

STRATEGIC PARTNERSHIP ANGE

2017-1-FR01-KA201-037369 – duration of the agreement of 01/09/2017 au 31/12/2020

SCENARIO 2	Introducing learners and teachers to a digital environment through the use of a variety of digital business applications
TESTING PLACE	Centre Zawm of St Vith - Belgium

SUBJECT OF THE STUDY	Learning situations for a study of the conditions of education and learning in a digital environment - the use of ICTs
SUB-STUDY OBJECT	How to propose an online digital certification training (complementary module) for participants with different backgrounds? How to pilot (technical and pedagogical choices)?

EMERGENCE OF THE SCENARIO	
External and internal context of the project	<p>The ZAWM vocational training center in St. Vith, in German-speaking Belgium, trains apprentices (160 complete their training every year) for a wide variety of professional sectors. It also offers continuing education for the professionals themselves: courses for company managers (about 30 per year) and vocational training for other players in the local economic fabric.</p> <p>The ZAWM is financed by subsidies linked to functions and personnel, calculated on the basis of the hours of classes given. However, these subsidies are not sufficient to cover the main activity. Another source of funding is income generated by continuing education events where the center competes in the market for independent training providers. However, this allows it to finance mainly the acquisition of materials and resources in the teaching field.</p> <p>The center has 75 teachers, most of whom (95%) come from companies and teach in the educational institution on a fee / hourly basis; there are therefore few statutory staff. But all of them share a strong attachment to the training center and its image.</p> <p>Work-linked training means that apprentices are trained both at school (1 day per week) and in companies (4 days per week). Because of its partnership with companies, the center, as a school, is confronted with the requirements that these companies have to face, particularly in the field of digital application development.</p> <p>The digital equipment can be found in two dedicated computer rooms and, more recently, a "mobile classroom" equipped with tablets and laptops.</p>

The theme of Craft 4.0, a community-led plan, is becoming increasingly important within companies. Electronic systems and machines, electronic documentation, CAD, CNC, BIM, ... are now an integral part of their daily life (e.g. in the construction industry). They expect training institutions to provide appropriate training for employees at all levels (from apprentices to skilled workers, managers, skilled workers and executives). At a time when we are currently experiencing a great shortage of labor in the region, as well as a rapid development in the field of digitization. It is therefore astonishing that, in addition to older employees, there are also many young people who simply cannot master digital technology.

Training centers are therefore obliged to offer young people a school education that takes into account the latest computer technologies; training must be more in tune with the realities of the field and, in particular, with digital tools, so that young people are more directly operational and better adapted to the requirements of the job market in the professional sectors concerned.

Their task is therefore to organize ad hoc training courses.

This can - must - however take place in close cooperation, both with regard to the material equipment and the fields of application. To do this, the school and the company must work together. They are called upon both to determine the right tools in which to invest and to help finance purchases. In most cases, the needs are established through direct contact between specialized teachers, often professionals from local companies, and the management and training institutions. These establish the concrete needs of the companies and the economic fabric, and deduce the technical skills to be transmitted to the apprentices.

The management team is already operating on the basis of a culture of supporting teachers' initiatives and dialogue with the team. The head of the training center is determined to invest in the direction expected by companies, he is also willing to commit to a European project to allow exchanges, to encourage openness for the teachers and himself, to find examples of practices and use of digital tools for the benefit of training in other countries, to better see what works well and the pitfalls to be avoided.

The school's management is in direct contact with all external stakeholders: regional authorities, companies, corporations and industries, but also other training centers in the region.

The size of the center gives it little budgetary margin, which requires it to make well-considered choices, to find additional funding, and to envisage a strategy over several years to avoid as far as possible the obsolescence of the professional software used, or even more basic digital equipment to serve teachers and students, while offering them the appropriate training.

Temporary workers from the company for professional disciplines are often not very present at the center and therefore not easily mobilized. On the other hand, these temporary workers are familiar with the digital tools used in companies and can help in their choice and use.

The team nevertheless has a certain culture of exchange, both formal (different types of meetings between teachers or between teachers and management, including a "digital" working group) and informal, of participation in decisions through requests from management. The experimentation project was therefore submitted to the teachers before starting.

	<p>Although not everyone is an innovator, there is no strong resistance to the development of digital technology, rather fears of not mastering it, especially among the older teachers: personal empirical culture (documentary research, word processing, slide show spreadsheet), fears that it will not work and a lack of time to "invest" in new engineering.</p> <p>Despite everything, there is computer equipment available, a work platform (ILIAS), but the premises are not very well adapted to the new pedagogical practices induced by the use of digital technology. The internet connection is too weak. There is a lack of a technician capable of accompanying teachers and trainers and of taking care of all the technical aspects, equipment and malfunctioning.</p> <p>There is a well-established culture of European openness in Zawn, 14 projects over the last 10 years: every year students and teachers participate in transnational mobility, opening up to new contexts and new practices.</p> <p>The students are generally rather favorable to the project, hoping for more dynamic courses and more in touch with what they experience in companies and with their personal uses.</p>
	INTENTIONS OF THE SCENARIO
Target audience Quick presentation of the project	<p>Apprentices as part of their training in the Zawn center: first, second and third year groups, during their professional training: welding simulator, use of BIM (building information modeling), CAD, digital measurement.</p> <p>The aim is to design a new pedagogical scenario based on the use of digital tools both to make the young people more active and motivated in their learning but also to put them in situations as close as possible to those they know or will have to know in their professional environment.</p>
Objectives	<p>For students :</p> <ul style="list-style-type: none"> - Analyze, in action, the effects of their technical choices (settings, gestures...) - Demonstrate rigor in the performance of the activity - Demonstrate responsiveness and initiative - Working in teams: observation and analysis of other youth's activity - Mastering the professional digital tools offered (complex use of the virtual welding station and its various parameters, for example), while experience in welding is almost non-existent - To master the security rules related to the use of the proposed digital tools <p>For teachers :</p> <ul style="list-style-type: none"> - Create quasi-real situations to motivate young people and encourage their involvement.

	<ul style="list-style-type: none"> - To develop pedagogical scenarios based on the activation of young people, their empowerment, their capacity for analysis and reaction to the effects of their own actions. - Take advantage of real-life situations to differentiate the returns to the young people, allow them to start over easily and thus be as close as possible to the needs of each one. - To master the numerical tools necessary for the design and implementation of these scenarios.
Expected impact	<p><i>For students :</i></p> <ul style="list-style-type: none"> - Development of the students' motivation to hope to see their investment in learning increase and their results improve, that the knowledge thus acquired will be used for a better professionalization. - Development of transversal skills: autonomy, taking initiatives, teamwork, etc. - Development of skills in the field of digital mastery <p><i>For teachers :</i></p> <ul style="list-style-type: none"> - Evolution of pedagogical practices, especially in professional courses, with more activities, group work, putting young people in charge, use of high-performance digital tools that are rapidly being deployed in companies hosting young people, tools that are more economical in consumables and more ecological... - More precise identification of the specific and transversal skills to be acquired and acquired - Development of pedagogical differentiation (differences in levels, speed of acquisition, age difference) - Development of teamwork among teachers, sharing of experience, and openness to new professional practices, especially in the professional field in which mainly part-time teachers, with little experience in pedagogy and mostly with a masterful vision of training, are involved. - Commitment to experimental innovation: taking risks, recognizing the right to make mistakes = daring to commit oneself - Exchanges, sharing with other teachers, on the basis of his experience, building a case based on objective evidence of the advantages of the new approaches proposed to young people. - Entering a peer-to-peer training process <p>By training young apprentices in these new digital tools, the aim is naturally to provide a service to the companies hosting these young people, since they will be operational more quickly, but also to encourage a certain number of professionals to train in these new applications, which are gradually becoming indispensable to the development and even survival of their company.</p>
Needs to carry out the project	<ul style="list-style-type: none"> - A secure and favorable framework for the development of pedagogical experiments, based on the use of digital tools for the learning of young people. - The search for adherence by evidence of new teachers to experimentation - Adequate equipment and space

	<ul style="list-style-type: none"> - A technician to manage infrastructures and equipment, accompany users and reassure them - Time to develop the necessary instructional scenarios, activities and resources - Time to find the "right" digital applications and integrate them into the pedagogical scenario - Training for : <ul style="list-style-type: none"> ● master the necessary digital tools ● to acquire the skills to design a particular pedagogical engineering, including the use of digital tools, to offer apprentices new training situations but also to face new classroom situations in which young people are more active and can be distracted by the use of certain digital tools even though the culture of staff in the pedagogical and digital field is very heterogeneous, especially among trainers of professional subjects
Available resources	<ul style="list-style-type: none"> - Very strong management commitment to developing the use of digital technology in training. - All the stakeholders are quite willing to take part. - The intuition that the courses will be closer to professional reality, and therefore both more attractive and more effective. - The close links with the beneficiary companies, which allow better targeting of needs, and therefore of the applications and situations required. - The culture of exchange and a certain form of participation, both within the management and among teachers, which, together with the commitment of the management, creates a reassuring climate that is conducive to risk-taking. - The experimental approach is accepted as such: trial and error, exchanges, progress. - The choice of a strategy of small steps that makes it possible not to put too much "pressure" on the pioneers, to limit ambitions to the "possible" and to things that can be shared with uncommitted colleagues, things that are "acceptable" on their part, that do not frighten them. - The ANGE project for : <ul style="list-style-type: none"> ● To promote openness to other contexts, the discovery of other practices, other uses of digital tools ● To promote exchanges and meetings with other colleagues and researchers ● To propose an accompaniment of the experimentation by a small pan-European and international team within the framework of a classlab approach (exchanges and resources made available, Think Tank, webinars, training workshops)
Planned evaluation procedures	<p><u>Qualitative criteria :</u></p> <ul style="list-style-type: none"> - Analysis of the teachers involved in the experiment - Feedback from concerned students, business leaders, etc. - The identification and evaluation of new skills, transversal, worked in the proposed situations. - Exchanges with the pan-European and international support team

	<p><u>Quantitative criteria :</u></p> <ul style="list-style-type: none"> - number of new pedagogical situations proposed - number of teachers involved in experimenting with new pedagogical situations - time spent building new sequences - The evaluation of young people's knowledge based on professional skills acquisition grids
EVOLUTION OF THE SCENARIO	
Evaluation conducted	<ul style="list-style-type: none"> • The teachers who have embarked on the project are more comfortable with digital technology and are gradually proposing new pedagogical situations: they are moving away from lectures to more personalized learning and more active group classes. • The teachers involved in the experimentation feel that the time required to prepare these new modalities is heavy: this makes exchanges and sharing of the watch and experiences all the more necessary. • The students have appropriated digital tools for learning (whereas they were focused on playful or communicative uses). • Student initiative has been improved. They feel that teachers trust them more and give them more responsibility. They were more motivated during the lessons involved in the experiment. • Despite everything, the teachers involved in the experimentation admit that they still have difficulty identifying the set of skills that they make the young apprentices work on, especially cross-curricular skills, and above all have difficulty evaluating them. More generally, the question of evaluation is not sufficiently mastered, including in the area of skills worked on and acquired by the teachers themselves. • The activities are still too often individual, in a dual youth/trainer relationship: how to get other young people more involved, moving towards co-analysis of activities, for example. • The feedback from the business leaders involved is rather positive. • The internal training courses set up have played their part and have proved effective.
Planned developments	<p>Continuation of the experimentation, extended to other digital applications with the limit of the financial costs of acquisition, with the need to implement a significant number of actions to consider both the feedback within the center, students, business leaders and exchanges conducted with the pan-European and international support team:</p> <ul style="list-style-type: none"> - Set up regular surveys of teachers and students to measure satisfaction, identify shortcomings and regulate experimentation. - Conduct a survey within the companies that will hire the students who now benefit from these new courses and who will graduate, to collect their opinions and also to estimate the effectiveness of the chosen scenarios. - Build an evaluation of the effects of the experiment on the achievements of young people. <p>The hiring of an intern is planned for the spring of 2020 to carry out these different forms of evaluation.</p>

	<ul style="list-style-type: none"> - Develop the skills of teachers in the field of evaluation and continue "technical-pedagogical" training in-house - Building arguments to help new teachers adhere to the experimental approach of pedagogical innovation. - Increase opportunities to demonstrate that the experiments are working well, to convince other teachers/trainers to get on board - To continue equipping the center with infrastructures, digital terminals but also professional digital applications, in conjunction with professional trainers and companies, considering the constraints (pedagogical requirements, company expectations, product durability, cost structure, etc.). - Hire a half-time technician (initially, given the available budget) to manage the equipment, infrastructure and support users - Seek funding from regional authorities to ensure that the specific funding needs related to the development of digital technology in training are considered. - Establish a partnership with another "French" Language Training Center (Belgium) to create exchanges between the apprentices. - Create an Erasmus+ type partnership with other vocational schools that offer work-linked training. - Create a network of dual training institutions and/or create databases with teachers who provide documents/experience stories, advice - on the model of the innovative bubble set up at the Paul Claudel High School in Hulst, partner of the ANGE project.
<p>Support documents</p>	<ul style="list-style-type: none"> - Interviews with the head of the school and the pilot of the ANGE project in the training center - Student Interviews - Description of a gas shielded arc welding course - Analysis carried out by the accompanying researchers in the framework of output 3