

ADDET: Apprenticeship for the Development of Design Thinking

Trainer's guide Successful stories from the pilots



Project Reference: 2020-1-RO01-KA202-079926



ADDET: Apprenticeship for the Development of Design Thinking

Trainer's guide: Successful stories from the pilots

Project Partners

Colegiul Economic Ion Ghica, Romania



IDEC SA, Greece



KISMC, Bulgaria



Antalya İl Milli Eğitim Müdürlüğü, Turkey



CESIE, Italy



Magenta, Spain



ZBB, Germany



This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Introduction

This document is an internal part of the Trainers Guide, developed by the ADDET project. It portrays successful stories from the implementation of the ADDET model during apprenticeships in Romania, Germany, Greece, Spain, Turkey and Italy.

ADDET apprenticeships combined the Design Thinking Methodology with project based learning, to help students develop their problem solving skills.

Successful story from Romania

Title
“Exercise firms”: a career launch pad
Description
<p>The inclusion of the "Exercise Firm" concept in the technical education curriculum responds to the requirements of the national and world economy through an education oriented to maximum towards practical training.</p> <p>It is directed towards the individual and his personality development. In the Exercising Firms create, as far as possible, the interconnections closest to reality that are established between people, during the performance of different types of activities specific to the production process in a company.</p> <p>The students, coordinated by the teachers from the "Ion Ghica" Economic College, established 8 practice firms, under the guidance of the project initiators. The activities within the practice firms aimed to increase the level of information and awareness among students of the importance of supporting the transition from school to active life, as well as facilitating the correlation of the education system with the dynamics of the labor market. The working tools were well chosen for the fulfillment of these goals, on the one hand developing the entrepreneurial skills of young people, on the other hand they acquire a series of skills absolutely necessary for integration on the labor market.</p>
Lessons learned
<p>The students' practice companies worked in collaboration with real companies, the so-called parent companies, which brought their input, through a series of direct exposures about the business environment, about the opportunities and risks that entrepreneurs can encounter.</p> <p>As for the young people from the Economic College, Ion Ghica", they used the knowledge</p>

acquired at school to choose the ideal virtual business. Thus, they were born:

FE THE HOUSE OF DELICIOUSNESS SRL- Bread manufacturing; manufacture of cakes and fresh pastry products

FE FRUITS OF NATURE SRL - Retail trade of other food products

FE THE KINGDOM OF CAKES SRL - Bread manufacturing; manufacture of cakes and fresh pastry products

FE FLORAL EXPRESS SRL - Wholesale of flowers and plants

FE ARIPILE CROITORULUI SRL - Manufacture of other clothing items

FE STEVEN SRL - Retail trade of games and toys,

FE GRAND CLASS SRL - Food activities (catering) for events

FE PER TUTTI SRL - Retail trade of bread, pastries and sugar products, in specialized stores

Conclusions, suggestions for further evolvement of the apprenticeship.

It represents experience, learning and determination for professional training. It's not easy, but it's a start and we hope it's a ramp for the future.

Successful story from Italy

Title
Implementing design thinking in schools – CESIE’s path with secondary school students
Description
<p>The main objectives and goals of the apprenticeship program was to improve transversal skills of students by using the Design Thinking methodology. During our apprenticeship we involved a class of 12 students: students were highly motivated.</p> <p>After an initial introductory meeting with the students, the trainers implement a session to learn more about the needs and expectations of students. It is important to do this at the very beginning, in order to work with what the beneficiaries' real needs are. It is also important to try to build an informal climate of trust.</p> <p>After analysing the problems faced by the students in their everyday lives, the trainers asked them to group the problems into post-its (useful tips: we recommend having pens, colours, post-its and blank sheets of paper available for brainstorming).</p> <p>During the apprenticeship we used the design thinking methodology by applying the following steps:</p> <p>1. Understand → This first stage of the process is important because it helps the working group to come to an agreement and identify a starting point. The objectives of this phase</p>

are: **create a common understanding of the challenge by the group; plan the steps of the process; plan the research phase.**

2. Observe → This phase is about searching, discovering, exploring and capturing information. In a nutshell, the goal is to empathise with your end users/stakeholders. The activities are: **interviews with users; field observation; Desk Research.**

3. Point of view → The aim is to share and structure the information gathered during the research/interview phase. Different techniques help to arrive at a common general picture without jumping to possible solutions yet. The activities are: **collecting research data; making sense of the collected data; preparing the next phases.**

4. Ideate → Ideation is about brainstorming ideas to solve the problem by putting ourselves in different situations and empathising with our users.

5. Prototype

6. Test

Lessons learned

Fortunately, everything went well and the students seemed very motivated. From the very beginning, the trainers managed to establish a relationship of trust with them so that they could share different aspects of their school and personal lives and thus better identify their problems. The students stated: "we felt listened to, for the first time someone is interested in hearing about our problems and possible solutions".

Conclusions, suggestions for further evolvement of the ADDET apprenticeship.

The Design Thinking course was important to understand the students' needs and give them the tools to overcome them.

Successful story from Bulgaria

Title
Ideation corner
Description
<p>Our organisation relies on interns and apprentices not only for their technical skills but also for their bright mind and new way of thinking to generate ideas. We have placed a special board and a box in the corner of the common room where all of them can leave their suggestions, ideas and other information they are willing to share. Very often in the company we invite few of the young people to our meetings and record their point of view as external participants and fresh mind.</p> <p>We also include them in focus groups and testing of new applications and products as they are very keen on new things and technology. It is very important not only to involve the young people in the work process with their technical skills and knowledge but also explain to them the rationale behind the tasks, the corporate culture, principles, customer behaviour, staff</p>

<p>members should also know them and accept them as part of the team even on a temporary basis. Very often the good solutions are obvious to them and not to us who are buried into work and problems.</p>
<p>Lessons learned</p>
<p>Accepting interns and apprentices as members of the team and sources of good ideas and solutions is one of the key success factors to better employ their skills and knowledge. It is also good for them to motivate them and to make sure they are valued. In our office we keep the “open space” and “open door” mentality and never say no to their questions.</p> <p>During meetings there should be time for discussion with them and they should feel it.</p> <p>It is difficult to convince all employees and to make them work with interns and apprentices but the management is doing quite successful and good job in this direction.</p> <p>When we are open and show trust to the people without experience appreciating their value as idea generators and fresh minds and new approaches and solutions they are better workers after that and can surprise everyone. Very often this is also a motivator for their further career development, specialization, education and training on their own will.</p>
<p>Conclusions, suggestions for further evolvement of the apprenticeship.</p>
<p>The generated ideas by the young people should be considered even though they might seem irrelevant or “far fetch” at first glance and hearing. It is recommended to find a way and create a structured process and approach to include them not only in the idea generation but also in the implementation stage and monitor the process further.</p> <p>The apprenticeships in Bulgaria are not very well developed but we are going through educational reform and the recent changes allow companies to have more freedom and opportunity to work with VET schools and other organisations where apprentices are more active and we work closely with them.</p>

Successful story from Germany

<p>Title</p>
<p>A pilot project in the vocational school for business and tourism with the design challenge "Enthuse more customers to use self-check-in terminals".</p>
<p>Description</p>
<p>Six apprentices of the vocational school class Skil15 in the profession "service agent in air transport" were involved in the pilot test and successfully mastered their design challenge "inspire more customers to use self-check-in terminals". The apprentices went through all</p>

five phases of the Design Thinking model. They identified and determined the problem of the Design Challenge through their own research, conducted interviews and observed their target group at the airport. They were able to identify the needs and put themselves in the customers' mindset. They came up with creative and innovative solution ideas for the identified problem "Lack of visibility of self-check-in terminals and built a prototype. In this way, they illustrated the idea and made it tangible. In the end, they presented their prototype to the expert group and tested it. The feedback from the expert group was processed by the apprentices and flowed into the further development of the solution idea.

In only two months, the training model developed in the project according to Design Thinking and the guideline for trainers could be successfully tested.

The aim of the teaching project was to carry out a project with the apprentices using the Design Thinking method and to expand their problem-solving skills and competences.

The learners were supported and guided by the trainer in all phases. In the form of lectures and worksheets, the trainer provided the teaching material on the five phases of the Design Thinking method. A ready-made list of links introduced the apprentices to the Design Challenge topic. Prepared question and observation sheets were used by the apprentices for the empirical study at the airport. Especially the analysis and evaluation of the interviews and observations in phase 2 "Define" was a big challenge for the apprentices. In this project phase, they needed good methodological skills and thus the most support from the trainer. The phase "Ideate" was also supported by the trainer by suggesting a creative method (brainstorming) to find ideas and setting rules of conduct. This phase was a lot of fun for the apprentices. They came up with many ideas and were able to implement the recommendations of the trainer. The idea to mark the self-check-in counter with colours and thus increase their visibility to customers was accepted. The apprentices had to think with their hands and build a prototype of their idea. This step was also easy for the apprentices and they drew a sketch of the airport counter, which was marked in colour. They designed a boarding pass and used the airport map to illustrate the colour markings. In the last step, the trainer talked through the presentation process with the group. The apprentices presented their solution idea to the group of experts and discussed the practicability. The recommendations were adopted in the concept.

Apprentices have learned to interpret a customer's needs so that a basic specification can be produced; they have learned to build a prototype that grasps the essence of the design idea, and to develop the design further through testing. They have learned to listen carefully to the target group, and to judge which technical vocabulary to use and which to translate into layman's terms. They have followed published guidelines so that the target audience can understand and comprehend their solution ideas.

They have presented and documented their solution idea well. They always try to learn more about the Design Challenge and deepen their knowledge, such as conducting interviews and observations and using additional resources (article research) or consulting with experts.

The apprentices have learnt to grasp and implement several new methodological concepts, to process and analyse data effectively. They developed their social skills by treating other

group members with respect, valuing their opinions and contributions and supporting each other.

The apprentices got to know their future working environment and felt comfortable in it. They gained experience of which characteristics and functions are related to working at the airport. Furthermore, they appreciated the way an expert (service employee) dealt with the target group, in terms of know-how and service performance.

Lessons learned

The apprentices were very motivated and creative during the complete duration of the project. The teaching activities could be designed and carried out very actively through the apprenticeship model according to design thinking. As the apprentices had to work out a solution for a real problem on their own, they had to deepen their knowledge for the topic in order to be able to evaluate the problems themselves. They used their own knowledge and skills to solve the problem and developed further ones, which they gathered in the project. They gained practical experience with the customer group and their future working field.

The trainer quickly realised that the group needed more support than first thought. Each Design Thinking phase had to be repeated by the trainer for meaning and purpose. The apprentices needed clear instructions on the work steps and a predefined task. The project was very time-consuming for the trainer in terms of planning the dates, preparing the teaching materials and tasks, and carrying out the project. In addition, the trainer needed very good methodological skills to support the trainees in selecting and evaluating suitable methods for Design Thinking Phase 1 and 2. The duration of a Design Thinking project should take into account the content to be taught from the framework curriculum. In Germany, the skills, abilities and knowledge to be taught are structured and specified in terms of time and content for each occupation. The project duration of two months is difficult to implement in terms of time and personnel.

Overall, the project was a creative and instructive project experience for apprentices and trainers.

Conclusions, suggestions for further evolvement of the ADDET apprenticeship.

A project task based on the Design Thinking method, as developed in the Addet project, must be planned into the training process a very long time in advance. The project implementation requires a lot of planning and time-intensive coordination between the trainees, the vocational school and the companies involved. The trainees need a lot of time to implement the five phases. The cooperation effort is also very high, as the apprentices are dependent on it to successfully master the five phases. Therefore, we suggest that that method should not be used as a short-term project method.

Successful story from Turkey

Title
Internship abroad
Description
Our internship started with the company giving an initial training to our students, then our students continued to use the company's software according to the education they received, and our students, who learned new information in this process, started to design the interfaces of the company's programs with this information. Our students were constantly supported by our Coordinator teacher. Our Coordinator teacher met with the company officials once a week and updates were made in the training according to the results obtained. Thanks to the internship, our students learned new programming techniques and working methods.
Lessons learned
The internship program was carried out without interruption within the plan we prepared. The students gained experience of living abroad and having a job in a company. Thanks to the internship, they improved both their programming skills and their language. our biggest problem was related to the technical infrastructure. Students brought their own computers because they could not use the computers of the enterprises and some technical incompatibilities were experienced. However, these were also resolved and the problems were eliminated.
Conclusions, suggestions for further evolvment of the apprenticeship.
Companies that do internships abroad generally do not want to have students use their own equipment, the biggest reason for this is that they are afraid of failure of the devices. Therefore, if an insurance is made on this issue, companies will be more flexible in this regard.

Successful story from Greece

Title
Passport for learning
Description
All students who come to our office for an internship/apprenticeship receive a learning passport at the beginning. The learning passport is a printed booklet in the form of a passport and each page focuses on a different soft skill. It gives an explanation of what this soft skill is and why it is useful to have. At the bottom of each page, the student can track his/her progress on the development of each soft skill during their internship. For example, the student is prompt to write down activities that he/she did during the internship and how they helped him/her develop this skill.

The password is also reviewed by the student's mentor, who discusses with the student his/her progress and when the student masters a skill, he puts a token in the specific page (e.g. a stickers, or a signature).

Lessons learned

The use of the learning passport in general helps students learn about and develop their soft skills during the internships. Specifically during the application of the ADDET project, the learning passport turned to be rather successful, as it helped students identify tasks and paths that they should take, for the successful implementation of the challenge they were given. More specifically, it helped them during the ideate phase of the Design Thinking methodology, as they were able to identify their strengths and use them for the development of innovative ideas.

Conclusions, suggestions for further evolvment of the apprenticeship.

Internships/apprenticeships have as a main goal to develop the student's technical skills, but it is very important to also concentrate on the development of soft skills.

Successful story from Spain

Title
Producing professional logos and becoming a professional designer.
Description
<p>The purpose of the internship is to expose students to the creative design process in a professional setting through the creation of websites and logos for business clients.</p> <p>By visiting the staff and teachers of the students, we were able to launch the pilot program with two international students at Dilse Estudio Creativo in Gijón. In addition to providing them with the paperwork they needed for the internship, we also went over the project's goals and the steps involved in learning Design Thinking. We jointly explained to the students the design process and the purpose of the pilot after the staff had become familiar with the project, while also helping them to become more fluent in both English and Spanish.</p> <p>The five stages of the Design Thinking model were completed by the trainees. They considered the needs of their clients, clarified the goal and located relevant sources, brainstormed to generate numerous ideas and the means to carry them out, created various prototypes for the clients to see, and then delivered it to the clients and evaluators for their last comments. They were able to recognize the clients' issues, adopt their perspective, and produce imaginative solutions.</p>

In order to define each step of Design Thinking, the trainees were assisted by their instructors as well as a variety of online information and resources.

Lessons learned

The Dilse staff was excited to meet us and test out design thinking with their interns. This method of approaching creative work was praised by both the faculty and the students as being very effective. Each student concentrated on a particular design goal as they gained practical experience working in a professional design studio and enhanced their English and Spanish proficiency. The students were able to explore considerably more extensively on the topic of design and get a lot more satisfying outcome since they had to develop an individual design plan that was focused on the Design Thinking process and based on a real situation. As a result, the learning from ADDET had a very positive and useful effect.

Conclusions, suggestions for further evolvement of the ADDET apprenticeship.

Our observations show that Design Thinking, the methodology devised for the ADDET project, has a high learning potential if both teachers and students fully comprehend it and if customized learning objectives are set for each student. In our situation, the fact that they were surrounded by professionals inspired them, and the fact that the learning occurred abroad, outside of their comfort zone, encouraged them to gain complementing skills. If done properly, these projects can result in very positive outcomes for the students. However, they require careful organization and follow-up.