



## Intellectual Output 4

Effectiveness of the VLE and Training Materials Evaluation



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## 1. Effectiveness of the VLE and Training Materials Evaluation

Distance learning for many courses is now possible through the web as the ease of accessing knowledge online grows. There are currently a lot of excellent websites that have been developed by different educational institutions that students may use to get lecture notes, study online content, and attend online lectures. Even some of them offer online video lectures or seminars. However, there are still issues with this method of instruction, particularly for engineering courses where the laboratory class is essential to understanding theoretical material and is difficult to execute online.

Severe attempts are being made to reform and improve high level education as a result of the rethinking of educational concepts and policy. It is mostly started by two key elements. First, the advancements in experimental cognitive psychology, which contributed to a better understanding of the human learning process and caused several conceptual notions about education to be re-examined. Second, the rapid development of multimedia and IT in recent years has made way for more engaging and successful teaching strategies. By utilizing various tools, movies, audio, simulations, interactive surfaces, etc. academic and industrial instruction can be seen from a much wider perspective than with a traditional text. When explaining rather complex occurrences, it plays an especially crucial role. Using e-learning technologies can simplify and improve the convenience of presenting complex phenomena' dynamics.

The analytical process involved identifying the learning problem, the aims and objectives, the audience's needs, prior knowledge, and any other pertinent features. At this step, the project's timeframe, delivery alternatives, restrictions, and learning environment were all taken into account. A thorough process of defining learning objectives was followed by the creation of elaborate storyboards and prototypes. The development phase resulted in the creation of the user interface, content, and



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instructional materials that were decided upon during the design phase. The target group received the material gathered during the implementation phase.

Researchers and professionals from various physical places can effectively and continuously collaborate through the use of virtual learning materials. In order to accomplish agreed goals, resources can be increased and pooled in this way while ongoing communication is maintained. The virtual learning materials play a significant role in the integration of technological, financial, and human resources through exchanging knowledge through data, information, documents, multimedia, etc. The productivity can be increased even further by cutting down on the time and expense of travel.

E-learning is useful and efficiently aids the learning process when it is introduced into the educational system. While virtual learning environment can greatly aid in students' advancement and they will likely play an ever-larger part in society, replacing traditional colleges with virtual ones in this regard appears insufficient. Notably, it must be remembered that the majority of recently graduated students must work in actual factories and companies rather than virtual ones, necessitating the acquisition of practical knowledge from actual laboratories and workshops.

The students' opinions of the aforementioned virtual learning environment are extremely favorable. When a web-based course is well-designed, students appreciate it. Additionally, it offers them a very holistic strategy using a variety of media. However, this restriction does not apply to students taking a course online, unlike in face-to-face or synchronous learning sessions where they are constrained by both location and time. Since an instructor is not required, the opening time is not restricted. Some students want the opportunity to actively participate in the evaluation process, thus they ask the lecturer to let them grade themselves.

The lack of direct interaction between the lecturer and the students in a virtual course was one of the first issues brought up by the students. The language barrier and lack of internet access are additional difficulties; many students do not understand both



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general and technical English. When using remote learning, virtual learning materials can provide an alternative to doing hardware labs because of the favourable student feedback in this area.

Another difficulty can be the students' levels of motivation. When studying remotely, a student may become demotivated and begin to put off most of his assignments. From a collegiate perspective, taking virtual classes is simpler and more cost-effective.

Before instructing in a virtual course, academic professionals may benefit from additional training. Lecturers must make sure they have enough time to devote to any designed course before taking on this task because it may be more demanding than it appears. The speaker must make some special preparations for this kind of course. The preparation time for the multimedia learning tool is expensive. There are some compensating advantages, especially if the learning resource is for a subject that can be repeated and doesn't vary significantly from year to year. As an alternative to the lecture/homework model, the e-learning project is something to take into consideration.

The learning requires more than just listening, only using telling is not enough for teaching. While virtual experimentation carried out by VR 360 serves to strengthen the learning of the subject, explanation of the machinery in the production line is important in textile education for a student to master the textile production process. For all experiments, real production facilities are required in order to gain the necessary technical aptitude. A group of students can learn to deal with genuine production procedures through the use of practical projects. In the virtual learning environment, the learner is typically more isolated from other pupils.

Many online students have common worries about time and effort. International students may have specific consequences from the online learning environment. Although it is assumed that online learning is flexible and simple, some students may not find it to be a desirable option.



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There is no doubt that nothing will replace synchronous learning through face to face interaction but it is not always feasible for students to attend conventional classes. The project aims to develop remote and inclusive learning pathways and opportunities by relying VR360 technology and e-learning for students' curricula for textile education. Its main impact is expected to take place on the textile vocational, textile engineering, fashion design students, teachers, trainers, mentors, new employees of private companies operating in the textile industry, textile communities, universities, public authorities, chambers of commerce, chambers of industry.

## 2. Multiplier Events

The effectiveness of the VLE and training materials is assessed after finishing the training materials via multiplier event in three different countries in local working environments. Each multiplier event will be organized by a different partner and will help to disseminate and evaluate the outputs of the project. Stakeholders, textile teachers and trainers from partner countries, potential Virtual Learning Environment (VLE) and applications users across Europe informed of project results and invited to sustain the platform through 3 multiplier events (3 info days). National and EU policy - and decision-makers as the main target group, which will benefit from the Vir2TEX manual, will be reached, and involved directly with the Multiplier events.

Since all of the partner organizations have close working relationships with regional, governmental, and EU institutions, they used these channels to engage policy- and decision-makers directly in the fields of youth policies, entrepreneurial development, and social innovations. For the Vir2TEX manual to be widely used and for structured discourse between young people and decision-makers to take place in the framework of Multiplier events, this target group's active participation was essential. Other stakeholders and the general public: Vir2TEX developed a suitable communications strategy for the listed stakeholders using a variety of channels, including multiplier events and social media. The dissemination of knowledge to society is a crucial component. The Vir2TEX findings and methods were implemented by youth training



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providers, career guidance platforms, and mentoring communities, educating and training young people from various groups.

EGE, UPIT and ETN were directly involved in the relevant Multiplier events and the elaboration of the Intellectual Outputs. The event's highlights the finalized Vir2TEX VR 360 digital learning tools, Vir2TEX innovative learning platform and Vir2TEX Interactive learning training path (manual), and their many positive effects on improving digital learning activities both on national and European level and their efficient usage. Developed VR 360 digital learning tools were presented to the students first day, and training activities were carried out in second day.

The multiplier events are ensured to test the methodology and tools developed for implementing the Vir2TEX Virtual Learning Environment (VLE) and trainees the newly developed curriculum primarily. The results of the surveys used in the multiplier events were used for the updating of the Vir2TEX Virtual Learning Environment (VLE). The test results were used to enable the transferability of the project's results, guidelines and policy briefings developed to encourage other educational institutions to adopt concepts in their field. The events improved the educational approach of Vir2TEX and enhanced the knowledge and skills of the target group. The project's long term goals, i.e. increased awareness, knowledge in the textile education, thus, the long term benefit of Vir2TEX will be its major impact on the improvement and sustainability of textile education.

At the end of the events a questionnaire given below was applied to all participants. At the local level, students of partner organizations were supported via this innovative learning platform and graduate with both academic and practical knowledge, therefore, will be better equipped for professional work life. Moreover, lecturers of the partner organizations will also benefit from this platform while better transferring their knowledge and achieving a higher level of quality of initial and continuing vocational education and training in textile education. Both of the aforementioned statements will result in more candidate students. It will strengthen key competences and transversal



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skills, in particular language learning, digital skills and support the development of job specific skills needed in the current and future labour market.

The participants were chosen the rank between one and seven. One is strongly agreeing and seven is strongly disagree. In addition, there is also a reply as “Don’t have an idea”.

### Questionnaire:

1. Overall, I'm happy with how easy it is to use this application.
2. Using this application was simple.
3. I was able to quickly complete missions and scenarios using this application.
4. I felt comfortable using this application.
5. Learning to use this application was easy.
6. I believe I can be productive quickly using this application.
7. The application gave error messages that clearly explained how to fix the problems.
8. Every time I made a mistake while using the application, I was able to heal easily and quickly.
9. The information provided by this application (such as online help, on-screen messages) was clear.
10. Finding the information, I needed was easy.
11. The information was instrumental in helping me complete missions and scenarios.
12. The organization of the information on the application screen was very valuable.
13. This application interface was nice.
14. I loved using the interface of this application.
15. This application has all the functions and capabilities I expected it to have.
16. Generally, I am happy with this application.

According to the questionnaire results students and lecturers declared that they are all happy with how easy it is to use this application, using this application was simple and they quickly complete missions and scenarios using this application. Almost all of them felt comfortable using this application, and found easy to learn this application. They



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mentioned that they can be productive quickly using this application and the information provided was clear by this application (such as online help, on-screen messages). They found the information they needed easily, they could complete missions and scenarios with the instrumental information and they found the interface nice. Generally, they loved the application, their functions, capabilities and was happy with it.

The social media pages of Vir2TEX will also contain various educational resources and will remain online beyond the lifetime of the project. Furthermore, participants with fewer opportunities (i.e. disabilities and geographical and economic obstacles) will benefit from the MOOC platform where all of the outcomes of the project (on-line learning/ training/curriculum materials, etc.) will be accessible 24/7 online even after the completion of the project. Vir2TEX is offering all participants equal opportunities in education via open and distance learning techniques have proven valuable especially during the last days of extreme circumstances that the world is facing (COVID-19). Moreover, in MOOC platform will develop for offering open and distance learning opportunities to a broader audience of trainees to reinforce all members of the textile training value chain to contribute to the development of upskilling guidelines and procedures for standardized training across the EU. The newly developed VR 360 digital learning tools and Interactive distance learning training approach will allow them to deeply understand and exploit the textile education.



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## Annex I- Multiplier Event Photos



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