuania" the growth in the number of Lithuanian startups in the database was due to several reasons. The creation of startups has undoubtedly been driven by the emergence

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

of new ecosystem players such as accelerators or venture capital funds and initiatives to improve the business environment approved by the Government, such as more attractive option taxation conditions. All of these and many other initiatives create a favourable environment for starting and developing startups. However, it is important to emphasize that this number was achieved in the database also due to constant cooperation with all participants of the Lithuanian ecosystem: science and technology parks, accelerators, venture capital funds and other state institutions that shared their information about the startups in Lithuania, therefore, the startups were registered in the "Startup Lithuania" database. More about ecosystem for startups see more here: https://www.startuplithuania.com/ecosystem/#ecosystem-overview

It is noticeable that the rapidly expanding ecosystem and its participants are increasingly catching the eye of investors. According to the analysis of "Dealroom.co" performed in 2019, since 2013, foreign and local investors have already invested more than €503 million in Lithuanian startups. It can be seen that Lithuania is dominated by startups of business management systems (16%), financial technologies (13%) and health (8%), as well as logistics or mobility (6%) and game industry companies (5%). According to the geographical location, more than half of the startups operate in Vilnius (60%), the second largest startup city in terms of their number is Kaunas (38%), in the third position Klaipėda (2.4%).

According to the information in the database, in Lithuania startups are mainly developing solutions for businesses (B2B), there are 542 of them and there are 391 startups that are developing products or services to the public (B2C). In addition, there are 39 startups in the database that are currently developing businesses using the "Startup Visa Lithuania" program for attracting foreign businesses to Lithuania.

In 2019, Lithuanian startups attracted investments worth over €170 million from local and foreign investors, the first unicorn appeared, which became the second-hand clothing sales platform "Vinted". According to the information provided by *unicorns.lt*, Lithuanian startups with legal status paid €87 million for taxes in 2019 and the average salary in startups reached €2,400.

2.2 Emphasis to Entrepreneurial Education

Courses that offered constantly also for non-business students at Lithuanian universities are:

- **Kaunas University of Technology** (KTU) offers specialised Technology Entrepreneurship module applying Silicon Valley teaching methodologies, practically demonstrating the transformation of research and ideas into real-world businesses. It has been started to deliver from 2013. During the course, students work in teams, generate ideas, create the most suitable business models for their implementation, calculated investments and costs, and plan promotional materials. All ideas were evaluated in terms of several aspects: what problem the proposed product or service solves, whether the idea has a hard-to-copy

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

element, what channels will reach the target segment, how much investment the investment would take, when it would pay off and start generating profits.Ideas are presented in jury that cosnists of experts and business representatives. Then they participate in contest "Silicon Valley Innovation Challenge" and have been succeed several times. See more:

- https://en.ktu.edu/news/ktu-students-are-developing-dissolving-lenses-for-glaucoma-treatment/
- https://en.ktu.edu/news/ktu-students-idea-for-psoriasis-treatment-recognised-as-the-3rd-best-in-silicon-valley-innovation-challenge/
- https://fmed.ktu.edu/news/ktu-students-designed-a-belt-which-can-monitor-the-fetus-during-pregnancy/

- KTU is also offering BA+ and MA+ competences models for students where students could select competences and modules from other study programmes, i.e technological + social or IT + arts, etc. It has been started started from 2018. For PhD students KTU offers the module "Innovation and the global knowledge economy". During the module PhD students develop competence in R&D and innovation activities by systematically assessing the context of the global knowledge economy and modeling national, industrial and organizational impact mechanisms. The module is offered for all KTU PhD students.

- **Lithuanian Health Sciences University** started to offer Biomedical innovation and entrepreneurship module from 2020. In the subject students are encouraged to look for solutions to improve patient diagnostics, treatment methods, processes and experiences, to look for new approaches and innovative solutions. In this study module, students gain knowledge and skills that will allow them to go all the way from recognizing and creating an innovative idea relevant to the medical sector to presenting it to investors. More: https://www.facebook.com/watch/?ref=external&v=3023905110994232

- Vytautas Magnus University Centre for Enterprise Practices offers entrepreneurship academy for students. During the course students learn how to solve social, culturial or economic problems, create and carry out innovative buisness and social ideas. The theoretical and practical knowledge is connected during this program, there are a lot of projective and expierience based learning. This program also teaches to understand entrepreneurship as an ability to bravely and actively realize their own ideas in the market. More are here: https://vpc.vdu.lt/en/for-students/related-studies/

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

3. Collection of best practices from secondary research

3.1 Scientific articles

Scientific article 1

Title: *STEM leaders and teachers views of integrating entrepreneurial practices into STEM education in high school in the United Arab Emirates*

Year of publication: 2020

Authors: Eltanahy, M., Forawi, S., & Mansour, N.

Journal: *Entrepreneurship Education*

Aim of the research: exploratory mixed-method was conducted to collect both qualitative and quantitative data aiming to explore educational leaders' views about incorporating entrepreneurial practices into STEM education in UAE, and to explain effective practices within STEM classes to enhance this incorporation in light of STEM teachers' perceptions.

Main results:

154 eligible responses were received from participating universities teachers (interview) and 39 science, technology and mathematics teachers from universities have participated in survey

The **main practices** used in classes mentioned are two types: project-based problem solving (PjBPS) practices and value creation practices:

	PjBPS practices
1	Collaborate in a STEM team
2	Students apply technology strategically
3	Integrate STEM disciplines to design a model
4	Discuss, argue and present their projects
5	Students plan for their inquiry
6	Students take responsibility of their learning
7	Reflect on their learning process
8	Evaluate their projects through a design rubric
9	Use feedback to improve their products
10	Identify the problem and pose a question
11	Engaged in logical reasoning
	Value creation practices
12	STEM outcomes are used to create value or gain profits
13	Students calculate the costs of their project designs
14	Study the market to know if their products are needed

Source: Eltanahy, M., Forawi, S., & Mansour, N. (2020). STEM leaders and teachers views of integrating entrepreneurial practices into STEM education in high school in the United Arab Emirates. Entrepreneurship Education, 3, 133-149.

Respondents of the study argued to infuse **entrepreneurial pedagogies** through a competency-based approach in an experiential learning environment in STEM education. UAE universities' teachers, this method integrates entrepreneurial education with existing STEM course

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

curriculum because it allows for incorporating value creation practices along with a project-based problem solving practices to target competencies focuses mainly on the development of learning skills, content knowledge and students' attitudes to entrepreneurship in high school. These entrepreneurial pedagogies are essential to enhance students' cognitive **skills** such as problem solving, critical thinking, planning abilities, creativity and decisiveness" in addition to the development of some non-cognitive **competencies** such as perseverance, self-confidence, and persuasiveness through STEM practices.

Scientific article 2

Title: *Entrepreneurship education through successful entrepreneurial models in higher education institutions.*

Year of publication: 2020

Authors: Boldureanu, G., Ionescu, A. M., Bercu, A. M., Bedrule-Grigoruță, M. V., & Boldureanu, D.

Journal: *Administrative sciences*

Aim of the research: This study has carried out an exploratory single case study on an entrepreneurial programme in a multidisciplinary environment, that is, the Contamination Lab of Turin (CLabTo), aimed at increasing the importance of entrepreneurship education in a multidisciplinary environment and the use of practical-oriented teaching models. Participants have participated the challenge-based entrepreneurship courses.

Main results: Pre- and post-surveys were developed to assess the students' (N-62) perceptions of their skills or multidisciplinary competencies on entry to and exit from the course. The questions on entrepreneurial skills and EI were based on the GUESSS project survey. As far as entrepreneurial intention (EI) is concerned, it has been decided to measure EI 5 years after the completion of the students' studies. These significant results have been excluded:

- ***Multidisciplinarity of the team and teaching***. The multidisciplinary team approach is a critical element of the programme (see the winning teams' composition below). The results have shown that students appreciated the lessons made by various professors and experts from different fields of study. This may indicate that to teach in a multidisciplinary environment it is necessary to involve professors from different fields of study. Also it has been indicated by students, that teachers acted s "*as tutors and facilitators*", and students have been active participants in the course.

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

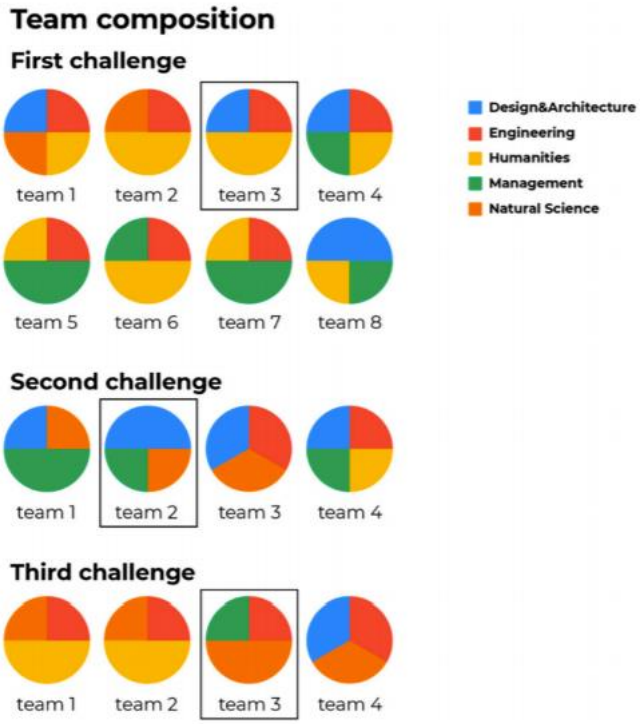


Figure 2. Team composition and winning teams.

Source: Fiore, E., Sansone, G., & Paolucci, E. (2019). Entrepreneurship education in a multidisciplinary environment: evidence from an entrepreneurship programme held in Turin. Administrative Sciences, 9(1), 28.

- **Entrepreneurial pedagogical approaches.** Courses have been challenge-based entrepreneurship courses those included design methods, cognitive processes, techniques, and sensibility for solving problems as well as brainstorming and prototyping, and surveys and semi-structured interviews involving potential users to gain greater awareness of their needs and expectations. The programme has been more practical than theoretical.

  Professors and students have been at the same level during the lessons and that encouraged students to play an active role by asking questions and expressing their doubts and ideas. This activity reinforces the creation of a neutral and safe environment, without judgments or marks, in which professors are willing to listen to students and also to learn from them. *The learning-by-doing* approach, in which students, in addition to theory, also have to do teamwork activities on a real case, has also emphasized. The evaluation of the students' work has been based on their pitch instead of a written or oral examination.

- *The structure of the entrepreneurship programme. O*wn courses and material instead of drawing on those of the two involved universities have been created. The classes were tended to focus on content for an hour or two. Research results also shown that a better management of time, an extension of the length of the programme and the need to increase the presence of tutors are all among the aspects that need to be improved. The content and duration are presented below:

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Table 6. Scheme of the type 1, 2 and 3 courses revised in the duration.

	Type 1	Type 2	Type 3
Name	**CLab Workshop**	**CLab Sprint**	**CLab Master**
Duration	1 week–3 weeks	3 weeks–8 weeks	2–6+ months
Goal	Idea generation	Prototyping	Start-up creation

Source: Fiore, E., Sansone, G., & Paolucci, E. (2019). Entrepreneurship education in a multidisciplinary environment: evidence from an entrepreneurship programme held in Turin. Administrative Sciences, 9(1), 28.

- **Entrepreneurial skills.** Researchers have excluded these primary skills that have to be developed.

Table 7. Six skills on which the students were asked to give a self-assessment.

Entrepreneurial Skills					
Creating new products and services	Managing innovation within a firm	Commercialising a new idea or development	Building up a professional network	Identifying new business opportunities	Successfully managing a business

Source: Fiore, E., Sansone, G., & Paolucci, E. (2019). Entrepreneurship education in a multidisciplinary environment: evidence from an entrepreneurship programme held in Turin. Administrative Sciences, 9(1), 28.

Researchers have indicated that the first three skills are related with innovation and the development of new ideas. The fourth is related to professional network development and the last two to business vision and strategies.

3.2 National & International programmes

a. Training programme "Ideas to Innovation (i2i)

The programme has been designed for ambitious individuals looking to unlock their entrepreneurial and creative potential. This programme encourages research master and Phd students to consider the social and economic relevance of their research" (Cranfield.ac.uk, 2021). i2i programme enables participants to explore entrepreneurship as an option for company innovation and new venture creation, gain basic business understanding; develop knowledge of how to commercialise their research, and develop a network of likeminded researchers facing similar challenges. The program entails four-day training and is practical and based on experiential learning, which enables participants to uncover their entrepreneurial spirit.

The selected programme emphasize the importance of the way to deliver a training content effectively. The organizers indicate that the facilitator role and digital communication and collaboration tools are essential. i2i program was developed by Cambridge University and MIT and had a very successful history. It has attracted enormous numbers of Ph.D. students since its launch in the early 2000s. In 2020, the first digital version of i2i was launched in Lithuania by Kaunas

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

University of technology, KEEN project, Agency for Science, Innovation and Technology (MITA), and Business Angel Network.

- **Team work & networking capabilities.** The whole programme emphasizes teamwork. Moreover, the program enables participants to make a self-assessment and have a great self-understanding of their strengths, which leads to more effective communication and collaboration.
- **Fasilitators.** The programme entails facilitators. Facilitation means helping a team contain discomfort with differences so as to accomplish tasks all consider important and none can do alone (Ihasz, Vyakarnam, 2021). *Indeed, facilitators' role in the* programme *is essential because it ensures an interesting and engaging training format.* Moreover, team of facilitators were international and has supported communication and discussion between Phd Students through various digital tools (e.g., mural.co, break rooms).
- **Digital tools.** Digital tools include was used for the content delivery and for a collaborative work. For instance, mural.co is a collaborative platform and used for specific activities (e.g., financial plan). A digital tool of business model canvas was used for collaborative tasks.

b. Business pre-acceleration program EVOLUT 4.0

EVOLUT 4.0 program is designed for early stage startups to develop an innovative product, increase sales and prepare for investment phase. The knowledge and experience gained through the pre-acceleration program help to accelerate business growth. The program has been created in Kaunas Technology and Science park (Lithuania) in 2018 and has been ranked as the best business solution for enterpreneurship and new product development by The International Association of Science Parks and Areas of Innovations (IASP).

Applicants eligible for the program are companies / teams not operating for more than 2 years after establishment and developing a product / service based on advanced technology (business area not important).

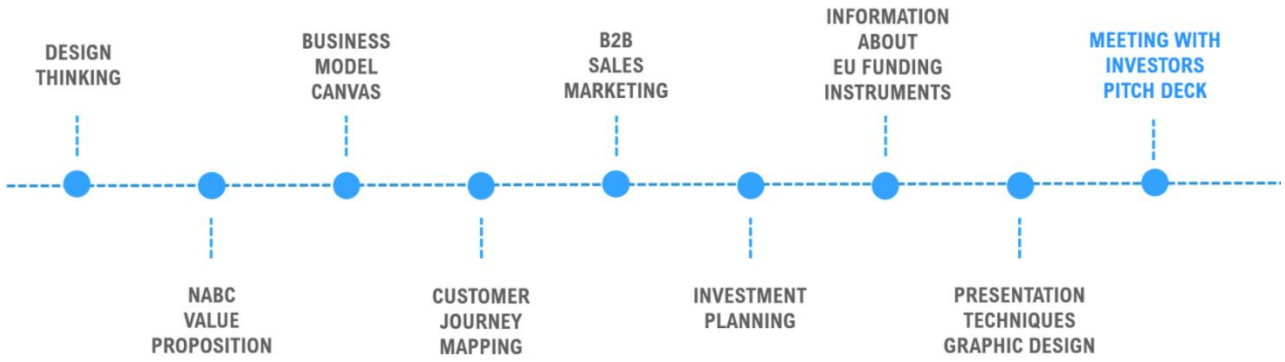
The program consists of a methodology developed by combining worldwide recognized and widely used business value, customer profile refinement, development strategy, sales activation and other business process enhancement tools**:** Business Model Canvas (CANVAS**),** Value Proposition Under NABC**,** Technology Development Plan, Design thinking *and* others.

The practical training cycle consists of 9 practical training sessions which are carried out in the period of two months. They analyze various aspects of business development, including a minimum viable product (*MVP*) proposition and financial strategy.

At the end of the training cycle, members of startup teams define their customer profile, the market in which they will operate and their *main* competitors. Teams also prepare Pitch Desk presentations and future steps to attract investments: venture capital, business angel funds,

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

or other financing instruments. Startups are supported by business mentors who provide valuable insights and experience. Promising teams already entering the market are accompanied by innovation experts working with both major Lithuanian businesses and university researchers taking the first steps in inventions commercialization. The sequence of training programme is below:



The parts related with design thinking, business model canvas, customer journey mapping could be used in Entrance program as well. Nevertheless, the program is created for B2B market so it is important to evaluate this in Entrance program as well, i.e. which market we will approach.

The program is created as *F2F entrepreneurship* pre-acceleration program. The pandemic has changed the format recently so the Kaunas Technology and Science park had experience while running the virtual one. Basing on comments of the park director Paulius Nezabitauskas, it has been the big challenge but now he is thinking about blended mode of the program after the pandemic. The virtual mode has expand the geography of participants/teams.

The main advantage of the program is that teams do not need to start with document analysis, but they should meet consumers, asking what they need, especially if the product is being developed is for the B2B market. If not working details are changed, teams can find a product-market fit with a modified product development model and EVOLUT 4.0 helps you do that. Basing on evaluations of teams, the program lecturers competencies are very high, all of them are professionals. Another significant aspect of the program in product development is meetings and first presentations to investors. As the business sees the potential of such products, investors' advice and ways to enter the market share are extremely beneficial to the startup team.

4. Primary research

4.1 Summary of findings from the survey for non-business academics

Eighteen non-business academics have participated in the online survey in Lithuania. The survey was distributed from 17 March to 27 March 2021. The gender distribution included ten female and eight male respondents. 45 % of respondents belong to the 31-40 years age group, 27 %- 41-50, and 28 %- 51-60 years age group. The majority of respondents were from universities in Kaunas and Vilnius (e.g., Vilnius University, Kaunas University of Technology, Vytautas Magnus University, Mykolas Romeris University). Specifically, seven academics were from Life Sciences, four from

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Physical sciences, two from technological, others are from health, social, humanities, and education fields of research.

Regarding the occupational positions of respondents at universities, the sample covered four professors, seven associated professors, seven lectures, and researchers. The majority of respondents worked at university longer than six years. Notably, six participants were willing to participate in Entrance workshops. Many of the respondents have indicated that the participation depends on the time that they have to dedicate and content that satisfies their needs, flexibility, feedback from teachers.

Part I: The relationship of your university with entrepreneurship

All non-business academics have confirmed that their universities collaborate with local firms (e.g., start-ups, SMEs, large corporations,) for the promotion of entrepreneurship culture within the universities.

Part II: Your experience in relation to entrepreneurship

17 out of 18 respondents have indicated that they have some relevant experience in the development and the exploitation of a business idea. For example, 78 % of non-business academics have thought to develop and exploit business ideas until now. Moreover, only 22 % of respondents have not considered that yet. Specifically, only 33 % of respondents did agree that their universities have a clear university's policy regarding the relationship with a business. Nevertheless, other respondents have expressed an opinion or emphasized that their universities have not had a policy at all. 74 % of respondents have agreed that their universities hold a relevant office/department that supports academics in developing entrepreneurial activities. On the contrary, 26 % of respondents have highlighted that the department of entrepreneurial activities is missed.

Almost 84 % of non-business academics have thought that their research work is not only theoretical, but is related to entrepreneurial activities. 15 out of 18 researchers have indicated that they would find colleagues at university who might start to work on his/her new business idea jointly. Meanwhile, only 9 of 18 respondents have agreed that there are many legal complications between the university and the academics when they start a spin-off, and they do not want to get into arguments with their superiors. Only four respondents have agreed that they would not have any complications with that. Regarding awareness of the Intellectual Property Rights (IPR) associated with respondents' invention or the procedure they should follow to protect them, only 7 out of 18 respondents have stated that they know all the information. The left part of respondents has not aware of IPR issues.

The situation with the overload of pedagogical and research obligations at university was urgent in Lithuania. 14 out of 18 non-business academics have stated that they work many hours to conduct other academic tasks that they don't have time to embark on such exploitation/entrepreneurial activities.

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

33 % of respondents have strongly agreed or agreed that they do not hold a previous experience of how to start in exploiting their research findings or embarking on entrepreneurial activities (e.g., development of a business plan). That might be considered as a good sign because 50 % of respondents were aware of such activities, and 17 % of respondents havn't had opinion. Morever, almost half of respondents have had kwowledge on how to identify a business opportunity considering the needs of a particular target group and the characteristics of their business idea.

Almost 40 % of Lithuanian non-business academics were quite sure that their potential business ideas might be attractive in the market. Meanwhile, the left part of respondents was not sure about the demand for their products/services. Moreover, half of the respondents have agreed that the legal framework in Lithuania supported them when they started entrepreneurial activities within universities. Most of the non-business academics have worked on ideas related to covid 19 pandemic issues.

Part III: The development and implementation of an idea/activity

84 % of respondents have indicated that they could recognize a community's and surroundings' needs to develop their idea/activity. Notably, that almost 90 % of non-business academics could identify innovative characteristics of their idea/activity. Specifically, 14 out of 18 respondents might choose the right resources to implement their idea, while other respondents haven't had opinions about that. The majority (16 out of 18) of Lithuanian respondents could identify their strengths and weaknesses and their team's, and thus, could motivate their team to achieve what they seek/want.

13 out of 18 respondents have indicated that they could seek for external support for developing and implementing their activity/idea (e.g., social enterprise advisors) if they need it. Additionally, non-business academics were quite aware of how to draw the budget of their activity/idea. Nevertheless, only 7 out of 18 respondents have known how to use social media platforms appropriately based on the target audience and the purpose of their activity/idea. Only 13 out of 18 academics have stated that they could develop an action plan which covers the basic steps to achieve the goals of the activity/idea (e.g., set milestones).

61 % of respondents could recognize possible risks related to their activity/idea in advance, but the left part of respondents was doubt regarding the risk identification. Moreover, 10 out of 18 respondents have had the skills to develop a business plan describing how to achieve their activity/idea goals.

Part IV: Entrepreneurial environment and practices

It was pretty unexpected that only three respondents have agreed that one of the university's goals is to stimulate and support the development of entrepreneurial mindsets and skills. Eight Lithuanian non-business academics have had no opinion about that, while seven respondents have not agreed.

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

50% of respondents have agreed that academics and staff should follow an entrepreneurial teaching approach across all the departments and promote diversity and innovation in teaching and learning. While another part of respondents, 50 % have not had an opinion or disagree.

The final questions have covered the use of the pedagogical methods. Only two respondents have argued that asking students to decide on their problem-solving procedures might not work as a suitable method. Moreover, almost all respondents have agreed that it might be important to ask students to work and examine case studies and engage them in real-world projects (e.g., problem-based learning) and integrate an experiential learning approach (e.g., organize students' visits to local companies, pop-up shops).

4.2 Summary of findings from the interviews with industry experts

Two industry experts have participated in online interviews in Lithuania.

The interviewee 1 (the date if the interview is 22 03 2021) is a CEO and innovator of several companies. His educational background covers Materials engineering, nanotechnology, mechanics, and chemistry. He is developing several businesses in the fields of zero waste (circular design based) products and smart devices. One product is already launched in the international market, another on is in the commercialization phase.

The interviewee 2 (the date if the interview is 31 03 2021) is a CEO of Ligence, that is MedTech startup. His background lies in health sciences, in particular, cardiology. He is also a doctor of Medicine, Lithuania University of Health Sciences. His company is developing a deep learning-based software product for automated analysis of heart ultrasound images.

Part I: Challenges and the role of universities

Both interviewers indicated that the entrepreneurial journey so far has been extremely interesting and exhausting at the same time.

According to an interviewee 1, the *biggest challenge* was the lack of knowledge in running a business: "*how to manage finances, how to raise money, how to keep up the pace of innovation and create the end product, and most importantly, how to stay on board with investors. The team and investors have been a major obstacle for me in developing innovation, one business has collapsed for this reason*". Interviewer 2 has emphasized that the biggest challenges were and will be the monetization of the business idea and the legal and regulatory hurdles. From a medical standpoint, they know what can work and what probably wouldn't, but when it comes to creating a new brand and disruptive business in such a highly regulated field as medical devices, there are too many unknowns.

In order to *overcome these difficulties,* the interviewee 1 has participated in various workshops organized by his university and other organizations in the field of entrepreneurship. He tried to apply the acquired knowledge gained in business. He has learned from his own mistakes - those lessons are the most expensive. Interviewee 2 has also participated in numerous online pitch

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

trainings, basic business courses for startup founders and other events held by MITA, EIT Health or other organizations. He has indicated that there are a lot of opportunities for mentoring too as he has reached out to established companies working in the MedTech field and they have been very willing to help them.

The answers regarding *pandemic* differ. Interviewee 1 indicated that the pandemic did not cause major problems for business, there were inconveniences due to slower delivery of materials. During the pandemic, there was an opportunity for virus-related research funded by EU funds. Interviewee 2 emphasized that the main paying customers of our product are hospitals. Due to COVID19, hospitals are overwhelmed with COVID19 cases, therefore, they take longer to respond and are hesitant to start collaborations or ask to contact them later. The same applies to delayed certification of the medical device which has been disrupted by COVID19.

While discussing *incentives to leave academia* and develop your own business idea, interviewees said that stay at university is not worth and take time and resources. The main reasons why the interviee 1 did not stay at the university that there are the limited opportunities to implement my ideas, lack of finances, low remuneration for the work done, high bureaucracy, and unfair earnings-sharing policies.

There is also a need to write scientific publications while working at the university, which 95 percent. cases are just a waste of time. Working at a university and developing a business at the same time is pointless because there are conflicts of interest, and in business, in order to achieve results, one needs to focus on goals and not be distracted. Interviewee 2 indicated that his startup and the work as a cardiologist are very interrelated. All the knowledge he gains in clinical work, helps to develop the startup. However, he is also planning to reduce the clinical workload and leave the job at the university as a lecturer/tutor and in the development department.

While talking about the *relationship should be between universities and research with the business industry*, both interviewees agree that universities should carry out all research tasks, solve technological engineering problems, and businesses must create innovations and innovative products. When developing a new product, researchers look at it from the researcher's point of view, which often means that such products are not suitable for the market (consumer needs, expectations, etc.). Therefore, the ideal option for collaboration is to solve the technological problems of business-created innovations with the help of university researchers. Also basing on them both, research should not stay in the lab and should benefit the society. Lithuania and EU countries in general are lagging behind the US in this area. However, lately, there are a lot of initiatives to change the situation for the better.

Both interviewers agree on cultivating of *entrepreneurial mindset earlier in life*. They emphasize that the earlier students understand the possibility to create a business from our ideas the more ideas will materialize. Also those who have not business education, after university have a limited understanding of business, after graduation they go to work in a company, but opening a

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

business yourself is difficult due to lack of knowledge, so additional training, courses, etc. should be available to all students thinking about their business.

For students that are thinking to start in the near future their own business and do not have a degree in business or in any other relevant sector, industry experts advise to understand what they will do good with your work and who will pay you for it. Also they propose to think with whom they will start a business because usually there will be a need of the team with different competencies. Both argued that the future entrepreneur shoul test the idea within very small budget and always keep control of the company – they can't give control of the startup to investors. Interviewee 2 highlighted that the future entrepreneur should not be afraid to ask for help and mentorship from established companies and experts in your field, but be aware that some of those who will offer their help might try to make use of you.

Part II: Entrepreneurial skills

Ideas & Opportunities

Interviewee 1 one businesses are related circular design-based product and smart devices. The idea was to sell a collar that protects children from accidental drowning when children play in an area where there is a body of water, a person buying such an item will also buy safety and calm. The second product is nanotechnologically improved candles that are made from natural materials that break down completely in nature. Competitors currently sell paraffin or soy wax candles in a glass container, in paper packaging, in which case a lot of sorting and energy is required for recycling. By buying a circular design-based candle, a person will participate in the zero waste movement, and will not pollute nature at all. Interviewee 2 said that are related with total addressable market, technological state of AI, freedom to operate research and future outlook of medicine.

While talking about what is more important to you: *the novelty of a product/idea or its meaning*, the interviee 1 said that it matters what your product gives to the world, what its meaning. Interviewee 2 emphasized that without a real need or meaning the novelty is "meaningless".

The idea holds innovative characteristics and why as well as the sustainable advantage of both experts' ideas. Interviewee 1 emphasized that both his businesses have distinctions from the others: the first idea is a lightweight collar that will replace life jackets, it will be comfortable for the wearer to wear in any weather, it is a technological advantage. The second business entails candles, on the market everyone offers candles in glass containers, paper packaging and so on. Not all people sort, so a lot of garbage will accumulate in landfills. The candle with packaging will be completely degradable in nature and will not pollute nature, no matter where it is thrown away.

Interviewee 2 said that according to their current market, their product would be the most technologically advanced. They can automate up to 50% more measurements than what is currently available on the market. A lot of what they are doing have not been described in scientific literature.

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Resources

Resources those helped to turn your idea into action mentioned by industry experts were: mentorship, private funding, EU funding, positive feedback from doctors, entrepreneurs and society as a whole. (e.g., follow strategies, reward, time management, funding, social media).

Both experts are using *digital resources.* One expert has mentioned that their product is a software that is based on deep learning, therefore we use a wide variety of software for development and internal communication. Another expert is using digital media solutions to create drawings, designs, in some stages of production as it simplifies and speeds up all processes and saves money.

Both experts did agree that the *people* are the most important. So far as one expert said that their team members are driven by the idea to create something that improves the well-being of many people. Individuals are driven only by monetary compensation and it might be hard to put so much work with a relatively little compensation. Another expert mentioned that leadership is also very important for a team.

Answer regarding himself and team motivation differ. One expert indicated that the team is motivated by reward and is also appealed to feelings that the products will solve important global problems and they are part of that solution. At present, business relations are maintained with the shareholders, they are given reports, but they do not have the management power. Another expert emphasized that both positive energy and seeing the larger goal behind the little tasks that have to be done everyday are vital.

Regarding networking, one expert said that they have not yet reached this stage, but plan to use subsidiaries in other countries for development, when part of the stake will be left to highly motivated people - business partners. Another expert is going to network using professional association of European cardiologists, via linkedin and innovation events.

Into action

Regarding *the important characteristics for the development of a successful business* plan, both experts did agree that it should be based on the value created for the end-users.

Both indicated that it is very hard to determine all the *risks*. According to the first expert, the main risk is not knowing how consumers will accept the products, whether there will be a purchase or not. To manage this risk, production has to be started in small quantities with minimal resources, which would allow a quick reorientation to market needs failures with minimal losses. Mentorship has been outstanding in this respect. By knowing what other companies had to deal with, we can foresee and minimize risks.

The first expert has emphasized that the "*growth is one of the most important things in business <..>, in my businesses most of the resources will be focused on growth, development, building a good team with good pay*". The expansion will be carried out abroad through the use of

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

subsidiaries in order to maintain business control and increase the capitalization of the parent company.

Another expert opeating in the medical device industry, has indicated that the research has shown that it takes around 5-7 for new medical device companies to break even. Diversity is important, but having stakeholders who thoroughly understand the market and the peculiarities of the field is even more important.

Both experts believe that *the diversity of their stakeholders* (skills, attitudes) could be valuable for their companies. They noticed that in Lithuania it is best to keep control of the company to the author of the idea, and only a small part of the shares can be distributed using options as a motivational tool for the best employees who have different competencies needed for business. Having equal shareholders in a business is very risky because opinions often divide and the business stands; this is the biggest weakness that has been eliminated in their businesses. Currently, the best option is to attract funds from the EU, produce small quantities of products and start trading, and grow the company gradually, thus avoiding unexpected bankruptcy.

5. Conclusions

Based on *secondary research related with training programmes*, we could summarise the need to work in team as well have networking capabilities and have fasilitation during trainings. Taking into account pandemic situation, it is very important to find the proper digital tools that let to engage and work in teams. Also it has been emphasized by investigated programmes' organisers that participants should meet consumers and find out if their business idea will fit to the market. The possibility to present the idea to investors has been indicated as very important element of the programme as well.

The analysis of *secondary data related with research articles* let to summarise entrepreneurial pedagogies. We conclude that those pedagogies shoud be based on a competency-based approach in an experiential learning environment in STEM education. Also the research let to indicate that challenge-based courses those included design methods, cognitive processes, techniques, and sensibility for solving problems as well as brainstorming and prototyping, and surveys and semi-structured interviews involving potential users to gain greater awareness of their needs and expectations are very effective as well. Also the multidisciplinary team approach and programme practicality versus theory have been emphasized as well. Authors have also excluded skills that are urgent to develop. They are related with innovation and the development of new ideas, professional network development as well as business vision and strategies.

Based on our *primary research*, we report that the participants who participated *in interviews*, emphasized the importance of market research, that helps to find out if their idea has the customer. They stated that the business plan should be based on the value created for the end-users. Baisng on their opinion, the future entepreneurs must evaluate possible risks that would help to avoid possible mistakes.

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Basing on *survey results*, we could conclude that Lithuanian non- business academics still do not understand the importance of entrepreneurial mindsets and skills development at university. Nevertheless, they agree that own problem-solving procedures, case studies, engagement of students in real-world projects as well as use experiential learning approach are very important in teaching process. It is quite good news that respondents think that their research work is not only theoretical. More than a half of respondents aware how to identify a business opportunity, but the left part have no knowledge how to do that. Also they are not enough aware with IOR issues and risks management as well as how to use social media appropriately based on the audience and the purpose of their activity/idea.

NTRANCE
Co-funded by the
Erasmus+ Programme
of the European Union

References

1. Belbin(2021). What's Belbin All About? Retrieved from: https://www.belbin.com [18 February 2021]
2. Cranfield.ac.uk (2021). i2i – Ideas to Innovation. Retrieved [18 February 2021] from: https://www.cranfield.ac.uk/som/events/i2i
3. Ihasz, O.,Vyakarnam, S. (2021). Idea to Innovation. Facilitator handbook. Cranfield School of management. https://blogs.cranfield.ac.uk (2019 February). The 40th Ideas to Innovation (i2i) workshop. Retrieved from:https://blogs.cranfield.ac.uk/leadership-management/the-40th-ideas-to-innovation-i2i-workshop [18 February 2021]
4. https://dealroom.co/ Retrieved [23 February 2021]
5. https://en.ktu.edu/news/ktu-students-are-developing-dissolving-lenses-for-glaucoma-treatment/ Retrieved [23 February 2021]
6. https://en.ktu.edu/news/ktu-students-idea-for-psoriasis-treatment-recognised-as-the-3rd-best-in-silicon-valley-innovation-challenge/ Retrieved [18 February 2021]
7. https://fmed.ktu.edu/news/ktu-students-designed-a-belt-which-can-monitor-the-fetus-during-pregnancy/ Retrieved [18 February 2021]
8. https://www.facebook.com/watch/?ref=external&v=3023905110994232 Retrieved [18 February 2021]
9. https://vpc.vdu.lt/en/for-students/related-studies/ Retrieved [18 February 2021]
10. Eltanahy, M., Forawi, S., & Mansour, N. (2020). STEM leaders and teachers views of integrating entrepreneurial practices into STEM education in high school in the United Arab Emirates. *Entrepreneurship Education*, *3*, 133-149.
11. Boldureanu, G., Ionescu, A. M., Bercu, A. M., Bedrule-Grigoruță, M. V., & Boldureanu, D. (2020). Entrepreneurship education through successful entrepreneurial models in higher education institutions. *Sustainability*, *12*(3), 1267.
12. *https://www.vz.lt/verslo-valdymas/2019/08/07/kaune-startavo-nauja-verslo-akceleravimo-programa* Retrieved [23 February 2021]
13. KTU.edu (2020 August). Cambridge and Cranfield academics were impressed by Lithuanian ideas**.** Retrieved from:https://en.ktu.edu/news/cambridge-and-cranfield-academics-were-impressed-by-lithuanian-ideas/ Retrieved [18 February 2021]
14. https://www.startuplithuania.com/ Retrieved [18 February 2021]
15. *http://kaunomtp.lt/evolut* Retrieved [23 February 2021]

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Appendix

Non-business academics questionnaire-Frequency tables

Does your university collaborate with local firms (e.g., SMEs, large corporations, start-ups) for the promotion of entrepreneurship culture within the university?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	18	100,0	100,0	100,0

Does your university provide to its academics/researchers the opportunity to receive research or innovation funding for the development and exploitation of a business idea?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	3	16,7	16,7	16,7
	Yes	15	83,3	83,3	100,0
	Total	18	100,0	100,0	

Is there a relevant office or department within your university that supports academics or students in developing entrepreneurial activities?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	4	22,2	22,2	22,2
	Yes	14	77,8	77,8	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Do you have any relevant experience in the development and the exploitation of a business idea?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1	5,6	5,6	5,6
	Yes	17	94,4	94,4	100,0
	Total	18	100,0	100,0	

I never thought to develop and exploit any business idea until now.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	11	61,1	61,1	61,1
	Disagree	3	16,7	16,7	77,8
	Neutral	3	16,7	16,7	94,4
	Strongly Agree	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

My university does not provide any incentives for academics to develop entrepreneurial activities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	3	16,7	16,7	16,7
	Disagree	7	38,9	38,9	55,6
	Neutral	4	22,2	22,2	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

There is no clear university policy regarding relationship with business.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	2	11,1	11,1	11,1
	Disagree	4	22,2	22,2	33,3
	Neutral	8	44,4	44,4	77,8
	Agree	1	5,6	5,6	83,3
	Strongly Agree	3	16,7	16,7	100,0
	Total	18	100,0	100,0	

My university does not have a relevant office/department that supports academics in developing entrepreneurial activities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	9	50,0	50,0	50,0
	Disagree	4	22,2	22,2	72,2
	Neutral	1	5,6	5,6	77,8
	Agree	2	11,1	11,1	88,9
	Strongly Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

My research work is more theoretical, it is not so relevant with entrepreneurial activities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	5	27,8	27,8	27,8
	Disagree	8	44,4	44,4	72,2
	Neutral	2	11,1	11,1	83,3
	Agree	3	16,7	16,7	100,0
	Total	18	100,0	100,0	

My colleagues at university are not willing to start working on this new business idea together so I face difficulties in forming a successful team.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	1	5,6	5,6	5,6
	Disagree	6	33,3	33,3	38,9
	Neutral	8	44,4	44,4	83,3
	Agree	2	11,1	11,1	94,4
	Strongly Agree	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

There are many legal complications between the university and the academics when they start a spin-off and I do not want to get into arguments with my superiors.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	27,8	27,8	27,8
	Neutral	4	22,2	22,2	50,0
	Agree	7	38,9	38,9	88,9
	Strongly Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

I am not aware of the Intellectual Property Rights associated with my invention or the procedure that I should follow to protect them.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	3	16,7	16,7	16,7
	Disagree	4	22,2	22,2	38,9
	Neutral	3	16,7	16,7	55,6
	Agree	6	33,3	33,3	88,9
	Strongly Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I work so many hours to conduct other academic tasks that I don't have time to embark in such exploitation/entrepreneurial activities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	2	11,1	11,1	11,1
	Disagree	2	11,1	11,1	22,2
	Neutral	2	11,1	11,1	33,3
	Agree	7	38,9	38,9	72,2
	Strongly Agree	5	27,8	27,8	100,0
	Total	18	100,0	100,0	

I do not hold a previous experience of how to start in exploiting my research findings or embarking on entrepreneurial activities (e.g., development of a business plan).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	4	22,2	22,2	22,2
	Disagree	5	27,8	27,8	50,0
	Neutral	3	16,7	16,7	66,7
	Agree	2	11,1	11,1	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I am not sure how to identify a business opportunity considering the needs of a particular target group and the characteristics of my business idea.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	3	16,7	16,7	16,7
	Disagree	6	33,3	33,3	50,0
	Neutral	3	16,7	16,7	66,7
	Agree	5	27,8	27,8	94,4
	Strongly Agree	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

I am afraid that I won't be successful in my entrepreneurial efforts since I was not trained in this area before thus I avoid starting altogether.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	5	27,8	27,8	27,8
	Disagree	4	22,2	22,2	50,0
	Neutral	5	27,8	27,8	77,8
	Agree	3	16,7	16,7	94,4
	Strongly Agree	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I am afraid that my potential business idea will not be attractive in the market.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	2	11,1	11,1	11,1
	Disagree	5	27,8	27,8	38,9
	Neutral	9	50,0	50,0	88,9
	Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

The legal framework in my country does not support academics when they start entrepreneurial activities within Universities.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	2	11,1	11,1	11,1
	Disagree	7	38,9	38,9	50,0
	Neutral	3	16,7	16,7	66,7
	Agree	2	11,1	11,1	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

The current situation of the COVID-19 pandemic.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	4	22,2	22,2	22,2
	Disagree	4	22,2	22,2	44,4
	Neutral	5	27,8	27,8	72,2
	Agree	3	16,7	16,7	88,9
	Strongly Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

I can recognize community's and surroundings' needs for the development of my idea/activity.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	1	5,6	5,6	5,6
	Neutral	2	11,1	11,1	16,7
	Agree	8	44,4	44,4	61,1
	Strongly Agree	7	38,9	38,9	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I can identify innovative characteristics of my idea/activity.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	1	5,6	5,6	5,6
	Neutral	1	5,6	5,6	11,1
	Agree	12	66,7	66,7	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

I can choose the right resources for the implementation of my idea.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	4	22,2	22,2	27,8
	Agree	9	50,0	50,0	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

I can identify my strengths and weaknesses and those of my team.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	1	5,6	5,6	11,1
	Agree	8	44,4	44,4	55,6
	Strongly Agree	8	44,4	44,4	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I can keep my team motivated to what they want to achieve.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	2	11,1	11,1	16,7
	Agree	8	44,4	44,4	61,1
	Strongly Agree	7	38,9	38,9	100,0
	Total	18	100,0	100,0	

I can look for external help if need be, for the development and implementation of my activity/idea (e.g., social enterprise advisors).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	1	5,6	5,6	5,6
	Disagree	3	16,7	16,7	22,2
	Neutral	1	5,6	5,6	27,8
	Agree	9	50,0	50,0	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I can draw up the budget of my activity/idea.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	11,1	11,1	11,1
	Neutral	1	5,6	5,6	16,7
	Agree	9	50,0	50,0	66,7
	Strongly Agree	6	33,3	33,3	100,0
	Total	18	100,0	100,0	

I can use social media appropriately based on my audience and the purpose of my activity/idea.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	16,7	16,7	16,7
	Neutral	8	44,4	44,4	61,1
	Agree	4	22,2	22,2	83,3
	Strongly Agree	3	16,7	16,7	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I can develop an action plan which includes the basic steps to achieve the goals of my activity/idea (e.g., set milestones).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	4	22,2	22,2	27,8
	Agree	7	38,9	38,9	66,7
	Strongly Agree	6	33,3	33,3	100,0
	Total	18	100,0	100,0	

I can recognize in advance possible risks related to my activity/idea.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	7	38,9	38,9	38,9
	Agree	7	38,9	38,9	77,8
	Strongly Agree	4	22,2	22,2	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

I can develop a business plan describing how to achieve the goals of my activity/idea.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	1	5,6	5,6	5,6
	Disagree	2	11,1	11,1	16,7
	Neutral	5	27,8	27,8	44,4
	Agree	4	22,2	22,2	66,7
	Strongly Agree	6	33,3	33,3	100,0
	Total	18	100,0	100,0	

One of the goals of the university is to stimulate and support the development of entrepreneurial mindsets and skills.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	1	5,6	5,6	5,6
	Disagree	6	33,3	33,3	38,9
	Neutral	8	44,4	44,4	83,3
	Agree	1	5,6	5,6	88,9
	Strongly Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Academics and staff follow an entrepreneurial teaching approach across all the departments, promoting diversity and innovation in teaching and learning.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly Disagree	2	11,1	11,1	11,1
	Disagree	7	38,9	38,9	50,0
	Neutral	7	38,9	38,9	88,9
	Agree	2	11,1	11,1	100,0
	Total	18	100,0	100,0	

Ask students to decide their own problem-solving procedures.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	11,1	11,1	11,1
	Agree	9	50,0	50,0	61,1
	Strongly Agree	7	38,9	38,9	100,0
	Total	18	100,0	100,0	

Encourage academics and students' collaboration for common assignment.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	5	27,8	27,8	33,3
	Agree	6	33,3	33,3	66,7
	Strongly Agree	6	33,3	33,3	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Ask students to work and examine case studies.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	4	22,2	22,2	27,8
	Agree	5	27,8	27,8	55,6
	Strongly Agree	8	44,4	44,4	100,0
	Total	18	100,0	100,0	

Engage students in real-world projects (e.g., problem-based learning).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	11,1	11,1	11,1
	Agree	4	22,2	22,2	33,3
	Strongly Agree	12	66,7	66,7	100,0
	Total	18	100,0	100,0	

Use experiential learning approach (e.g., organize students' visits in local firms as an objective of your class, pop-up shops).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5,6	5,6	5,6
	Neutral	1	5,6	5,6	11,1
	Agree	4	22,2	22,2	33,3
	Strongly Agree	12	66,7	66,7	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	10	55,6	55,6	55,6
	Male	8	44,4	44,4	100,0
	Total	18	100,0	100,0	

How old are you?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31-40	8	44,4	44,4	44,4
	41-50	5	27,8	27,8	72,2
	51-60	4	22,2	22,2	94,4
	61 or older	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

By the end of this academic year, how many years will you have been teaching altogether?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	4	22,2	22,2	22,2
	11-20 years	5	27,8	27,8	50,0
	21-30 years	3	16,7	16,7	66,7
	31 or more years	1	5,6	5,6	72,2
	6-10 years	5	27,8	27,8	100,0
	Total	18	100,0	100,0	

In which country are you located?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lithuania	18	100,0	100,0	100,0

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

In which institution/university are you employed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Kaunas University of Applied Sciences	1	5,6	5,6	5,6
	Kaunas University of Technology	5	27,8	27,8	33,3
	KTU	5	27,8	27,8	61,1
	Lithuanian University of Health Sciences	1	5,6	5,6	66,7
	MRU, Vilniaus kolegija	1	5,6	5,6	72,2
	Vilnius University	1	5,6	5,6	77,8
	VMU	2	11,1	11,1	88,9
	Vytautas Magnus university Agriculture academy	1	5,6	5,6	94,4
	Vytautas Magnus University, Agriculture Academy	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

What is your area of specialization?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Arts and Humanities	1	5,6	5,6	5,6
	Clinical and Health	1	5,6	5,6	11,1
	Education	1	5,6	5,6	16,7
	Education, Life science, Tuorism	1	5,6	5,6	22,2
	interdisciplinary studies	1	5,6	5,6	27,8
	Life sciences	6	33,3	33,3	61,1
	Physical sciences	4	22,2	22,2	83,3
	Psychology	1	5,6	5,6	88,9
	Technological and engineering sciences	1	5,6	5,6	94,4
	Technological sciences	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

Which is the exact position you hold in the organization/university?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Associate Professor	7	38,9	38,9	38,9
	Lecturer	4	22,2	22,2	61,1
	Professor	4	22,2	22,2	83,3
	Researcher	2	11,1	11,1	94,4
	Researcher, lecturer	1	5,6	5,6	100,0
	Total	18	100,0	100,0	

NTRANCE
Co-funded by the Erasmus+ Programme of the European Union

Would you like to participate in the free online training of entrepreneurship addressed to non-business academics during 2021-2022 offered by the "ENTRANCE" EU-funded project? (For more information, please visit https://entranceproject.eu/)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	5	27,8	27,8	27,8
	Not sure	7	38,9	38,9	66,7
	Yes	6	33,3	33,3	100,0
	Total	18	100,0	100,0	

ENTRANCE
Co-funded by the Erasmus+ Programme of the European Union